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Groundwater Sampling Technical Memorandum

NERT Remedial Investigation – Downgradient Study Area
Nevada Environmental Response Trust Site
Henderson, Nevada

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Responsible Certified Environmental Manager (CEM) for this project

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state and local statutes, regulations and ordinances.

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List of Acronyms

amsl	above mean sea level
BCL	Basic Comparison Level
GSP	Groundwater Sampling Plan
IDW	investigation-derived waste
LVW	Las Vegas Wash
mg/L	milligrams per liter
mL/min	milliliters per minute
MS/MSD	matrix spike/matrix spike duplicate
NAD	North American Datum
NDEP	Nevada Division of Environmental Protection
NERT	Nevada Environmental Response Trust
NTU	Nephelometric Turbidity Unit
QAPP	Quality Assurance Project Plan
RPD	relative percent difference
µg/L	micrograms per liter
UMCf	Upper Muddy Creek formation
USEPA	United States Environmental Protection Agency

1.0 Introduction

This technical memorandum (memo) describes the sampling locations and results of the initial groundwater sampling conducted for the Nevada Environmental Response Trust (NERT) Remedial Investigation (RI) - Downgradient Study Area in Henderson, Nevada (**Figure 1**). Except as noted in the Memorandum titled *Modified Groundwater Sampling Techniques for Wells with Slow Recharge Rates* (**Appendix A**), this work was conducted per the procedures and methods described in the Groundwater Sampling Plan (GSP) approved by Nevada Division of Environmental Protection (NDEP) on February 29, 2016.[1] This memorandum has been prepared as an interim deliverable in advance of the forthcoming NERT RI Report.

The objective of the investigation of the Downgradient Study Area is to identify subsurface pathways within the Downgradient Study Area through which perchlorate-impacted groundwater is entering Las Vegas Wash (LVW). Many of the existing groundwater monitoring wells within the Downgradient Study Area have not been sampled since 2009; therefore, current groundwater conditions beneath the Downgradient Study Area were not known. The initial groundwater sampling was conducted to evaluate the groundwater conditions, including current extent of perchlorate in the Downgradient Study Area. As an interim deliverable, the data presented herein in combination with the planned surface water investigation results will serve as the basis for the forthcoming Phase I Downgradient Study Area Groundwater Investigation Work Plan. All derived data will be further evaluated by NERT through the preparation of the RI report.

[1] AECOM, 2016. Groundwater Sampling Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site, Henderson, Nevada, Final, February 29.

2.0 Pre-Field Activities

Pre-field activities included updating the Health and Safety Plan, reviewing the Quality Assurance Project Plan (QAPP), obtaining access to the 78 wells that were identified for sampling, notifying land and well owners, conducting a preliminary biological survey, and conducting a well reconnaissance survey.

2.1 Access

Access was requested to the 78 wells listed in the GSP and to the properties where these wells are located. An access agreement, permit, or email permission was obtained from the various owners. Well ownership was obtained from the Ramboll-NERT Wells Database.[2] Property owners were identified using the Clark County Assessor's website.[3] Records indicate that the 78 wells are located on various parcels owned by six different property owners. These property owners are:

- LandWell Company,
- Clark County Wetlands Park,
- City of Henderson,
- United States Bureau of Reclamation,
- Chimera Golf Club, and
- School Board of Trustees.

Seven well owners were identified for the 78 wells. The well owners are:

- American Pacific,
- LandWell Company,
- Chimera Golf Club,
- City of Henderson,
- NERT,
- School Board of Trustees, and
- Southern Nevada Water Authority.

In many instances, the owner of the well is not the owner of the property where the well is located. As such, access was obtained from both the well owner and property owner. A summary of the well and property owners is presented in **Table 1** and shown on **Figure 2**. Copies of the access agreements, permits and authorizations obtained are presented in **Appendix B.**

[2] Ownership data was obtained from Ramboll_NERT_Wells Database on February 18, 2016.

[3] Clark County, 2016. Assessor Records and Maps, Accessed at: http://www.clarkcountynv.gov/assessor/Pages/RecordSearch.aspx . Accessed on: February 15, 2016.

2.2 Biological Survey

A preliminary biological survey was conducted of the areas identified for sampling or testing within the Downgradient Study Area. These areas included the monitoring well sites, proposed surface water sampling sites as described in the Surface Water Sampling Plan[4], and the proposed geophysical pilot test sites as described in the Geophysical Pilot Test Plan.[5] The purpose of the survey for groundwater sampling was to determine if sensitive or protected species or potentially critical habitat were present in the routes to the well sites or in the immediate vicinity of the well sites that were identified for sampling. The 78 well sites were surveyed but not all wells could be directly observed due to lack of physical access or because a particular well could not be located. A desk-top study of existing conditions was conducted using available aerial photographs and an environmental assessment of the LVW Stabilization Project.[6] Field observations for the biological survey were made February 22 through March 3, 2016.

Special-status species with the potential to occur within or adjacent to the Downgradient Study Area include:

- Five species of birds – American bald eagle (*Haliaeetus leucocephalus*), American peregrine falcon (*Falco peregrinus*), southwestern willow flycatcher (*Empidonax traillii extimus*), western burrowing owl (*Athene cunicularia* hypugaea) and Yuma clapper rail (*Rallus longirostris yumanensis*)
- Two species of mammals – California leaf-nosed bat (*Macrotus californicus*) and spotted bat (*Euderma maculatum*)
- Three species of reptiles – banded gila monster (*Heloderma suspectum cinctum*), chuckwalla (*Sauromalus obesus*) and desert tortoise (*Gopherus agassizii*)
- One plant – Las Vegas bearpoppy (*Arctomecon Californica*)

No special-status species were observed within the Downgradient Study Area during the survey. Some creosote brush which is potentially tortoise habitat was observed. As a precaution, field sampling staff were trained to minimize disturbance of vegetation and to look for indications of desert tortoise activity and bird activity that could indicate nesting behavior.

The majority of the habit within the study area has been impacted by Las Vegas Wash restoration activities that include: invasive plant removal, re-contouring activities with heavy construction equipment, planting wetland and upland plants, and urban development. The urban development includes residential home construction, detention basin construction, and transportation infrastructure. Continual desert wetland restoration is ongoing and continues through the project area with new plantings and irrigation systems to assist with restoration success.

There are areas along the Las Vegas Wash where bird nesting could occur. In these areas before project activities occur; bird activities should be monitored for nests or nesting behavior. As an alternative project work could commence out of nesting season.

There are areas where patches of Creosote scrub (*Larrea tridentata*) occur, adjacent to urban development or transportation corridors. In typical desert plant communities areas with creosote can be desert tortoise (*Gopherus agassizii*) habitat. No desert tortoises or tortoise sign was observed in the areas examined during the preliminary biologic survey.

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[4] AECOM, 2016. Surface Water Sampling Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site, Henderson, Nevada, Final, April.

[5] AECOM, 2016. Geophysical Pilot Test Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site, Henderson, Nevada, Final, July 11.

[6] US Department of the Interior, 2001. National Park Service, Lake Mead National Recreation Area, Las Vegas Wash Stabilization Project Environmental Assessment, July.

Observations made during the survey indicate that no bird nests were present in the Downgradient Study Area and that impacts to bats are unlikely during field activities. Impacts to reptiles, especially the desert tortoise, are unlikely due to the poor habitat conditions resulting from recent disturbances and due to the proximity to extensive urban development and transportation corridors. No sensitive plant species or plant communities were observed within the Downgradient Study Area. Details of the preliminary biological survey, including summary tables of observations at each sampling location and photographs, are presented in the Preliminary Biological Survey Technical Memorandum (**Appendix C**).

2.3 Well Reconnaissance

Many of the 78 groundwater wells proposed for sampling in the GSP have not been sampled since 2009. Of the 78 wells, 68 are located within the Downgradient Study Area and 10 are located outside and east of the Downgradient Study Area. The 10 wells were added at the request of NDEP to provide data in an area with limited historical data. As such, a reconnaissance of the wells was conducted to verify if these wells were still present and to document the condition of the wells. During the reconnaissance, the depth to water and total depth of each well were obtained and general condition of the wells was noted. Each well was surveyed by a licensed land surveyor to update the horizontal location coordinates and elevation of each well. Locations were referenced to the State Plane Coordinate System and elevations were referenced to the North American Datum (NAD) 83 Nevada East Zone (2701) with vertical datum based on NAD 88 referenced to the City of Henderson Benchmark network. A copy of the licensed surveyor's report, including coordinates for each well is presented in **Appendix D**.

The well reconnaissance was conducted from April 4 to April 8, 2016. During the reconnaissance, eight additional wells were identified and added to the list of 78 wells identified in the GSP. Therefore, a total of 86 wells were surveyed over 5 days. Three Southern Nevada Water Authority wells were added to the list of GSP wells because they were located in easily accessible areas along the LVW. Four new wells (identified as "Active (new)" on **Figure 3**) were identified and surveyed at the City of Henderson Landfill. In addition, one well with an unknown identification was located on the south end of the Northern Rapid Infiltration Basins and surveyed but found to be dry. For the purposes of this investigation, the term "dry well" refers to a well containing no measureable water in the well casing. The following summarizes the results of the reconnaissance:

Well Status	Well Count
Total active wells	61
Active wells to be sampled via pumps [7]	58
Wells that need bailer to sample	3
Dry wells	8
Plugged and abandoned wells	14
Wells with insufficient water to sample[8]	1
Wells where access was not granted	1
Wells not able to locate	1
Total Wells in Reconnaissance	**86**

[7] During the well reconnaissance, well UZO-17 was inaccessible; however, it was determined to be active through communication with Mr. Jeff Gibson with Endeavor. Email Communication, 2016. Mr. Jeff Gibson, RE: NDEP/NERT LV Wash Perchlorate Loading Well Sampling Schedule, April 13, 2016. Well UZO-17 was later sampled

[8] "Wells with insufficient water to sample" indicates that groundwater could be measured in the well but at such low levels that it would not be possible to collect a sample using a bladder pump or bailer.

The results of the reconnaissance are shown on **Figure 3.** A summary of the data recorded during the well reconnaissance is provided in **Table 2**. Based on these results, the 61 active wells shown on **Figure 4** were included for the groundwater monitoring network for the Downgradient Study Area.

3.0 Field Procedures

Groundwater level measurements and sampling were conducted consistent with the Final GSP dated February 29, 2016.[9] Details recorded when the samples were obtained are contained in the Field Data Sheets provided in **Appendix E.** This appendix also contains the calibration logs for the field equipment used.

3.1 Water Level Measurements

During the well survey and before sampling, each groundwater monitoring well was sounded for depth to water from top of casing. An electronic sounder accurate to the nearest +/- 0.01 feet, was used to measure depth to water in each well. The electronic sounder was lowered down the casing to the top of the water column, and the graduated markings on the probe wire or tape was used to measure the depth to water from the surveyed point on the rim of the well casing.

3.2 Purging and Sampling Procedures

Groundwater purging and sampling was conducted using the “low-flow” method, in which low volumes of water are purged with little or no drawdown while allowing water quality field parameters to stabilize as specified in the field guidance document, if achievable between three successive measurements. If field parameters did not stabilize by the time six well casing volumes have been purged, then final water quality parameters were recorded and a sample of groundwater collected. Low-flow groundwater samples were collected using a bladder pump (except for the deviations discussed in Section 3.3). The pump intake was positioned at the approximate midpoint of the well screen if the well screen was known. If the well screen was not known, it was assumed that 10 feet of screen was located at the bottom of the well.

The well reconnaissance indicated that only three wells would need to be sampled using a bailer due to the low levels of groundwater in the well (less than 5 feet of water). However, three additional wells (MCF-05, MCF-18A, and MCF-20A) were purged using a bailer because the existing pumps in the wells were inoperable at the time of sampling. Six wells were purged and sampled using a bailer including MCF-20A. A second sample was collected from MCF-20A using low flow techniques. Bailers were used to purge and sample groundwater from AA-20, AA-22, MCF-05, MCF-06C, MCF-18A and MCF-20A.

During groundwater sampling, a water quality meter (equipped with a flow-through cell) was used during purging to track water quality field parameters and assess when stabilization of parameters had occurred. Samplers recorded in-field measurements for depth to water, pH, electrical conductivity, dissolved oxygen, oxidation-reduction potential, turbidity and temperature of groundwater samples.

3.3 Deviations from Sampling Method Protocols

Groundwater well sampling methods detailed in the approved GSP consist of low-flow sampling techniques in which low volumes of water are purged (using a bladder pump) with little (less than 4 inches) drawdown, while allowing water quality field parameters to stabilize. Field personnel reported that groundwater levels in several wells were being drawn down even at low pumping rates of 50 milliliters per minute (mL/min). The drawdown is the result of slow recharge rates, which may be caused by the low hydraulic conductivity of the formation and/or fouling of the well screen and gravel pack. Recovery rates as low as 50 percent of the initial water columns were observed over a 14.5-hour period, even after the screen interval was swabbed to try to improve recharge.

[9] AECOM, 2016. Groundwater Sampling Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site, Henderson, Nevada, Final, February 29.

Drawdown at low pumping rates experienced at several wells does not fall within the sampling protocols in the approved GSP.[10]

These field conditions were discussed with NDEP and NERT on April 26, 2016, and the following modified sampling techniques were agreed to be used in the Downgradient Study Area when drawdown in a well occurs while pumping at 100 mL/min:

- Purge the complete pump system (hoses and flow-through cell).
- Record Field Parameters – collection of only one to two readings is acceptable. Field parameters do not need to stabilize before collecting a sample.
- Collect sample after pump system (pump and lines) has been purged completely.

Modified sampling procedures were implemented in the field on the morning of April 27, 2016. Implementation of these procedures reduced sampling times and minimized the volume of purge water generated. These sampling techniques are consistent with those used by Ramboll when they encounter wells with slow recharge rates. A memorandum documenting the changes to the groundwater sampling techniques for wells with slow recharge rates was submitted to NDEP on April 28, 2016 (**Appendix A**).

[10] AECOM, 2016. Groundwater Sampling Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site, Henderson, Nevada, February 29.

4.0 Analytical Program

The analytical program was mainly focused on the analytes that may potentially affect water quality in the LVW. Bromide was added because it may be used as a tracer in future investigations. Groundwater samples were analyzed for the following constituents:

- Perchlorate (United States Environmental Protection Agency [USEPA] Method 314.0);
- Chlorate (USEPA Method 300.1);
- Chromium, Dissolved (USEPA Method 200.8 [ICP-MS]);
- Hexavalent Chromium, Dissolved (USEPA Method 218.7);
- Chloride (USEPA Method 300.0);
- Bromide (USEPA Method 300.0); and
- Total Dissolved Solids (Method SM 2540C).

As directed by NDEP, field-filtering of water samples for perchlorate analysis was not required. Filtering for dissolved chromium and hexavalent chromium analyses was conducted in the field using a 0.45-micron filter. Copies of the analytical results and chain-of-custody records are provided in **Appendix F**.

4.1 Sample Handling and Transportation

Per the procedures detailed in the Quality Assurance Project Plan (QAPP) and Groundwater Sampling Plan, all samples were collected, handled, and stored in such a manner that they were representative of their original condition and chemical composition. All samples were properly identified and maintained under chain-of-custody protocol to protect sample integrity. Groundwater sample containers were placed in a cooler with ice to chill and maintain a sample temperature of 4 degrees (± 2 degrees) Celsius. Samples were transported to the laboratories within their respective hold times. TestAmerica received samples designated for perchlorate, chlorate, dissolved chromium, chloride, bromide and total dissolved solids. Samples designated for hexavalent chromium analysis were transported to Silver State Laboratories.

5.0 Data Validation

Consistent with the NDEP requirements, approximately 90 percent of the analytical data (58 out of 64 primary samples) were validated according to Stage 2B data validation procedures and 10 percent of the analytical data (7 out 64 primary samples) were validated according to Stage 4 data validation procedures. The overall project requirements and completeness levels were met. As presented in **Table 3,** there were 64 primary samples and 15 quality control samples. The primary samples consist of one sample from 61 wells and three samples from three wells that were sampled twice. Each sample contained 7 analyses (perchlorate, chlorate, bromide, chloride, dissolved chromium, hexavalent chromium, and total dissolved solids) for a total of 553 results. A total of 64 results, or approximately 12 percent of the total, were qualified. However, no results were required to be rejected. Based upon the Stage 2B and Stage 4 data validation all other results are considered valid and usable for all purposes. The Data Validation Summary Report, provided in **Appendix G,** provides detailed information about the data reviewed and results that were qualified.

6.0 Summary of Groundwater Data

Groundwater samples were collected from 61 wells. Seven field duplicates, four field blanks, and four equipment blanks were collected. Three wells (MCF-05, MCF-18A, and MCF20A) were each sampled twice due to quick drawdown of water levels and slow recovery of groundwater in these wells. The first sample was collected prior to development and purging of the well to ensure that a sample was obtained in the event that the well did not recover enough for sample collection. The second sample was collected after the well was developed and allowed to recover to 80 percent of the initial water level. The results from the second sample collected are considered to be representative of concentrations in groundwater because this sample was collected using protocols that most closely followed the sampling protocols in the QAPP and modified sampling procedures (**Appendix A**). **Table 4** presents the analytical results of groundwater well sampling.

6.1 Groundwater Elevations

Groundwater elevations ranged from 1,440.26 feet above mean seal level (amsl) to 1,596.94 feet amsl (**Table 5**). Three wells completed in the Upper Muddy Creek formation (UMCf), MCF-08A, MCF-08B-R, and MCF-31A, exhibited artesian conditions. Five wells (MCF-05, MCF-06A-R, MCF-18A, MCF-20A, and MCF-31B) were completed in the deep water bearing zone of the UMCf. To be consistent with other RI investigations in the area the figures illustrating chemical concentrations in groundwater are presented for the Shallow Water Bearing Zone (0 – 90 feet below ground surface) and for the Middle and Deep Water Bearing Zones (>90 feet below ground surface). The Middle and Deep Water Bearing Zones were combined because only 8 wells were sampled from these two water bearing zones.

6.2 Field Water Quality Parameters

A flow through cell was used to record pH, electrical conductivity, dissolved oxygen, oxidation-reduction potential, turbidity and temperature of groundwater samples (**Table 6**). Temperature ranged from 16.40 to 29.92 degrees Celsius. The high temperatures recorded in groundwater are likely the result of ambient temperatures that ranged from 24 to 32 degrees Celsius and direct sunlight on the equipment during sampling resulting in elevated temperature readings for some of the groundwater samples. Electrical conductivity ranged from 2,030 to 244,157 micro-siemens per centimeter. Dissolved oxygen ranged from 0.32 to 8.42 milligrams per liter. Oxidation-reduction potential ranged from -117.60 to 247. Turbidity ranged from 0 to greater than 1,000 Nephelometric Turbidity Units (NTUs). Groundwater from 30 wells exhibited turbidity less than 4 NTUs and groundwater from the other 33 wells was greater than 4 NTUs indicating that groundwater in 54 percent of the wells was turbid when sampled.

6.3 Laboratory Analyses Results

Laboratory analytical results were compared to regulatory levels (i.e., basic comparison levels [BCLs]) as specified in the RI/FS Work Plan. [11] BCLs are updated by NDEP and the most current BCLs apply to investigation and remediation activities at the site. These BCLs were used for consistency in the comparison of data between the NERT RI and the NDEP Downgradient Study Area investigation. It should be noted that a BCL level of 15 micrograms per liter (µg/L) was used for perchlorate because it reflects the Federal Preliminary Remediation Goal and is what is applied under the RI/FS investigation of the NERT Site.

[11] ENVIRON International Corporation, 2014. Remedial Investigation and Feasibility Study Work Plan, Revision 2, Nevada Environmental Response Trust Site, Henderson, Nevada, June 19.

6.3.1 Perchlorate

Perchlorate was detected above the detection limit in groundwater from 49 wells. (Perchlorate concentrations ranged from <0.95 to 9,000 µg/L (DBMW-1) (**Figures 5 and 6**). Perchlorate concentrations above the BCL of 15 µg/L were detected in groundwater from 44 wells. The detection limit for seven wells is 95 µg/L due to sample dilution required because of high concentrations of other constituents. Perchlorate concentrations in these wells could potentially exceed the BCL of 15 µg/L.

6.3.2 Chlorate

Chlorate was detected above the detection limit in groundwater from 40 wells. Chlorate concentrations ranged from 120 to 100,000 µg/L (AA-22) (**Figures 7 and 8**). Chlorate concentrations above the BCL of 1,000 µg/L were detected in groundwater from 28 wells.

6.3.3 Dissolved Chromium and Hexavalent Chromium

Dissolved chromium was detected above the detection limit in groundwater from 39 wells. Chromium concentrations ranged from <4.0 to 110 µg/L (DBMW-5) (**Figures 9 and 10**). Chromium concentrations in all wells were below the BCL of 100 µg/L, except for the dissolved chromium concentration (110 µg/L) in well DBMW-5.

Hexavalent chromium was detected above the detection limit in groundwater from 39 wells. Hexavalent chromium concentrations ranged from <1.0 to 140 µg/L (DBMW-5) (**Figures 11 and 12**). Hexavalent chromium concentrations were above the BCL of 100 µg/L in one well (DBMW-5).The ratio of hexavalent chromium to dissolved chromium concentrations ranged from 2 to 157 percent. Six samples exhibited concentrations of hexavalent chromium where no dissolved chromium was detected; however, the method detection limit for dissolved chromium for those samples was higher than the detected value of hexavalent chromium. Although it is logical to expect the concentration of hexavalent chromium to be lower than dissolved chromium, this is not the case for groundwater from 29 of the wells where both dissolved chromium and hexavalent chromium were detected. These results are due to the use of two different laboratories for the analyses, the use of two different aliquots of water, and the use of two different analytical methods for analysis. Although hexavalent chromium concentrations were generally higher than dissolved chromium concentrations, the difference in the concentrations is considered to be a result of measurement variability within samples, between methods, and between laboratories.

Two samples were collected from MCF-05 because of a concern with slow recovery of water in the well. The first sample was collected prior to purging of the well and the second sample was collected after purging and recovery of the well. Analytical chromium results, from the first sample resulted in a concentration of 110 µg/L. Because the well was not purged, this result is considered less representative of groundwater concentrations than the second result (<25 µg/L) that was obtained after the well was purged and recovered per sampling protocols.

6.3.4 Total Dissolved Solids

Total dissolved solids were detected above the detection limit in groundwater from all 61 wells. Total dissolved solids concentrations ranged from 1,300 to 190,000 milligrams per liter (mg/L) (MCF-18A and MCF-31A) (**Figures 13 and 14**). There is no BCL for total dissolved solids. Total dissolved solids concentrations above the secondary Maximum Contaminant Level for drinking water (MCL) of 500 mg/L were detected in all groundwater samples.

6.3.5 Chloride and Bromide

Chloride was detected above the detection limit in groundwater from all 61 wells. Chloride concentrations ranged from 230 to 100,000 mg/L (MCF-18A). There is no BCL for chloride. Chloride concentrations in all wells were above the secondary MCL of 250 mg/L, except for one concentration (230 mg/L) in well WMW7.8N.

Bromide was detected above the detection limit in groundwater from 23 wells. Bromide concentrations ranged from 0.63 to 140 mg/L (MCF-31A). Bromide concentrations above the BCL of 11.3 mg/L were detected in groundwater from 3 wells (RIT-6, WMW3.5S, and WMW5.5S).

The ratio of chloride to bromide was calculated and is provided in **Table 4**. Where bromide was undetected, the detection limit was used as an estimate. The ratios were generally similar, with higher ratios noted in all but two of the deep MCF wells (MCF-05, MCF-8A, MCF-18A, MCF-20A, and MCF-31B) and a fairly high ratio (830) in one of the LVW samples (WMW7.8N). The ratio of chloride to bromide is shown on **Figures 15 and 16.**

6.3.6 Quality Control Samples

Quality control samples collected included field duplicates, field blanks, and equipment blanks. The laboratory ran the required quality control procedures including matrix spike and matrix spike duplicate (MS/MSD) analysis. A detailed discussion of quality control and data validation is contained in **Appendix G**.

Seven duplicate samples were collected (samples DBMW-7-20160418-FD, WMW6.9N-20160420-FD, MCF-08BR-20160427-FD, WMW3.5N-20160427-FD, MW-10-20160428-FD, PC-74-20160429-FD, and PC-76-20160429-FD) (**Table 4**). Acceptable relative percent difference (RPD) between the primary and duplicate sample was specified as 30 percent in the QAPP. Acceptable field and analytical precision was demonstrated for all field duplicate pairs with the following exceptions: bromide concentrations had a RPD of 61.3 percent and hexavalent chromium concentrations had a RPD of 40 percent from well P-74. Qualifiers were added to the results for these field duplicate pairs during data validation due to the exceedance of RPD criteria.

Equipment blank samples were collected following decontamination of sampling equipment. Four equipment blank samples (DBMW-4-20160419-EB, PC-76-20160429-EB, WMW4.9N-20160427-EB, and WMW5.5S-20160422-EB) were prepared from distilled or deionized water following the sample collection from designated wells (**Table 4**). No contaminants were found with the following exceptions: chloride at a concentration of 0.30J mg/L (PC-76-20160429-EB) and dissolved chromium at a concentration of 0.86J µg/L (WMW5.5S-20160422-EB).

Four field blank samples (LNDMW2-20160427-FB, MW-25-20160421-FB, PC-74-20160429-FB, and RIT-10-201604220-FB) were prepared from distilled or deionized water following the sample collection from designated wells. No contaminants were found with the following exceptions: chloride at a concentration of 0.30J mg/L (PC-74-20160429-FB, and RIT-10-201604220-FB).

Sample concentrations were compared to concentrations detected in the equipment and field blanks as required by the QAPP. No sample data were qualified based on the field blank or equipment blank results because the results associated with primary samples associated with the blank samples were either non detect or more than 10 times the concentration detected in the blanks.

MS/MSD samples were run as required by the laboratory. Due to MS/MSD recoveries that were outside of control criteria, less than 1 percent of the data were qualified as estimated (“UJ/J”).

7.0 Investigative Derived Waste

Investigation-derived waste (IDW) for the groundwater sampling event consisted of purged groundwater, equipment cleaning water, used personal protective equipment (disposable nitrile gloves), and household trash such as used paper towels. The liquid IDW was temporarily stored in a polyethylene tank; at the end of each day, the liquid IDW was transported to the Groundwater Extraction Treatment System at the NERT On-Site Study Area. Following sampling (by Tetra Tech) and analysis, it was discharged into the GW-11 pond that receives groundwater pumped from extraction wells at the Seep Area and Athens Road Well Fields. Analytical results for the liquid IDW is presented in **Appendix F**. The remaining IDW was double-bagged in plastic trash bags and disposed as municipal trash.

8.0 Conclusions

The data were collected consistent with the approved work plan with the exception of the field sampling procedures documented in Section 3.3 of this memo. The deviations from the work plan did not affect the data usability. Low concentrations of chloride and chromium were detected in field and/or equipment blanks. However, no sample data were qualified based on the field blank or equipment blank results because the results of the primary samples associated with these blank samples were either not detected or were more than 10 times the concentrations detected in the blanks. Qualifiers were added to the results for bromide and hexavalent chromium in the field duplicate pair samples (PC-74-20160429 and PC-74-20160429-FD) from well PC-74 during data validation due to the exceedance of RPD criteria.

Based on the Stage 2B and Stage 4 data validation and review of sample collection procedures, the data collected are useable for the remedial investigation. Review of the results of the data validation indicates that no additional qualifiers were added due to the validation of instrument quality control checks (instrument quality controls are specific to Stage 2B validation). No additional data qualifiers resulted from the Stage 4 data validation. In addition, AECOM found that Stage 4 data validation and the validation of instrument quality control (which is specific to Stage 2B), resulted in no additional qualifiers being assigned and no changes to the usability of the data. Although reducing data validation to Stage 2A would result in cost savings, it would not be consistent with the NDEP guidance and the NERT RI Workplan.

Perchlorate was detected above the detection limit in groundwater from 49 wells. The highest perchlorate concentrations was detected at 9,000 µg/L in well DBMW-1 located in the south-central portion of the Downgradient Study Area. Perchlorate concentrations above the BCL of 15 µg/L were detected in groundwater from 44 wells. In general, the highest concentrations were detected along the southern boundary and central portion of the Downgradient Study Area. Perchlorate was also detected in four wells on the north side of the LVW from east of the Pabco Road Weir to the eastern boundary of the Downgradient Study Area. The highest concentration of perchlorate (1,500 µg/L) on the north side of LVW was detected just east of the Lower Narrow Weir in well LNDMW2. The source of the perchlorate and the pathways whereby it reached the north side of LVW are not known at this time.

Chlorate was detected in groundwater from 40 wells and concentrations in 28 wells exceeded the BCL of 1,000 µg/L.

Chloride was detected in groundwater from all 61 wells and concentrations in 28 wells exceeded the BCL of 1,000 µg/L. Bromide was detected above the detection limit in groundwater from 23 wells and concentrations in 3 wells exceeded the BCL of 11.3 µg/L. Detection of bromide above detection limits over such a broad area and at such a wide concentration range (0.43 – 140 mg/L) limits bromide's potential as a tracer chemical in this area.

Patterns of bromide, and the chloride-to-bromide ratios were inconclusive. It is not clear why the ratios would be high in some of the deep wells and not others. In general, the ratios were not notably different in samples with high perchlorate (e.g., DBMW-1) than those were perchlorate was not detected, and in some cases the ratios were lower in samples were perchlorate was detected than in those samples were perchlorate was not detected. However, these conclusions should be considered preliminary given the limited dataset and the number of undetected bromide data.

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9.0 Recommendations

The objective of the Downgradient Study Area investigation is to identify subsurface pathways through which perchlorate-impacted groundwater is entering the LVW. This initial groundwater sampling event has provided a portion of the data that will be used to evaluate the subsurface pathways and should be used in conjunction with other existing datasets to better evaluate the subsurface conditions. As such, AECOM recommends the following:

- The “All Wells” database and other pertinent databases should be updated to reflect the most current information developed on the 86 wells investigated during the well reconnaissance, including which wells are no longer accessible. In addition, the new coordinate and elevation information, water levels and constituent concentrations should be added to the NERT and NDEP databases.
- In general, the analytical results appear to agree with historical analytical results; however, a detailed comparison of this new data to the historical data should be conducted to evaluate if there are any anomalies and/or trends in the complete dataset.
- Data gaps previously identified should be reviewed with the addition of this data to refine the identification of locations for additional wells or geophysical investigations. These data should also be combined with the surface water data to assess potential flux to the LVW.
- Perchlorate concentrations north of the LVW should be further evaluated in conjunction with the results of the initial surface water sampling and the planned surface water and subsurface geophysical investigations.
- Installation of transducers should be considered in select wells to evaluate groundwater level changes near LVW which could affect local flow and contaminant concentrations. Upon NDEP and NERT concurrence with this recommendation, AECOM will prepare a workplan for the installation of transducers in wells near the LVW.

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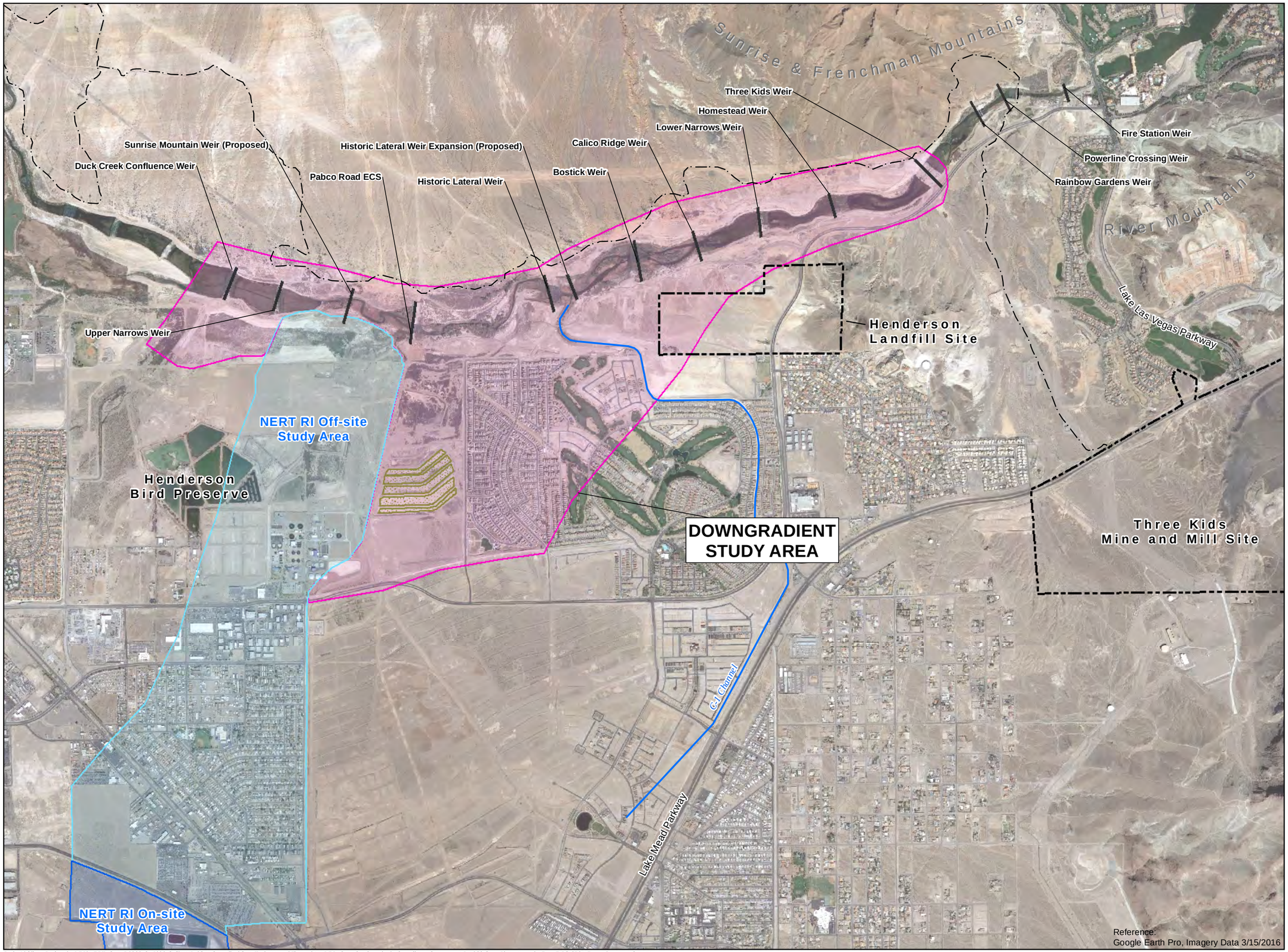
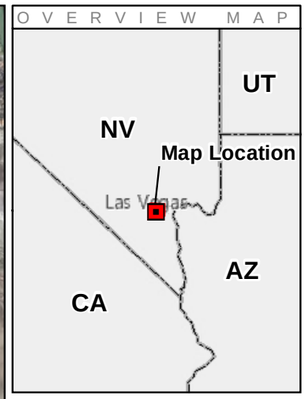
Figures





Legend

- Wetlands Trail
- Channels
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

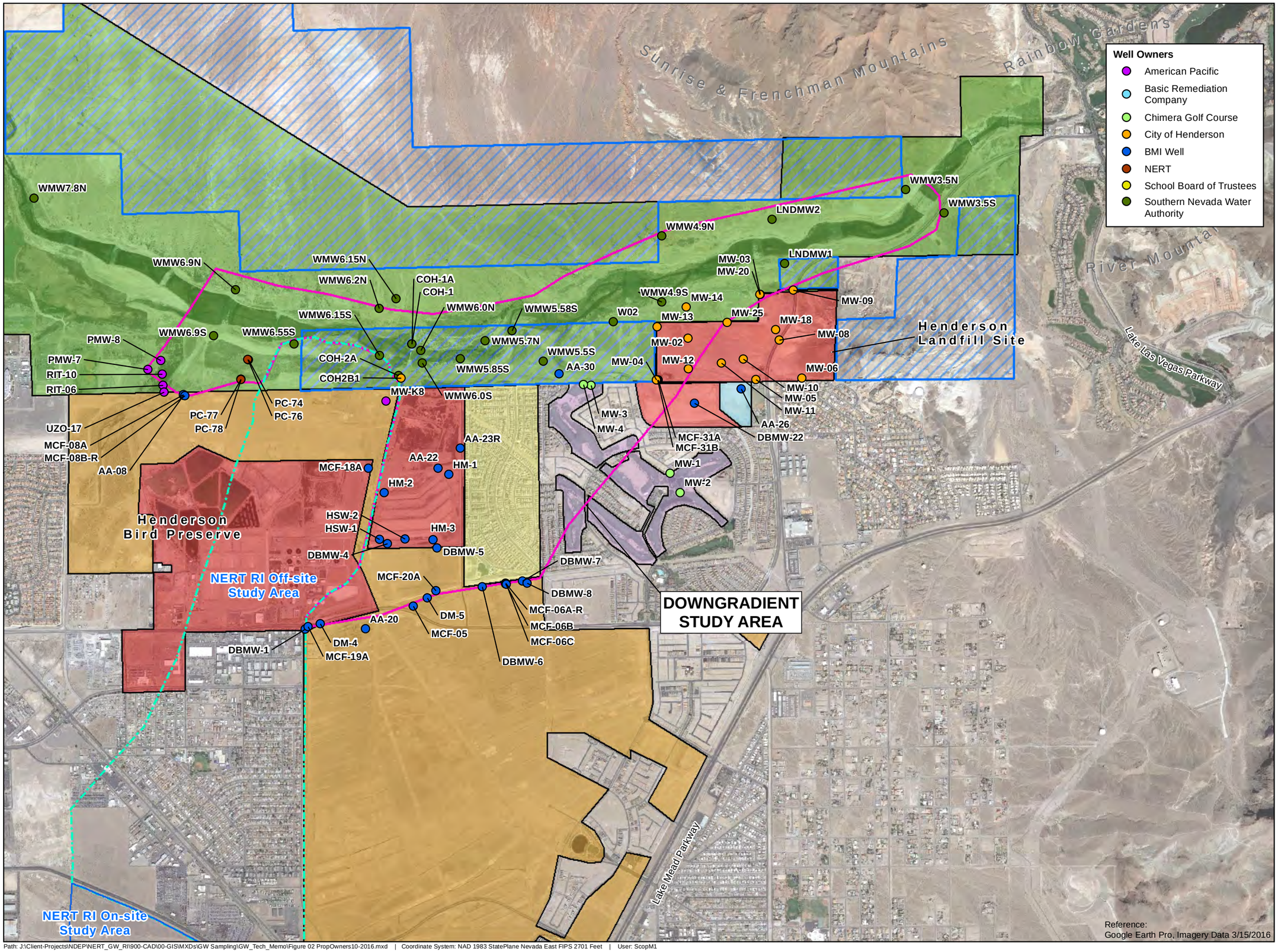
DOWNGRADIENT STUDY AREA LOCATION MAP

Date: 10/24/2016 Project: 60477365

AECOM

Figure 1

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\GW Sampling\GW_Tech_Memo\Figure 01 NDEP_Overview2.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1



Legend

- NERT RI Downgradient Study Area
- NERT RI Study Area (Off-site)
- NERT RI Study Area (On-site)

Land Owner

- School Board of Trustees
- Basic Environmental Company/Land Well Company
- Clark County Wetlands Park
- City of Henderson
- Bureau of Reclamation
- Private Residences
- Chimera Golf Club

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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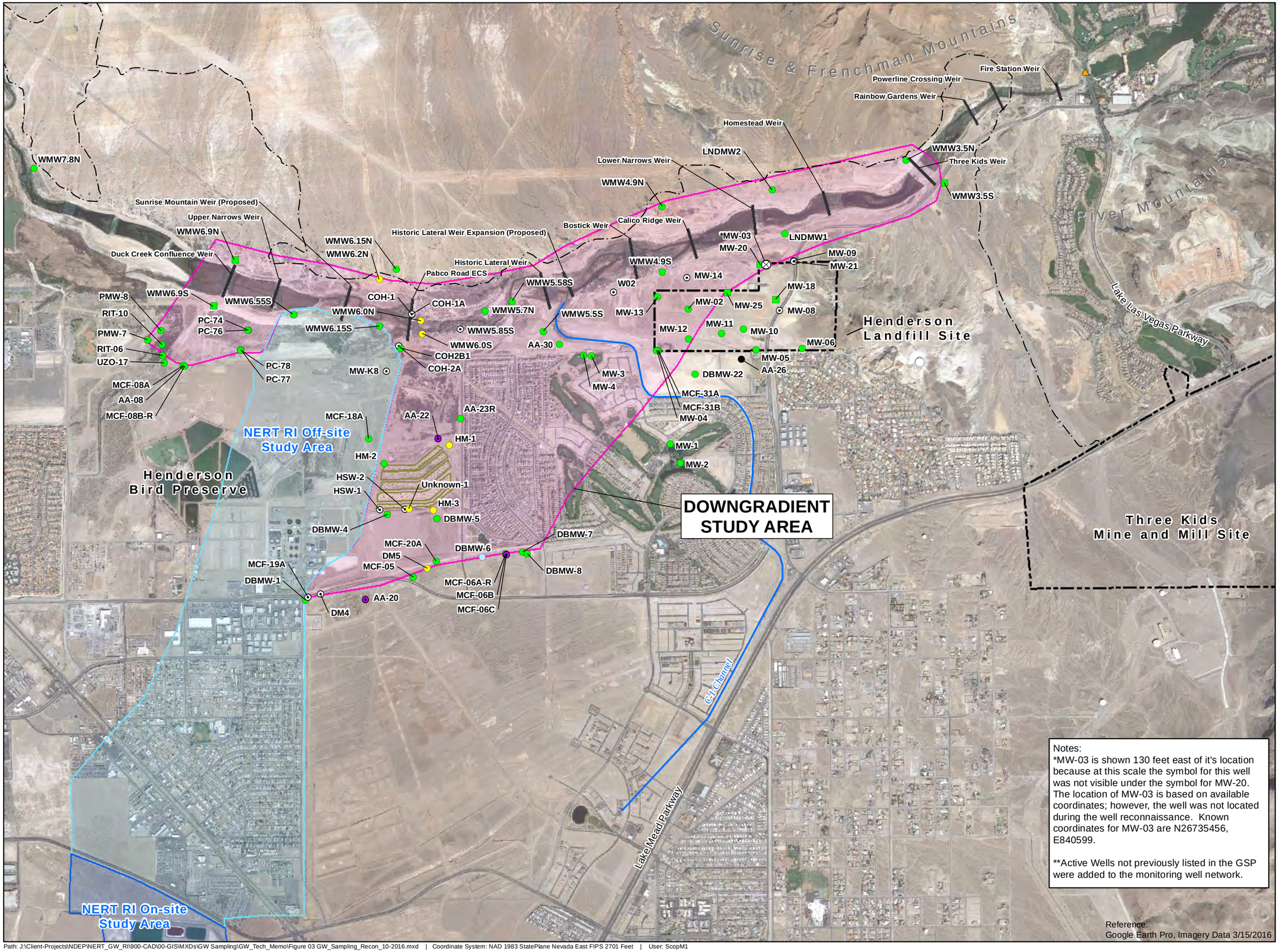
NERT RI
Downgradient Study Area

WELL AND PROPERTY OWNERS

Date: 10/24/2016 Project: 60477365

AECOM

Figure 2

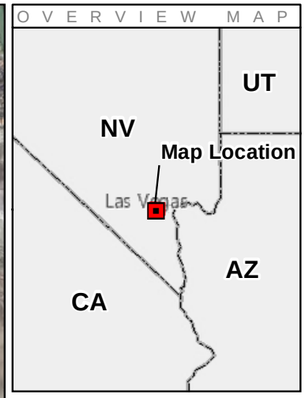


Notes:
*MW-03 is shown 130 feet east of it's location because at this scale the symbol for this well was not visible under the symbol for MW-20. The location of MW-03 is based on available coordinates; however, the well was not located during the well reconnaissance. Known coordinates for MW-03 are N26735456, E840599.

**Active Wells not previously listed in the GSP were added to the monitoring well network.

Reference:
Google Earth Pro, Imagery Data 3/15/2016

OVERVIEW MAP



Legend

- Active
- Active (New)**
- Use bailer to sample
- Dry
- Insufficient water to sample
- Unable to Locate
- Plugged & Abandoned
- Access not granted
- Lake Las Vegas Intake
- Wetlands Trail
- Channels
- Northern Rapid Infiltration Basins
- Weir
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

NORTH

0 2,000
Feet
Scale 1:24,000
1 inch = 2,000 feet

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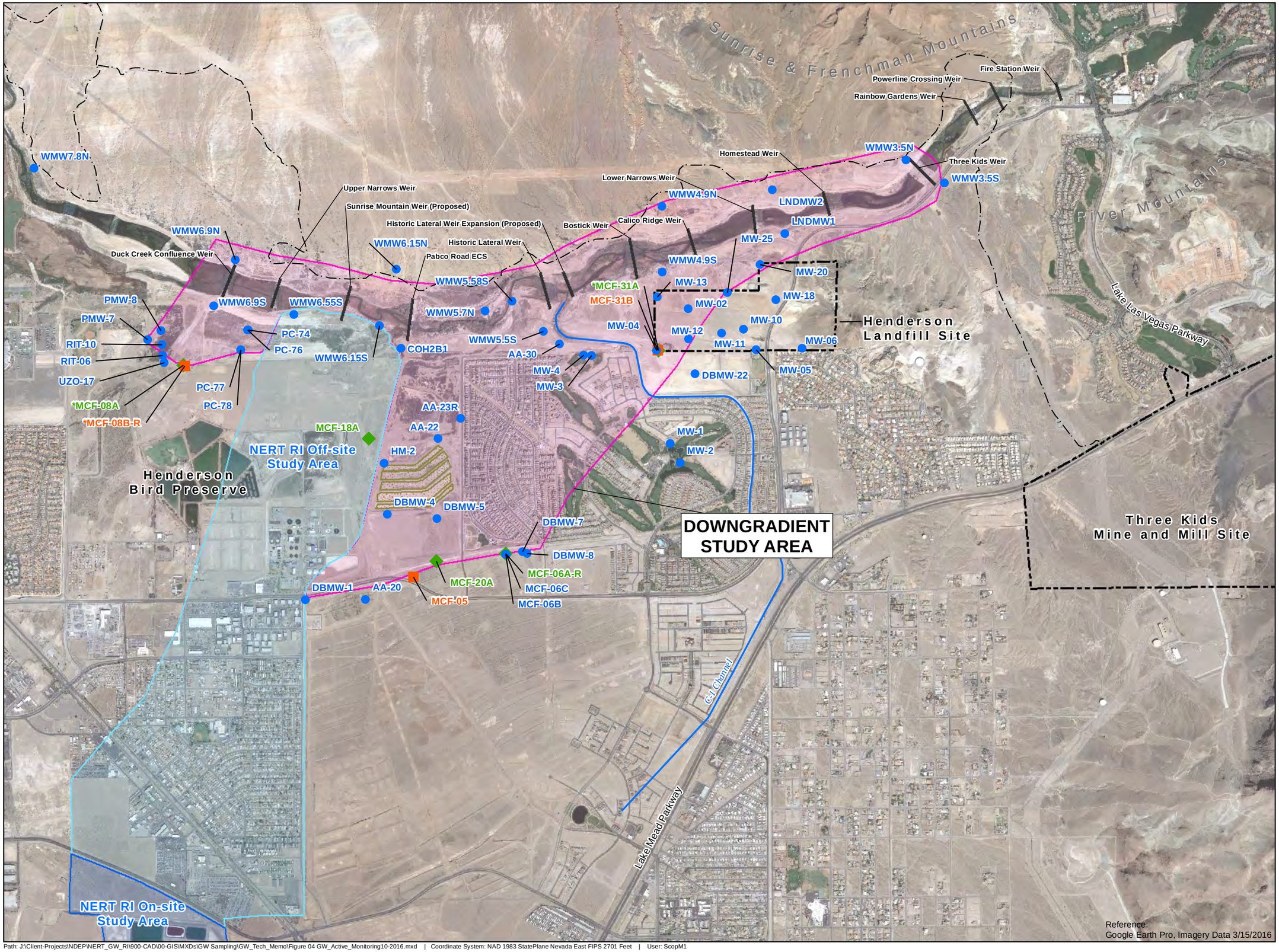
NERT RI
Downgradient Study Area

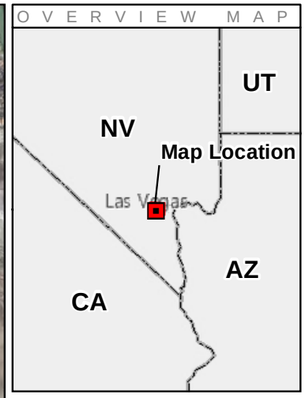
RESULTS OF WELL RECONNAISSANCE

Date: 10/24/2016 Project: 60477365

AECOM

Figure 3





Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Wetlands Trail
- Channels
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area
- * Artesian Well

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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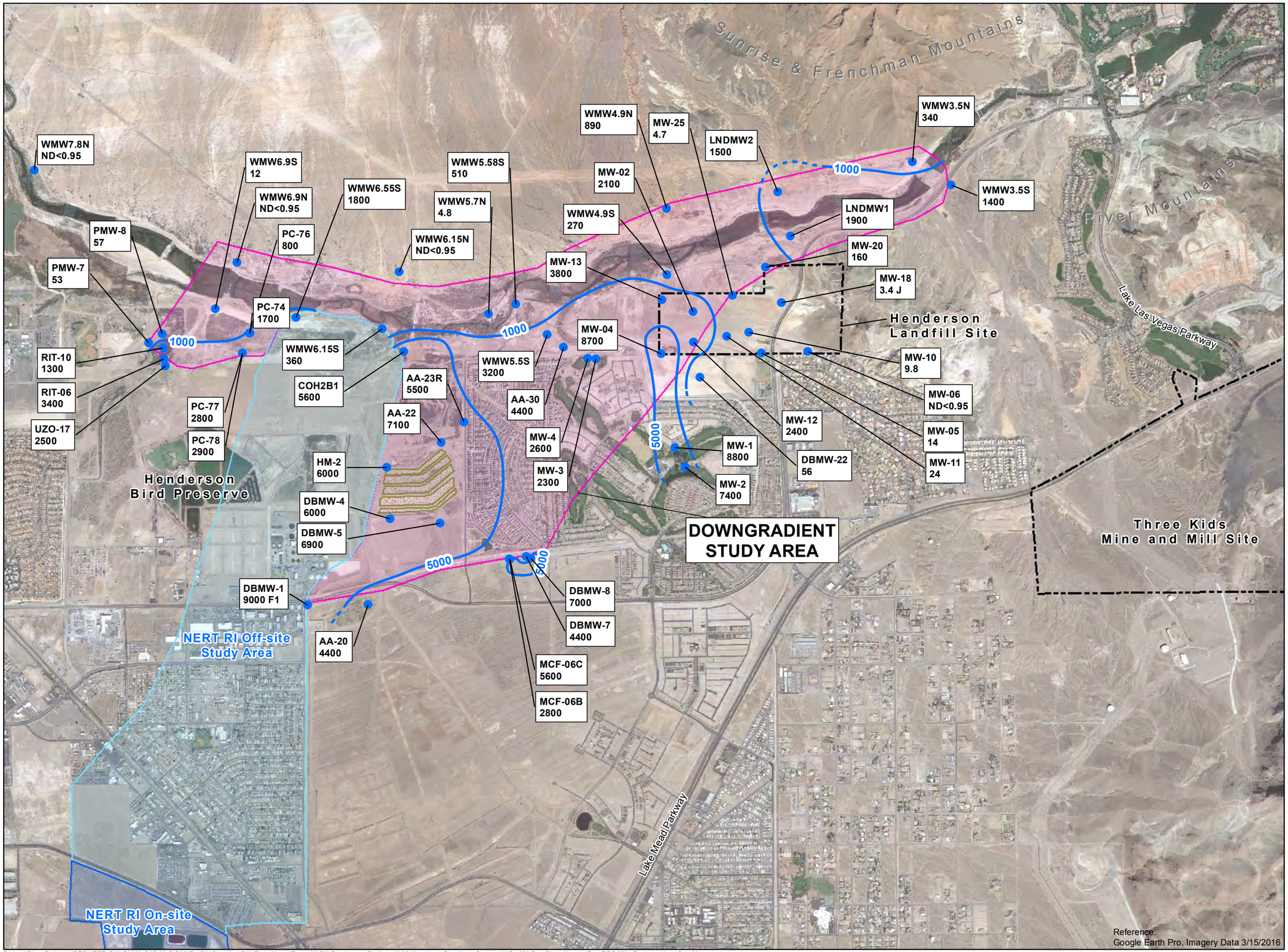
NERT RI
Downgradient Study Area

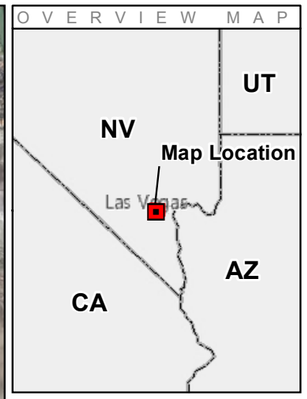
ACTIVE GROUNDWATER MONITORING WELL NETWORK

Date: 10/24/2016 Project: 60477365

AECOM

Figure 4





Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Perchlorate Isoconcentration Contour (dashed where inferred)
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Perchlorate Concentration in µg/L

ND - Not detected above method detection limit (MDL)
F1 - MS and/or MSD recovery is outside acceptance limits
J - Result is less than the RL but greater than or equal to the MDL and the conentration is an approximate value
µg/L - Micrograms per liter

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

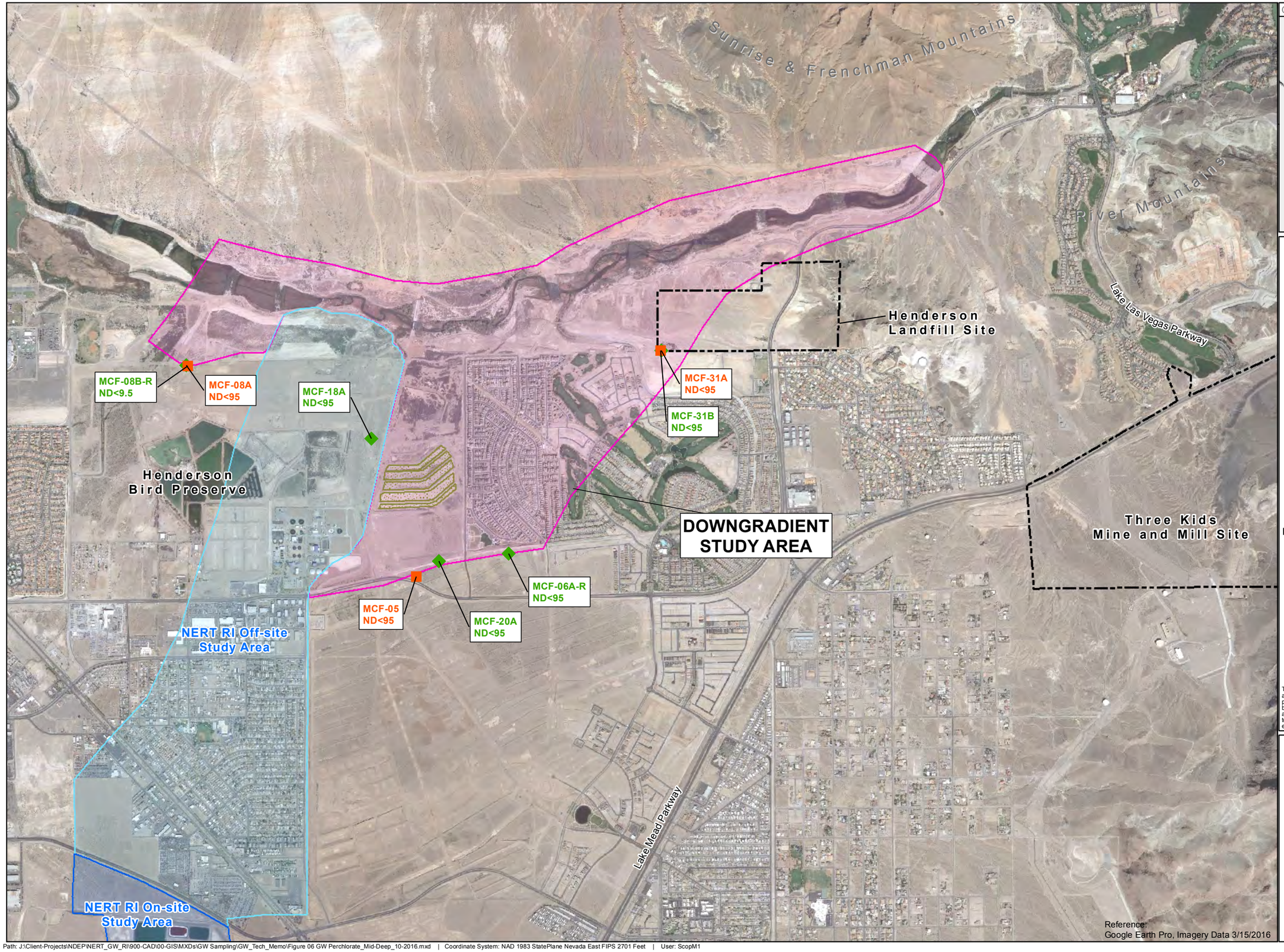
PERCHLORATE IN SHALLOW WATER BEARING ZONE APRIL 2016

Date: 10/24/2016 Project: 60477365

AECOM

Figure 5

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\GW Sampling\GW_Tech_Memo\Figure 05 GW Perchlorate_Shallow_10-2016.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1



Reference:
Google Earth Pro, Imagery Data 3/15/2016

Legend

- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Perchlorate Concentration in µg/L

ND - Not detected above method detection limit (MDL)
µg/L - Micrograms per liter

NORTH
0 2,000
Feet
Scale 1:24,000
1 inch = 2,000 feet

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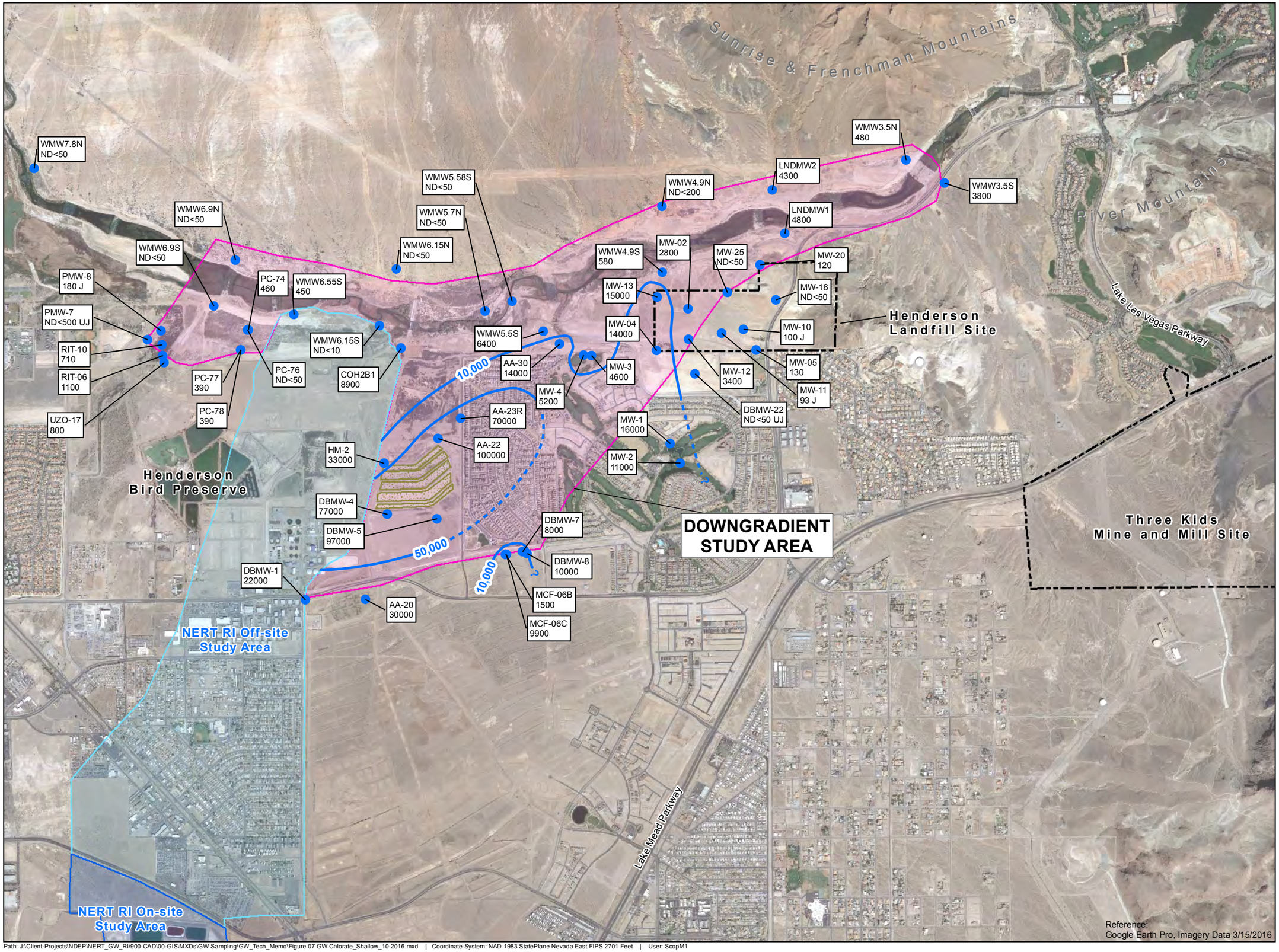
NERT RI
Downgradient Study Area

PERCHLORATE IN MIDDLE AND DEEP WATER BEARING ZONES APRIL 2016

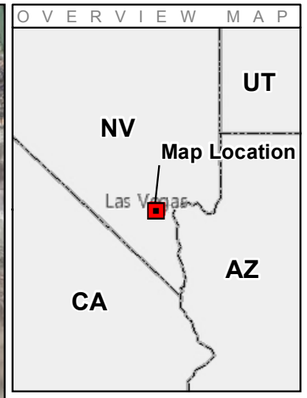
Date: 10/24/2016 Project: 60477365

AECOM

Figure 6



Reference:
Google Earth Pro, Imagery Data 3/15/2016



Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Chlorate Isoconcentration Contour (dashed where inferred)
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Chlorate Concentration in µg/L

ND	- Not detected above method detection limit (MDL)
J	- Result is less than the RL but greater than or equal to the MDL and the conentration is an approximate value
UJ	- Associated reporting limit is estimated
µg/L	- Micrograms per liter

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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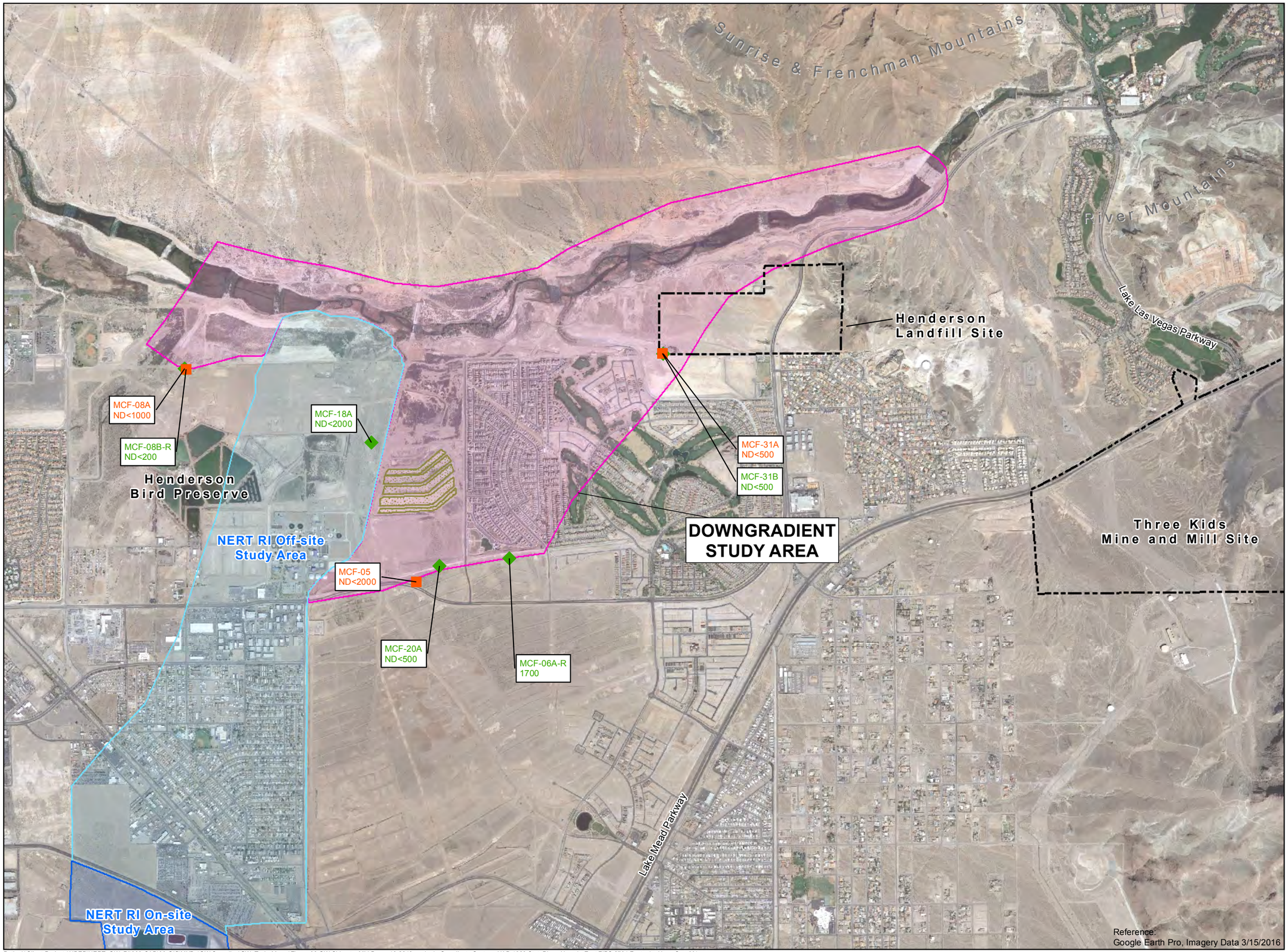
NERT RI
Downgradient Study Area

CHLORATE IN SHALLOW WATER BEARING ZONE APRIL 2016

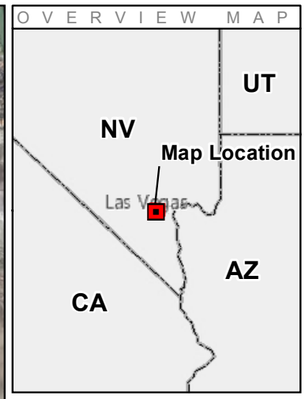
Date: 10/24/2016 Project: 60477365

AECOM

Figure 7



Reference:
Google Earth Pro, Imagery Data 3/15/2016



Legend

- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Chlorate Concentration in µg/L

ND - Not detected above method detection limit (MDL)
µg/L - Micrograms per liter

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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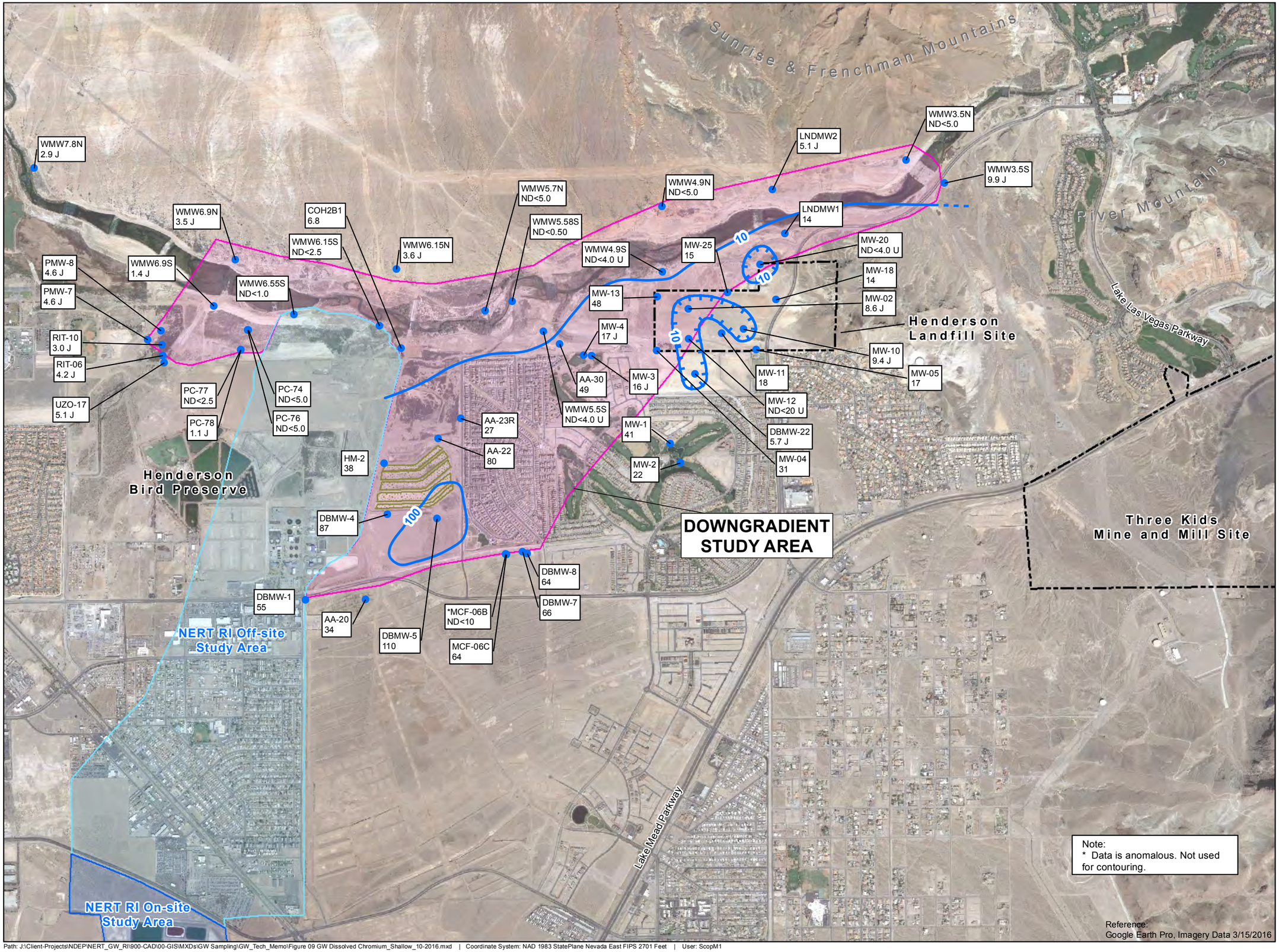
NERT RI
Downgradient Study Area

CHLORATE IN MIDDLE AND DEEP WATER BEARING ZONES APRIL 2016

Date: 10/24/2016 Project: 60477365

AECOM

Figure 8



Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Dissolved Chromium Isoconcentration Contour (dashed where inferred)
- Dissolved Chromium Isoconcentration Contour (depression)
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Chromium Concentration in µg/L

ND - Not detected above method detection limit (MDL)
J - Result is less than the RL but greater than or equal to the MDL and the conentration is an approximate value
U - Concentration was reported as a detection, but was reclassified during validation
µg/L - Micrograms per liter

0 2,000
Feet
Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

DISSOLVED CHROMIUM SHALLOW WATER BEARING ZONE APRIL 2016

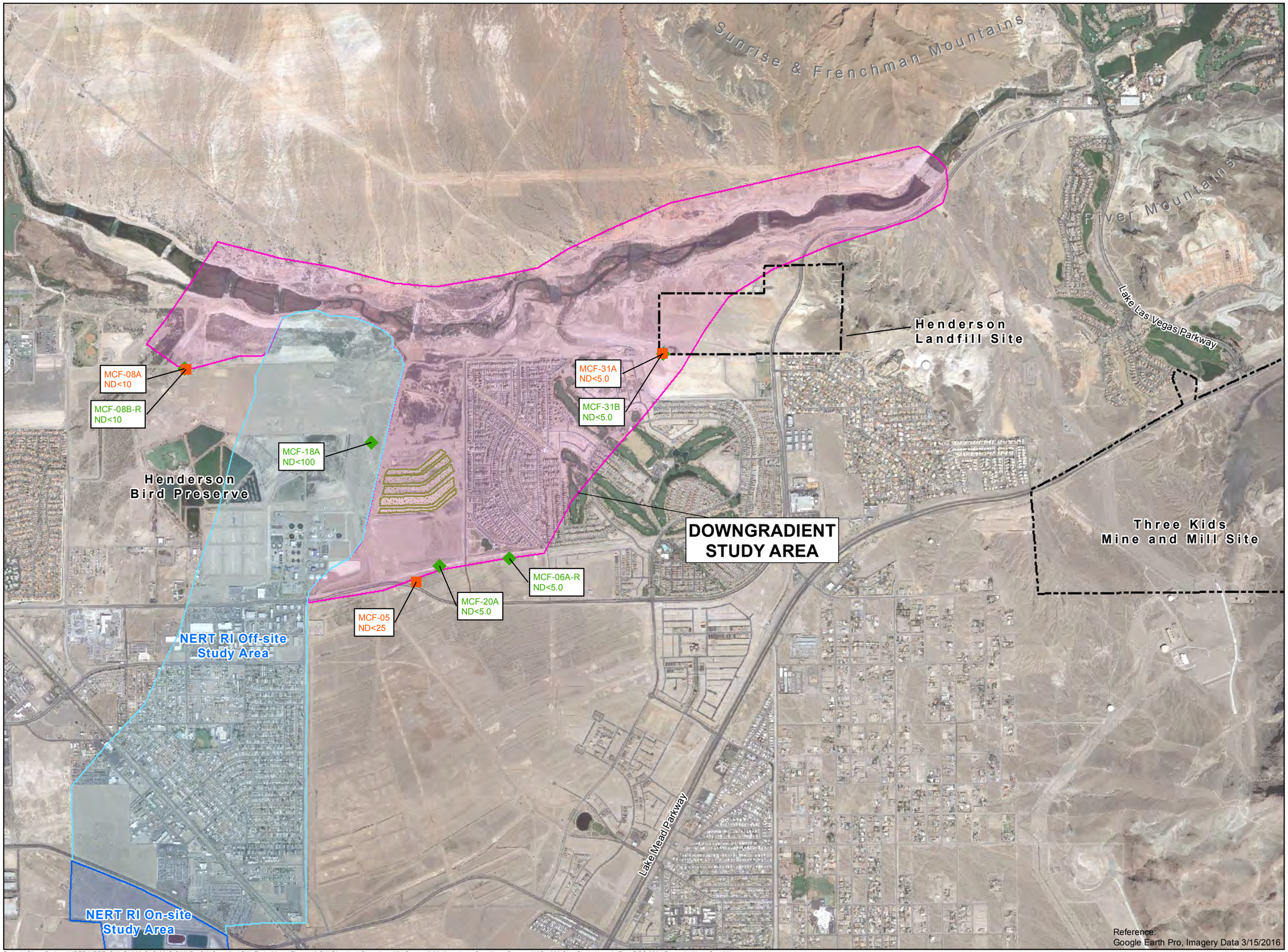
Date: 10/24/2016 Project: 60477365

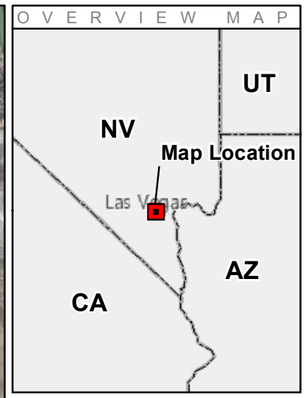
AECOM

Figure 9

Note:
* Data is anomalous. Not used for contouring.

Reference:
Google Earth Pro, Imagery Data 3/15/2016





Legend

- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Chromium Concentration in µg/L

ND - Not detected above method detection limit (MDL)
µg/L - Micrograms per liter

NORTH

0 2,000
Feet
Scale 1:24,000
1 inch = 2,000 feet

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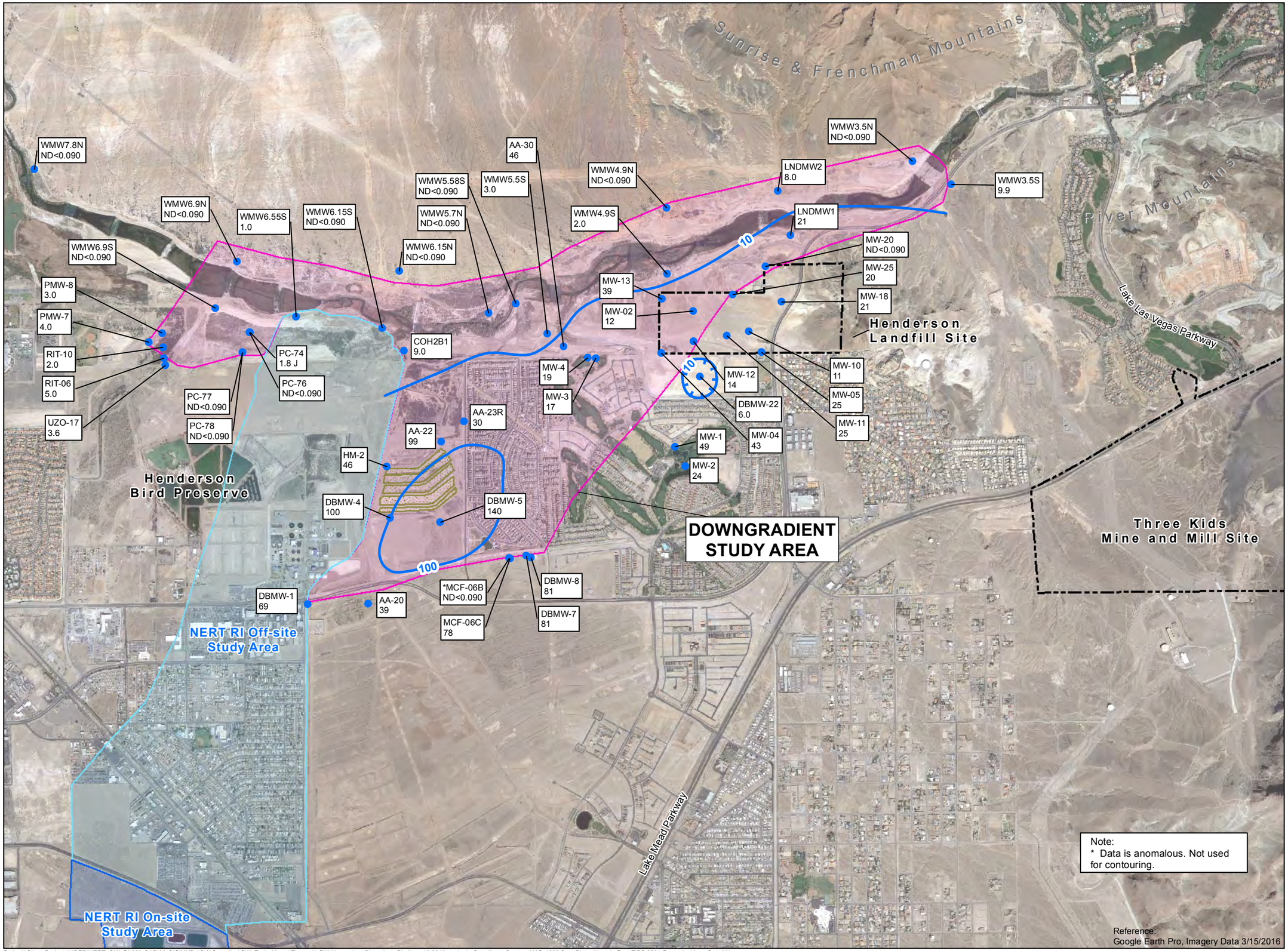
NERT RI
Downgradient Study Area

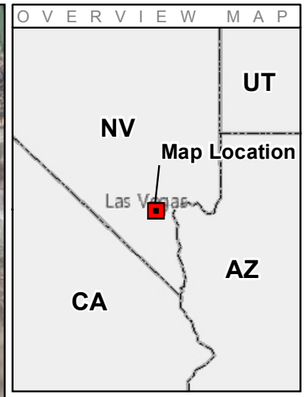
DISSOLVED CHROMIUM MIDDLE AND DEEP WATER BEARING ZONES APRIL 2016

Date: 10/24/2016 Project: 60477365

AECOM

Figure 10





Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Hexavalent Chromium Isoconcentration Contour (dashed where inferred)
- Dissolved Chromium Isoconcentration Contour (depression)
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Hexavalent Chromium Concentration in µg/L

ND - Not detected above method detection limit (MDL)
µg/L - Micrograms per liter

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

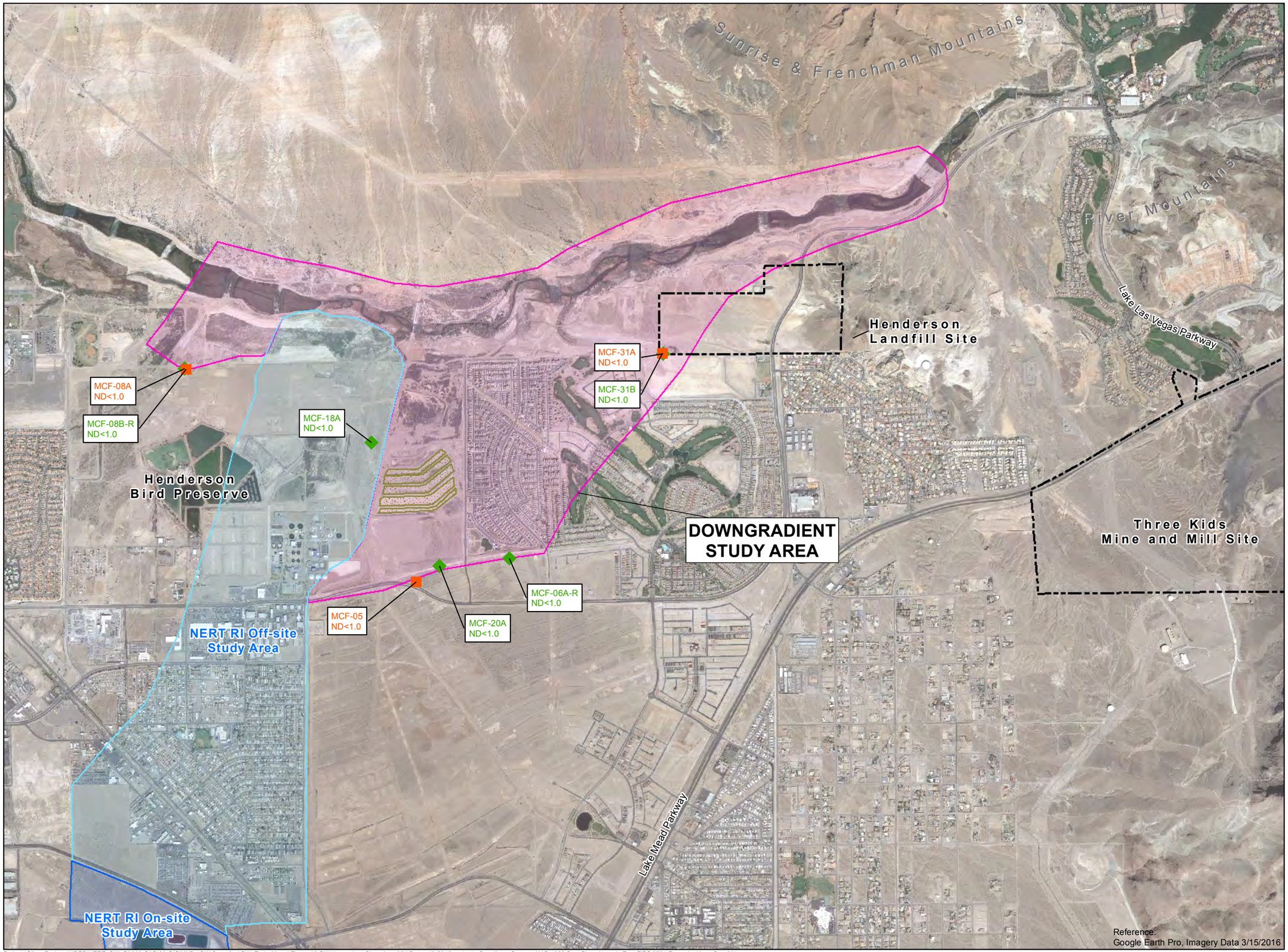
HEXAVALENT CHROMIUM SHALLOW WATER BEARING ZONE APRIL 2016

Date: 10/24/2016 Project: 60477365

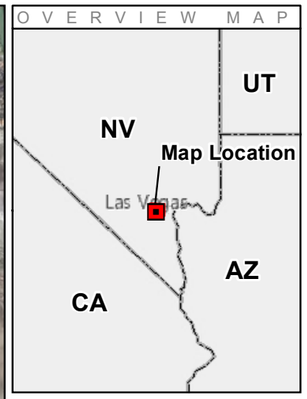
AECOM

Figure 11

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\GW Sampling\GW_Tech_Memo\Figure 11 GW Hexavalent Chromium_Shallow_10-2016.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1



Reference:
Google Earth Pro, Imagery Data 3/15/2016



Legend

- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Hexavalent Chromium Concentration in µg/L

ND - Not detected above method detection limit (MDL)
µg/L - Micrograms per liter

NORTH
0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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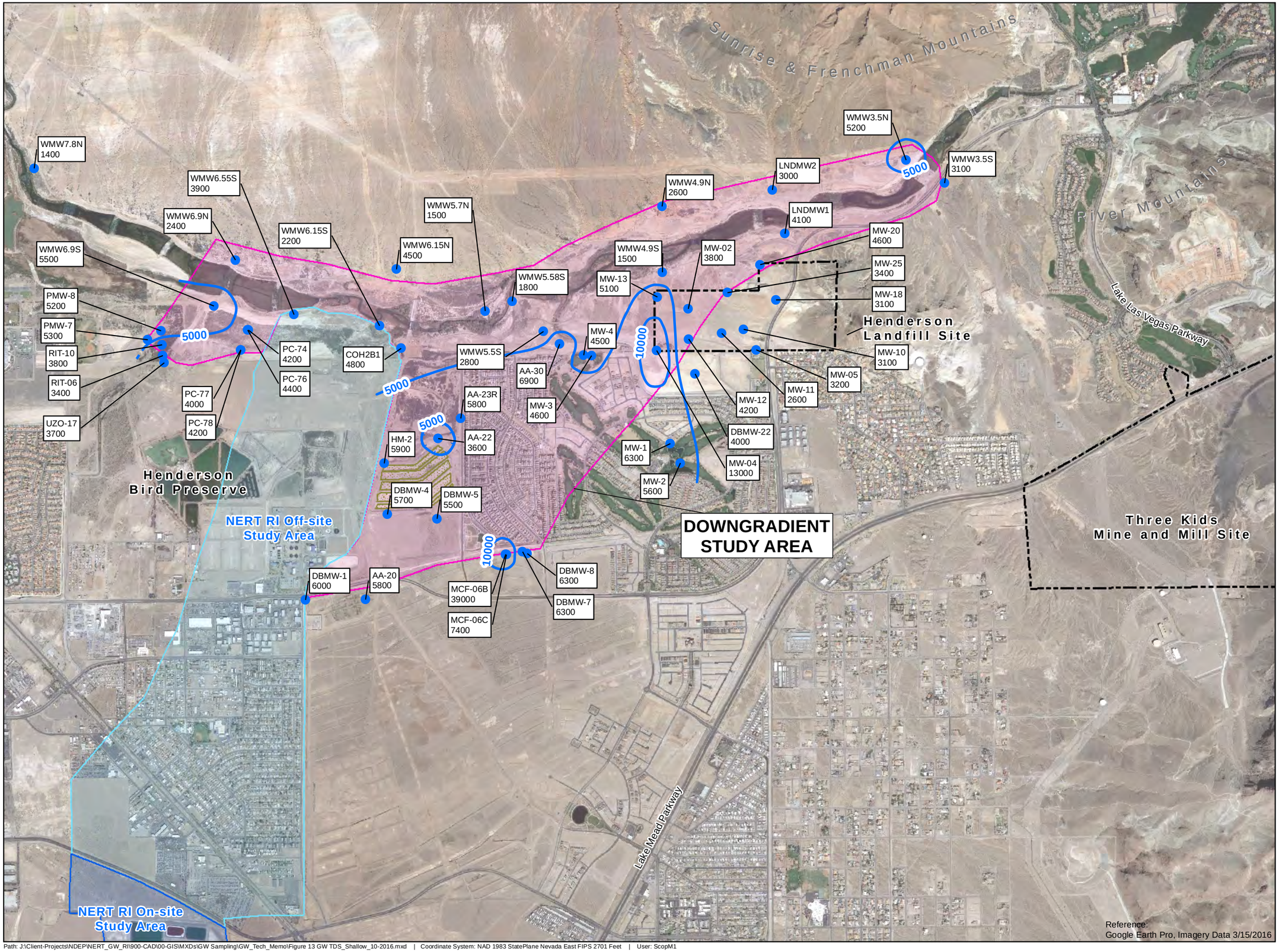
NERT RI
Downgradient Study Area

HEXAVALENT CHROMIUM MIDDLE AND DEEP WATER BEARING ZONES APRIL 2016

Date: 10/24/2016 Project: 60477365

AECOM

Figure 12



Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Total Dissolved Solids Isoconcentration Contour (dashed where inferred)
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Total Dissolved Solids Concentration in mg/L

mg/L - Milligrams per liter

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

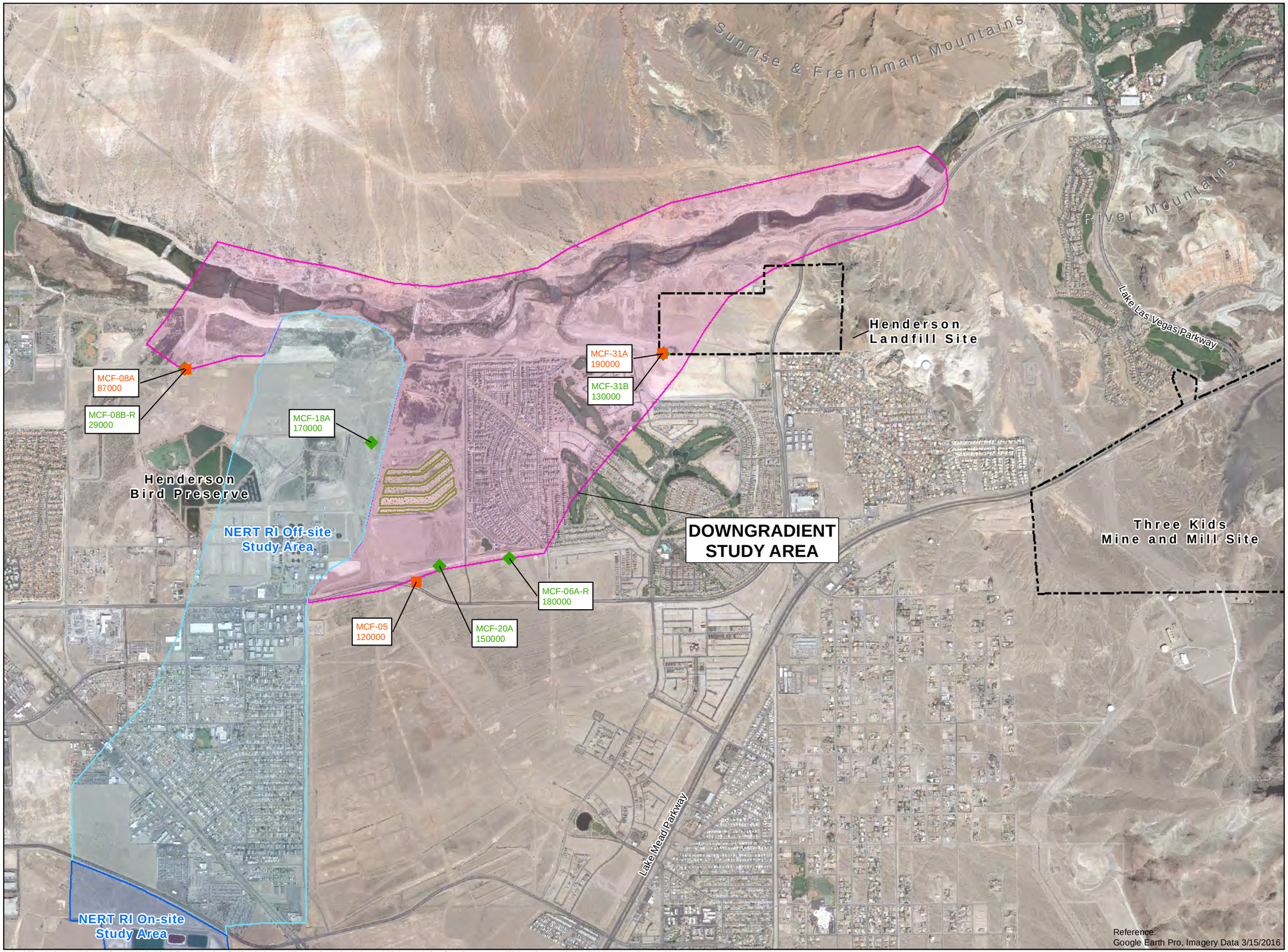
TOTAL DISSOLVED SOLIDS IN SHALLOW WATER BEARING ZONE APRIL 2016

Date: 10/24/2016 Project: 60477365

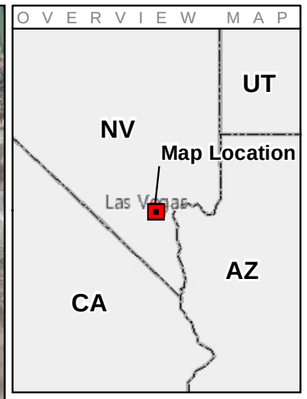
AECOM

Figure 13

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\GW Sampling\GW_Tech_Memo\Figure 13 GW TDS_Shallow_10-2016.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1



Reference:
Google Earth Pro, Imagery Data 3/15/2016



Legend

- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Total Dissolved Solids Concentration in mg/L

mg/L - Milligrams per liter

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

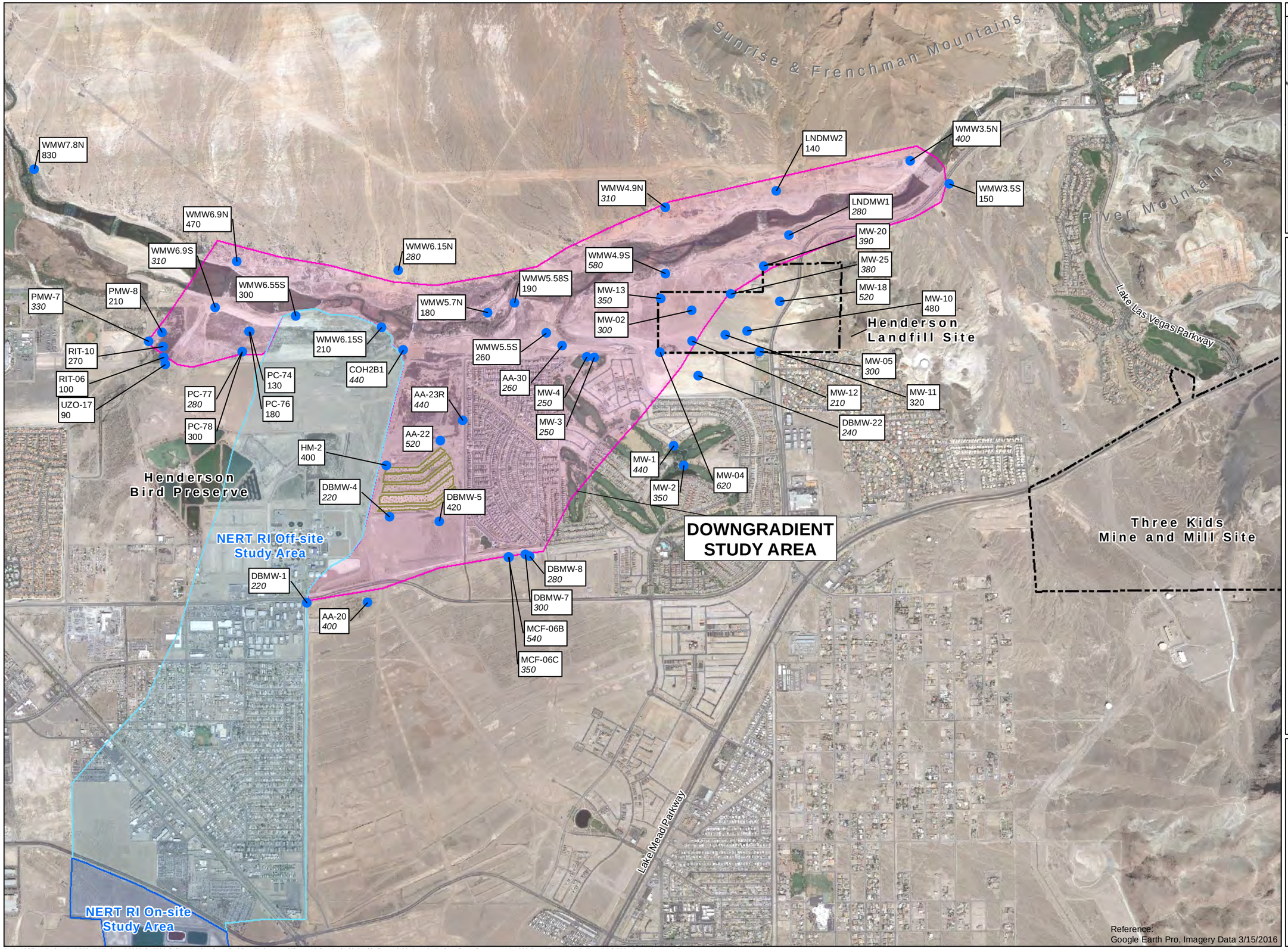
TOTAL DISSOLVED SOLIDS IN MIDDLE AND DEEP WATER BEARING ZONES APRIL 2016

Date: 10/24/2016 Project: 60477365

AECOM

Figure 14

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\GW Sampling\GW_Tech_Memo\Figure 14 GW TDS_Mid-Deep_10-2016.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1



Legend

- Groundwater Monitoring Well in Shallow Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Chloride/Bromide Concentration Ratios

Note:

Ratios shown in italics represent non-detect values for bromide and are calculated using the bromide detection limit.

NORTH

0 2,000

Feet

Scale 1:24,000

1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

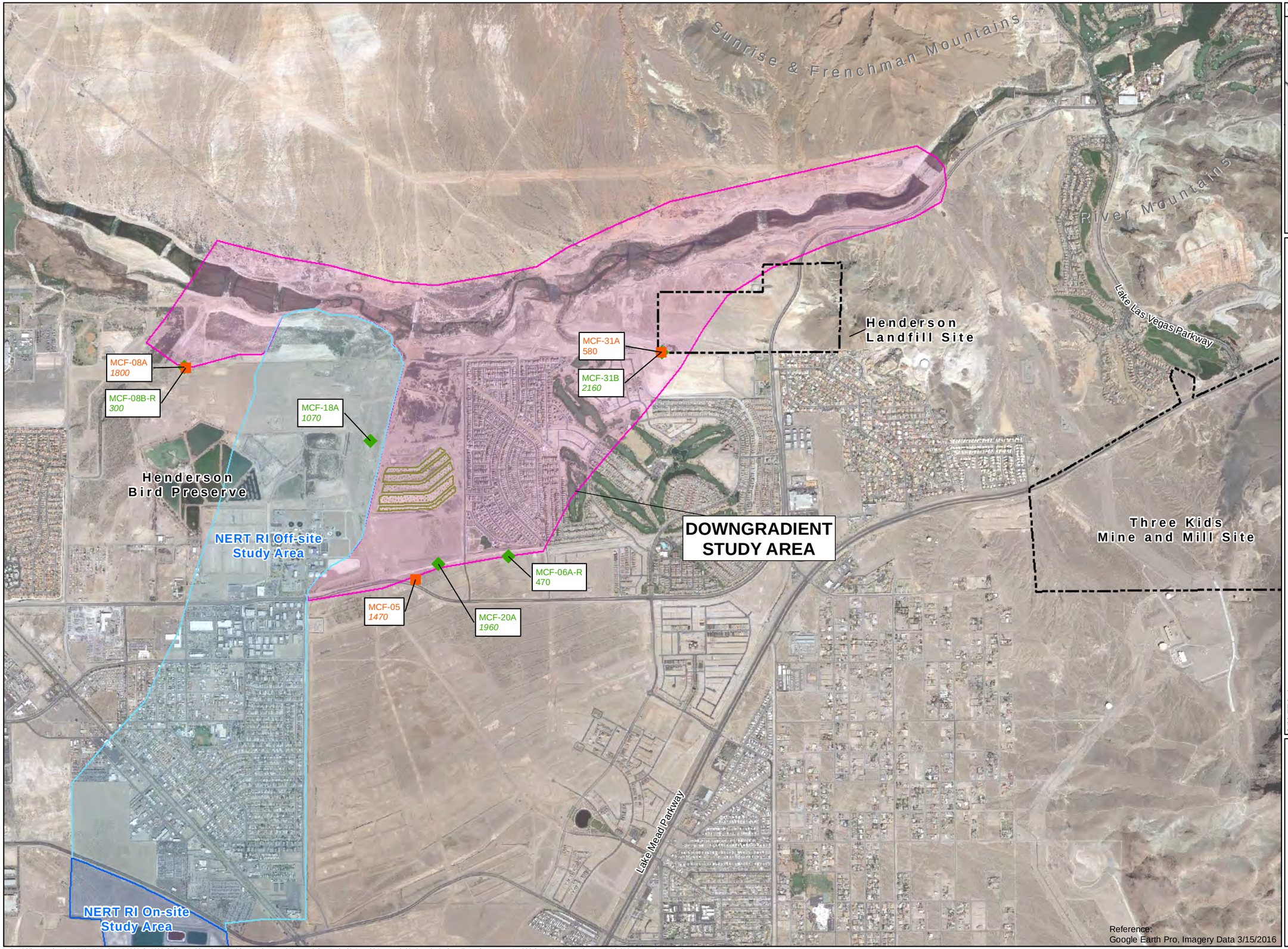
CHLORIDE/BROMIDE RATIOS IN SHALLOW WATER BEARING ZONE APRIL 2016

Date: 10/24/2016 Project: 60477365

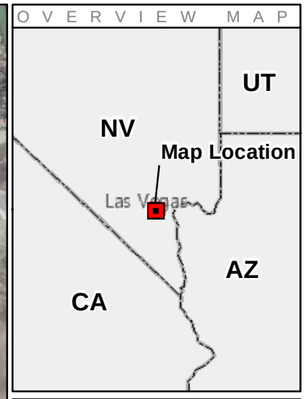
AECOM

Figure 15

Reference:
Google Earth Pro, Imagery Data 3/15/2016



Reference:
Google Earth Pro, Imagery Data 3/15/2016



Legend

- Groundwater Monitoring Well in Middle Water Bearing Zone
- Groundwater Monitoring Well in Deep Water Bearing Zone
- Northern Rapid Infiltration Basins
- NERT RI Downgradient Study Area
- NERT RI Off-site Study Area
- NERT RI On-site Study Area

Chloride/Bromide Concentration Ratios

Note:

Ratios shown in italics represent non-detect values for bromide and are calculated using the bromide detection limit.

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT RI
Downgradient Study Area

CHLORIDE/BROMIDE RATIOS IN MIDDLE AND DEEP WATER BEARING ZONES
APRIL 2016

Date: 10/24/2016 Project: 60477365

AECOM

Figure 16

Tables

Table 1
Summary of Well Owners and Property Owners
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Well Group	Well Owner	Property Owner	Latitude	Longitude
MW-K8	BMI Well	AMPAC	BE	36.08495	-114.987332
PMW-7	BMI Well	AMPAC	CCPCS	36.086976	-115.005265
PMW-8	BMI Well	AMPAC	CCPCS	36.087522	-115.004274
RIT-06	BMI Well	AMPAC	CCPCS	36.085996	-115.004138
RIT-10	BMI Well	AMPAC	CCPCS	36.086671	-115.004191
UZO-17	BMI Well	AMPAC	CCPCS	36.085557	-115.004053
MW-1	Chimera Golf Club Well	CGC	CGC	36.08034	-114.966007
MW-2	Chimera Golf Club Well	CGC	CGC	36.079209	-114.965271
MW-3	Chimera Golf Club Well	CGC	CGC	36.085917	-114.972141
MW-4	Chimera Golf Club Well	CGC	CGC	36.085935	-114.972473
COH2B1	SNWA Well	COH	USBR	36.086373	-114.986215
MW-02	BMI Well	COH	USBR	36.08867	-114.964528
MW-03	BMI Well	COH	COH	36.091323	-114.959079
MW-04	BMI Well	COH	COH	36.086137	-114.966937
MW-05	City of Henderson Well	COH	COH	36.086128	-114.959447
MW-06	City of Henderson Well	COH	COH	36.086202	-114.955966
MW-08	City of Henderson Well	COH	COH	36.088529	-114.957667
MW-09	BMI Well	COH	COH	36.091571	-114.956573
MW-10	City of Henderson Well	COH	COH	36.087388	-114.960379
MW-11	City of Henderson Well	COH	COH	36.08715	-114.962021
MW-12	BMI Well	COH	COH	36.086808	-114.964524
MW-13	BMI Well	COH	COH	36.089402	-114.966849
MW-14	BMI Well	COH	COH	36.090565	-114.964635
AA-08	BMI Well	LWC	CCPCS	36.085369	-115.002588
AA-20	BMI Well	LWC	BE	36.071016	-114.988971
AA-22	BMI Well	LWC	COH	36.080818	-114.983436
AA-23R	BMI Well	LWC	COH	36.082064	-114.981824
AA-26	City of Henderson Well	LWC	USBR	36.085545	-114.960552
AA-30	BMI Well	LWC	USBR	36.086556	-114.974253
DBMW-1	BMI Well	LWC	COH	36.071015	-114.993513
DBMW-22	City of Henderson Well	LWC	COH	36.084672	-114.964128
DBMW-4	BMI Well	LWC	BE	36.076215	-114.987293
DBMW-5	BMI Well	LWC	BE	36.075933	-114.983563
DBMW-6	BMI Well	LWC	BE	36.073553	-114.980161
DBMW-7	BMI Well	LWC	COH	36.073875	-114.977129
DBMW-8	BMI Well	LWC	COH	36.073755	-114.976785
DM4	BMI Well	LWC	BE	36.07137	-114.992385
DM5	BMI Well	LWC	BE	36.072891	-114.984303
HM-1	BMI Well	LWC	COH	36.080583	-114.983084
HM-2	BMI Well	LWC	COH	36.079421	-114.987597
HM-3	BMI Well	LWC	COH	36.076749	-114.983316
HSW-1	BMI Well	LWC	BE	36.076486	-114.987883
HSW-2	BMI Well	LWC	COH	36.076496	-114.986235
MCF-05	BMI Well	LWC	BE	36.072385	-114.985376
MCF-06A-R	BMI Well	LWC	BE	36.073771	-114.978415
MCF-06B	BMI Well	LWC	COH	36.073723	-114.978396
MCF-06C	BMI Well	LWC	COH	36.073701	-114.978345
MCF-08A	BMI Well	LWC	CCPCS	36.085406	-115.002596
MCF-08B-R	BMI Well	LWC	CCPCS	36.085362	-115.002503
MCF-18A	BMI Well	LWC	BE	36.08085	-114.988687
MCF-19A	BMI Well	LWC	COH	36.071167	-114.993324
MCF-20A	BMI Well	LWC	BE	36.073333	-114.983657
MCF-31A	BMI Well	LWC	USBR	36.08613	-114.966806
MCF-31B	BMI Well	LWC	USBR	36.086135	-114.966851
PC-74	BMI Well	NERT	CCPCS	36.08753	-114.997675
PC-76	BMI Well	NERT	CCPCS	36.087539	-114.997741
PC-77	BMI Well	NERT	CCPCS	36.086336	-114.998265
PC-78	BMI Well	NERT	CCPCS	36.086315	-114.99826
COH-1	BMI Well	SNWA	USBR	36.088421	-114.985363
COH-1A	City of Henderson Well	SNWA	USBR	36.088435	-114.985363

Table 1
Summary of Well Owners and Property Owners
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Well Group	Well Owner	Property Owner	Latitude	Longitude
COH-2A	BMI Well	SNWA	USBR	36.086487	-114.986358
LNDMW1	SNWA Well	SNWA	CCPCS	36.093214	-114.957216
LNDMW2	SNWA Well	SNWA	CCPCS	36.095908	-114.958173
W02	BMI Well	SNWA	CCPCS	36.0897	-114.970157
WMW3.5N	SNWA Well	SNWA	CCPCS	36.097719	-114.946619
WMW4.9N	SNWA Well	SNWA	CCPCS	36.094956	-114.96646
WMW4.9S	SNWA Well	SNWA	CCPCS	36.090891	-114.966462
WMW5.58S	SNWA Well	SNWA	USBR	36.089244	-114.977802
WMW5.5S	SNWA Well	SNWA	USBR	36.087371	-114.975448
WMW5.7N	SNWA Well	SNWA	USBR	36.08863	-114.979839
WMW5.85S	SNWA Well	SNWA	USBR	36.087508	-114.981722
WMW6.0N	SNWA Well	SNWA	CCPCS	36.088035	-114.984674
WMW6.0S	SNWA Well	SNWA	CCPCS	36.087277	-114.984605
WMW6.15N	SNWA Well	SNWA	CCPCS	36.091204	-114.986559
WMW6.15S	SNWA Well	SNWA	CCPCS	36.087727	-114.987825
WMW6.2N	SNWA Well	SNWA	CCPCS	36.090576	-114.987825
WMW6.55S	SNWA Well	SNWA	CCPCS	36.088998	-114.994223
WMW7.8N	SNWA Well	SNWA	CCPCS	36.097498	-115.013773

Notes:
AMPAC - American Pacific Corporation
BE - Basic Environmental
BMI - Basic Management Incorporated
CCPCS - Clark County Parks and Community Services
CGC - Chimera Golf Course
COH - City of Henderson
LWC - LandWell Company
NERT - Nevada Environmental Response Trust
SNWA - Southern Nevada Water Authority
USBR - United States Bureau of Reclamation

Table 2
Summary of Well Reconnaissance Data
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Status	Easting (1)	Northing (1)	Elevation TOC (1)	Date Gaged	Expected Total Depth (feet)	Total Measured Well Length/ Depth (feet)	Depth to Water (feet)	Length of Water Column (feet)	GW Elev. (feet amsl)	Casing Diameter (in)/ Material	Well Box Type (flush or monument)	Well # on the well box?	Well box concrete apron cracked?	Water present in well box?	Well casing capped?	Well casing Locked?	Well casing cracked?	Well cover bolted?	Screen Interval (feet, bgs)	Water-Bearing Zone	Lithology	Comments	Rationale for Sampling
AA-08	Dry	827756.55	26733208.28	1581.08	4/7/2016	36.64	13.23	Dry	Dry	Dry	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	5 - 35	Shallow	Qal	Soil around well is extremely soft and an easy place for vehicles to get stuck. Roots in well (came up w/ water level probe). Yellow monument with 4 yellow bumper posts. QED sample port well cap w/ dedicated tubing. In cluster of 7 wells.	Not being sampled - Dry.
AA-20	Use bailer to sample	831811.79	26728007.77	1628.46	4/7/2016	33	32.85	31.56	1.29	1596.90	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	10 - 30	Shallow	Qal	Has dedicated tubing inside well. Yellow monument with 4 bumper posts. Located approx. 15 feet from AA-20-OW.	Requested by NDEP, in area of interest.
AA-22	Use bailer to sample	833427.04	26731587.32	1579.85	4/4/2016	33.91	33.9	32.11	1.79	1547.74	4" PVC	Monument	Yes	No	No	Yes	Yes	No	NA	11 - 31	Shallow	Qal	Dedicated tubing inside well. Yellow monument with 4 yellow bumper posts around well. Lots of broken glass, downed barb wire fencing, and cut-off fence posts around well.	Requested by NDEP, in area of interest.
AA-23R	Active	833924.30	26732035.85	1561.68	4/7/2016	45	45.1	31.38	Dry	1530.30	4"PVC	Flush	No	No	No	Yes	No	No	Yes	20 - 45	Shallow	Qal	Previous coordinates plotted well along Weston Ridge Street (formerly Burkholder Blvd) west of sidewalk in the dirt. Did not observe well at that point, but noted about 25 feet of 2" PVC pipe laying on the ground; about 5 feet of the pipe was slotted screen. Approx. 25 feet east of expected location is a flush mount well box in the asphalt of Weston Ridge Street. All readings were taken from that location, which is assumed to be AA-23R. Well is 11 feet off the curb.	Requested by NDEP, in area of interest.
AA-26	Access not granted to AECOM	--	--	--	--	54.47	--	--	--	--	--	--	--	--	--	--	--	--	--	32 - 52	Shallow	Qal	While working near the landfill property a representative from McCarthy Construction was setting up a construction trailer on the adjacent lot containing AA-26.	Requested by NDEP, in area of interest.
AA-30	Active	836125.80	26733691.92	1532.35	4/7/2016	32	34.05	20.44	50.02	1511.91	4"PVC	Monument	Yes	No	No	Yes	Yes	No	No	11.7 - 31.7	Shallow	Qal	Southern-most well in a cluster of three wells. Square yellow monument well with 4 yellow bumper posts. There is a 1/4-inch dedicated tubing inside well.	Requested by NDEP, in area of interest. Near well WMW5.5S at approximately the same depth. May not need to sample both wells in the future depending on the initial sample analytical results
COH-1	Plugged & Abandoned	832839.03	26734349.92	1531.42	4/8/2016	171.6	--	--	--	--	--	--	--	--	--	--	--	--	--	157.9 - 167.9	Middle	UMCf	Unable to locate well. Existing coordinates plot well inside concrete weir at Pabco Trailhead (i.e. on north side of Pabco Weir, along north bank of Las Vegas Wash).	Not being sampled - Plugged & Abandoned.
COH-1A	Plugged & Abandoned	832838.89	26734354.61	1531.60	4/8/2016	20	--	--	--	--	--	--	--	--	--	--	--	--	--	10 - 20	Shallow	Qal	Unable to locate well. Existing coordinates plot well approx. 5 feet north of COH-1 & inside concrete weir at Pabco trailhead on north side of Pabco Weir (i.e. north bank of Las Vegas Wash).	Not being sampled - Plugged & Abandoned.
COH-2A	Plugged & Abandoned	--	--	--	4/4/2016	52	--	--	--	--	--	--	--	--	--	--	--	--	--	40 - 50	Shallow	Qal	Unable to locate well.	Not being sampled - Plugged & Abandoned.
COH2B1	Active	832598.59	26733593.69	1546.95	4/5/2016	NK	67	16.98	50.02	1529.97	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	TBD	TBD	TBD	Yellow monument inside Pabco Trailhead Park.	Requested by NDEP, in area of interest
DBMW-1	Active	830469.80	26727999.08	1626.60	4/5/2016	50	51.3	37.08	14.22	1589.52	4" PVC	Monument	Yes	No	No	Yes	Yes	No	NA	19 - 49	Shallow	Qal/UMCf	Well located on southeast corner of Pabco & Galleria. Yellow monument with 4 yellow bumper posts around well.	Requested by NDEP, in area of interest.
DBMW-4	Active	832295.68	26729903.39	1605.83	4/4/2016	40	43.7	26.35	17.35	1579.48	4" PVC	Monument	Yes	No	No	Yes	Yes	No	NA	10 - 30	Shallow	Qal/UMCf	Dedicated tubing inside well. Well is located on a berm. Yellow monument with 4 yellow bumper posts around well.	Requested by NDEP, in area of interest.
DBMW-5	Active	833399.07	26729807.30	1609.61	4/4/2016	35	37.95	28.26	9.69	1581.35	4" PVC	Monument	Yes	No	No	Yes	Yes	No	NA	15 - 35	Shallow	UMCf	Dedicated tubing inside well. Yellow monument with 4 yellow bumper posts around well	Requested by NDEP, in area of interest
DBMW-6	Insufficient water to sample	834409.71	26728947.30	1632.43	4/7/2016	50	52.80	52.29	0.51	--	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	30 - 50	Shallow	Qal/UMCf	Yellow monument with 4 yellow bumper posts.	Not being sampled - Insufficient water to collect sample.
DBMW-7	Active	835304.94	26729069.98	1631.61	4/7/2016	70	73.30	58.50	14.80	1573.11	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	50 - 70	Shallow	UMCf	Must access from Weston Ridge Street (formerly Burkholder Blvd.). Yellow monument with 4 traffic bollards; 1/8" dedicated tubing in well.	Requested by NDEP, in area of interest.
DBMW-8	Active	835406.66	26729026.85	1632.03	4/7/2016	70	69.20	57.78	11.42	1574.25	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	47.5 - 67.5	Shallow	UMCf	No access from McCormick Road, must access from Weston Ridge Street (formerly Burkholder Blvd.). Yellow monument with 4 yellow bumper posts; 1/4" dedicated tubing in well.	Requested by NDEP, in area of interest.
DBMW-22	Active	839141.01	26733030.27	1535.03	4/7/2016	55	59.00	29.29	29.71	1505.74	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	35 - 55	Shallow	UMCf	Yellow monument with 4 yellow bumper posts; 1/4-inch dedicated tubing in well. Accessed well via gate on Dave Wood Circle. Secondary access to this well through landfill gate near MW-04, MCF-31A and MCF-31B (in southwest corner of landfill). Observed coyotes in this area on April 6, 2016	Requested by NDEP, in area of interest.
DM-4	Plugged & Abandoned	--	--	--	4/7/2016	23	--	--	--	--	--	Monument	--	--	--	--	--	--	--	8 - 23	Shallow	Qal	Unable to locate well. Existing coordinates plot well 6 feet north of median in westbound lane of Galleria Drive.	Not being sampled - Plugged & Abandoned.
DM-5	Dry	833187.31	26728698.85	1625.40	4/7/2016	26.5	23.42	Dry	Dry	Dry	2" PVC	Monument	Yes	No	No	Yes	No	No	No	7 - 22	Shallow	Qal	Square gray monument.	Not being sampled - Dry.
HM-1	Dry	833668.24	26731447.15	1585.21	4/4/2016	NK	29.75	Dry	Dry	Dry	2" PVC	No well box	No, on slip cap	Yes-badly	NA	Yes	No	No	NA	TBD	Shallow	TBD	Original GPS coordinates do not match up with well location. No well box; 2" PVC pipe observed sticking up approx. 18" out of ground. Slip cap is labeled with well ID. Cannot park vehicle alongside well, since well sits inside fenced area with limited access	Not being sampled - Dry.
HM-2	Active	832227.03	26731037.68	1587.05	4/4/2016	22	36	27.43	8.57	1559.62	2" PVC	No well box	No, on cap	Yes-badly	NA	Yes	No	No	NA	? - 36.89	Shallow	TBD	Original GPS coordinates do not match up with well location. No well box; 2" PVC was observed sticking up approx. 1 foot out of the ground. Slip cap is labeled with well ID. Well inside former fenced-in area; can get vehicle within 25 feet of well.	Requested by NDEP, in area of interest.
HM-3	Dry	833318.23	26729995.16	1603.37	4/6/2016	NK	16.37	Dry	Dry	Dry	2" PVC	No well box	--	--	--	No	No	Yes	--	TBD	Shallow	TBD	Original GPS coordinates do not match up with well location. No well box. Well is damaged; casing broken off at ground surface. Observed approx. 1" to 2" PVC stick-up with slip cap, which is labeled with well ID. Well is located inside fenced area; can get vehicle within 25 feet of well	Not being sampled - Dry.
HSW-1	Plugged & Abandoned	--	--	--	4/4/2016	24	--	--	--	--	--	--	--	--	--	--	--	--	--	? - 23.78	TBD	TBD	Unable to locate well.	Not being sampled - Plugged & Abandoned.
HSW-2	Plugged & Abandoned	832690.34	26730013.56	1601.67	4/4/2016	NK	--	--	--	--	--	--	--	--	--	--	--	--	--	TBD	TBD	TBD	Unable to locate well. Found an unknown well located approx. 6 feet north & 82 feet east of existing coordinates for HSW-2.	Not being sampled - Plugged & Abandoned.
LNDMW1	Active	841145.67	26736145.45	1511.19	4/5/2016	NK	61.56	36.99	24.57	1474.20	2" ABS	Flush	Yes	No	No	Yes	No	No	Yes	TBD	Shallow	TBD	Well is secured with steel plate with four 3/4" bolts; underneath plate is well lid secured with two 3/4" bolts. Well ID number painted on steel plate; SNWA rep said it fades off quickly due to irrigation. Access well through gate (single chain) off E. Galleria Rd; drive down towards wash along bike trail; well box is in concrete vault approx. 3' x 3' x 1'.	Requested by NDEP, in area of interest.
LNDMW2	Active	840864.28	26737125.16	1501.98	4/5/2016	NK	55.05	34.39	20.66	1467.59	2" PVC	Concrete vault	Yes	No	No	Yes	No	No	Yes	TBD	Shallow	TBD	Soft/silty access road leads to well off gravel road. Not easy to see; a lot of low lying vegetation. Concrete vault 3' x 4' x 1.5' secured with steel plate and two 3/4" bolts. Well box is inside, secured with flush mount lid and two 3/4" bolts.	Requested by NDEP, in area of interest.
MCF-05	Active	832871.14	26728512.87	1627.26	4/7/2016	233.4	233.05	43.92	189.13	1583.34	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	221 - 231	Middle	UMCf	Has dedicated tubing (1/4" & 5/16") connected to QED sample port well cap. Yellow monument with 4 yellow bumper posts. Hinge on monument lid is extremely rusty and difficult to close/lock.	Requested by NDEP, in area of interest.
MCF-06A-R	Active	834929.39	26729028.09	1632.77	4/7/2016	373	376.65	103.13	273.52	1529.64	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	333 - 373	Deep	UMCf	In a cluster of three wells. Access off Weston Ridge Street (formerly Burkholder Blvd). Has 3/8" & 1/4" dedicated tubing in well, connected to QED sample port well cap. Yellow monument with 4 yellow bumper posts.	Requested by NDEP, in area of interest.
MCF-06B	Active	834930.85	26729012.56	1633.01	4/7/2016	85.23	85.15	57.86	27.29	1575.15	4" PVC	Monument	Yes	No	No	Yes	No	No	No	67 - 82	Shallow	UMCf	Lock has been torched off. Square yellow monument with 4 yellow bumper posts. In a cluster of three wells. Access off of Weston Ridge Street (formerly Burkholder Blvd). Has 3/8" & 1/4" dedicated tubing in well, connected to QED sample port well cap.	Requested by NDEP, in area of interest.
MCF-06C	Use bailer to sample	834945.70	26729004.80	1632.95	4/7/2016	62.42	62.30	57.67	4.63	1575.28	4" PVC	Monument	Yes	No	No	Yes	No	No	No	44 - 59	Shallow	UMCf	Square yellow monument protected by 4 yellow bumper posts. Observed 1/4" tubing that had fallen down into the well; would need a hook to retrieve it. Cluster of three wells. Access off of Weston Ridge Street (formerly Burkholder Blvd).	Requested by NDEP, in area of interest.
MCF-08A	Active	827753.95	26733221.82	1580.33	4/7/2016	371.5	373.1	1.66 (above ground surface)	--	--	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	350 - 370	Deep	UMCf	Severely rusted monument. Water level is above ground surface. Very soft soil surrounding well; extremely soft and an easy place for vehicles to get stuck. Among a cluster of seven wells.	Requested by NDEP, in area of interest. Deep well adjacent to 3 other wells, each with significantly different screened intervals providing vertical control.
MCF-08B-R	Active	827786.62	26733202.26	1580.39	4/7/2016	136.5	139.94	1.41 (above ground surface)	--	--	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	96.5 - 136.5	Middle	UMCf	Yellow monument with 4 yellow bumper posts. In a cluster of seven wells. QED sample port well cap w/ dedicated tubing. Very soft soil surrounds wells. Water level is above ground surface.	Requested by NDEP, in area of interest. Deep well adjacent to 3 other wells, each with significantly different screened intervals providing vertical control.
MCF-18A	Active	831877.31	26731585.95	1577.53	4/4/2016, 4/7/2016	400	403.85	22.93	380.92	1554.60	4" PVC	Monument	No	No	No	Yes	Yes	No	NA	360 - 400	Deep	UMCf	4/4/2016: Dedicated tubing inside well. Yellow monument with 4 yellow bumper posts around well. Difficult to gauge well and tag total depth. Two separate depth-to-water meters and a plunger both malfunctioned when measuring total depth. Total depth measurement initially performed by feel rather than by the instruments available. There was some sort of salt/precipitate/ observed in the cap of the well. Needed extensive decon and attention afterwards. 4/7/2016: tagged total depth with new tape	Requested by NDEP, in area of interest.
MCF-19A	Plugged & Abandoned	--	--	--	4/5/2016	360	--	--	--	--	--	--	--	--	--	--	--	--	--	320 - 360	Deep	UMCf	Unable to located well; likely paved over.	Not being sampled - Plugged & Abandoned.
MCF-20A	Active	833381.19	26728860.07	1626.23	4/7/2016	380	384.50	73.01	311.49	1553.22	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	340 - 380	Deep	UMCf	Yellow monument with 4 yellow bumper posts.	Requested by NDEP, in area of interest
MCF-31A	Active	838327.14	26733550.41	1526.66	4/6/2016	381	385.22	1.49 (above ground surface)	383.73	--	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	361 - 381	Deep	UMCf	Dedicated tubing (1/4" and 1/8") in well, connected to QED sample port well cap. Water level is above ground surface; taken from top of casing inside. Square yellow monument with 4 bumper posts, in cluster of 3 wells.	Requested by NDEP, in area of interest.
MCF-31B	Active	838313.65	26733552.59	1527.42	4/6/2016	381	234.75	17.79	216.96	1509.63	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	210 - 230	Middle	UMCf	Dedicated tubing (1/4" and 1/8") in well, connected to QED sample port well cap. Square yellow monument with 4 bumper posts, in cluster of 3 wells.	Requested by NDEP, in area of interest.
MW-02	Active	838994.12	26734478.11	1533.13	4/6/2016	45	44.83	40.12	4.71	1493.01	2" PVC	Monument	Well cap	No	No	Yes	Yes	No	No	32-42	Shallow	TBD	Rusty monument sticking up approx. 16" above ground surface.	Requested by NDEP, in area of interest
MW-03	Unable to Locate	--	--	1513.08	4/7/2016	35	35	--	--	--	--	--	--	--	--	--	--	--	--	25-35	Shallow	Qal	Unable to locate well. Existing coordinates plot well within 10 feet of MW-20 inside COH Landfill area. Tall monument near MW-20 contains soil vapor probe.	Not being sampled - Unable to Locate.
MW-04	Active	838288.65	26733551.66	1530.64	4/6/2016	30	40.95	23.64	17.31	1507.00	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	29-39	Shallow	Qal	Round monument (yellow) in cluster of 3 wells. Well lid hinge broken.	Requested by NDEP, in area of interest
MW-05	Active	840501.38	26733563.04	1569.13	4/6/2016 and 4/7/2016	66.7	66.45	44.99	21.46	1524.14	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	44-64	Shallow	TBD	4/6/16: Unable to open well with COH/McGinley key. Lock seized up; difficult to remove key. Lubricated lock and still would not open. 4/7/16: Jeri Prante (McGinley) gave permission to cut lock on well for access.	Requested by NDEP, in area of interest.
MW-06	Active	841529.98	26733596.69	1610.75	4/6/2016	52	49.72	32	17.72	1578.75	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	39-49	Shallow	TBD	Yellow monument. Access through the gate to this well is a little rocky and washed out	Requested by NDEP, in area of interest
MW-08	Plugged & Abandoned	--	--	1579.86	4/7/2016	NK	115	--	--	--	--	--	--	--	--	--	--	--	--	105-115	Middle	UMCf	Unable to locate well, presumed to be destroyed. Previous coordinates place well in westbound lane of Galleria Drive near the main entrance to the COH Landfill.	Not being sampled - Plugged & Abandoned.
MW-09	Plugged & Abandoned	--	--	1534.55	4/7/2016	NK	87	--	--	--	--	--	--	--	--	--	--	--	--	67-87	NA	TBD	Unable to locate well, presumed to be destroyed. Previous coordinates plot the well next to MW-21 on COH/McGinley & Assoc map (MW-21 was reportedly destroyed when E. Galleria Drive was constructed)	Not being sampled - Plugged & Abandoned.
MW-10	Active	840223.23	26734019.86	1546.44	4/6/2016	60	56.71	37.73	18.98	1508.71	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	45-55	Shallow	TBD	Yellow monument.	Requested by NDEP, in area of interest
MW-11	Active	839738.37	26733930.02	1543.35	4/6/2016	70	66.05	48.28	17.77	1495.07	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	55-65	Shallow	TBD	Yellow monument.	Requested by NDEP, slightly outside downgradient study area but within area of interest.
MW-12	Active	838999.98	26733800.85	1547.26	4/6/2016	61	61.73	52.13	9.6	1495.13	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	51-61	Shallow	TBD	Yellow monument. Well lid hinge broken.	Requested by NDEP, in area of interest
MW-13	Active	838306.91	26734740.22	1529.84	4/6/2016	48	49.4	35.58	13.82	1494.26	4" PVC	Monument	Yes	No	No	Yes	Yes	No	No	38-48	Shallow	Qal	Green monument.	Requested by NDEP, in area of interest.
MW-14	Plugged & Abandoned	--	--	1523.77	4/7/2016	43	43	--	--	--	--	--	--	--	--	--	--	--	--	33-43	Shallow	TBD	Well is plugged & abandoned. Well appears to have been cemented in. Wooden stake next to location has well ID # written on it.	Not being sampled - Plugged & Abandoned.

Table 2
Summary of Well Reconnaissance Data
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Status	Easting [1]	Northing [1]	Elevation TOC [1]	Date Gaged	Expected Total Depth (feet)	Total Measured Well Length/ Depth (feet)	Depth to Water (feet)	Length of Water Column (feet)	GW Elev. (feet amsl)	Casing Diameter (in)/ Material	Well Box Type (flush or monument)	Well # on the well box?	Well box concrete apron cracked?	Water present in well box?	Well casing capped?	Well casing Locked?	Well casing cracked?	Well cover bolted?	Screen Interval (feet, bgs)	Water-Bearing Zone	Lithology	Comments	Rationale for Sampling
MW-18	Active	840946.07	26734674.06	1582.48	4/6/2016	NK	107	68.93	38.07	1513.55	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	90.6-105.6	Shallow	--	Yellow monument.	Outside of downgradient study area within landfill site, provides valuable information regarding potential contributions from the landfill. The well is located south of MW-08 (which is plugged and abandoned), so it can serve as a replacement well for MW-08. This well is also located near a surface water dry wash, so it could provide information regarding potential contributions from infiltrating from the wash.
MW-20	Active	840590.41	26735460.67	1512.54	4/7/2016	NK	67.25	33.05	34.20	1479.49	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	50-65	Shallow	--	Yellow monument within 5 feet of another yellow monument that contains a soil vapor probe. Accessed via separate gate on North side of Landfill.	Provides valuable information regarding potential contributions from the landfill. Appears to be near the expected location of well MW-03, which the field crew was unable to locate. Provides information from the closest portion of the landfill to Las Vegas Wash.
MW-21	Plugged & Abandoned	--	--	1550.95	4/7/2016	NK	93	--	--	--	--	--	--	--	--	--	--	--	--	78-93	Shallow		Well presumed to be destroyed. Jeri Prante w/ McGinley & Assoc. indicated that the well was believed to have been destroyed when East Galleria Drive was constructed.	Not being sampled - Plugged & Abandoned.
MW-25	Active	839862.75	26734834.10	1531.65	4/6/2016	NK	54.15	39.86	14.29	1491.79	4" PVC	Monument	Inside well lid	No	No	Yes	Yes	No	No	38-53	Shallow	--	Yellow monument at base of hill along northern boundary of landfill.	Adjacent to downgradient study area within landfill site; provides valuable information regarding potential contributions from the landfill
MW-K8 [2]	Plugged & Abandoned	--	--	--	4/4/2016	50	--	--	--	--	--	--	--	--	--	--	--	--	--	? - 50	Shallow	Qal	Unable to locate well; expected location was plotted on top of a man made dirt pile approx. 25 feet tall. Well PC 94 is nearby.	Not being sampled - Plugged & Abandoned.
PC-74	Active	829203.19	26734003.83	1565.32	4/8/2016	70	48.25	11.59	36.66	1553.73	2" PVC	Flush	Yes	No	No	Yes	No	No	No	39.5 - 49.5	Shallow	Qal	No vehicle access, well is located in wetlands. Sample w/ QED MP15 portable pack & N2 gas cylinder.	Requested by NDEP, in area of interest. Well is nested with another well with a different screened interval providing vertical contro
PC-76	Active	829183.48	26734007.08	1565.05	4/8/2016	20.5	22.12	11.42	10.7	1553.63	2" PVC	Flush	Yes	No	No	Yes	No	No	No	15 - 20	Shallow	Qal	No vehicle access, well is located in wetlands. Has dedicated tubing (1/4"). Sample w/ QED MP15 portable pack & N2 gas cylinder.	Requested by NDEP, in area of interest. Well is nested with another well with a different screened interval providing vertical contro
PC-77	Active	829031.31	26733568.45	1566.86	4/8/2016	45	38.87	7.19	31.68	1559.67	2" PVC	Flush	well cap	Yes	No	Yes	No	No	No	29.5 - 39.5	Shallow	Qal	Metal well lid cracked. Concrete cracked around well box. A lot of spiders inside well box. Dedicated tubing (about 1/2") inside well casing. Located within 5 feet of PC-78.	Requested by NDEP, in area of interest. Well is nested with another well with a different screened interval providing vertical contro
PC-78	Active	829032.90	26733560.47	1566.77	4/8/2016	22	21.9	6.56	15.34	1560.21	2" PVC	Flush	Well cap	Yes	No	Yes	No	No	No	11.5 - 21.5	Shallow	Qal	Well is within 5 feet of PC-77.	Requested by NDEP, in area of interest. Well is nested with another well with a different screened interval providing vertical contro
PMW-7	Active	826962.08	26733788.69	1579.81	4/8/2016	39	39.21	10.45	28.76	1569.36	4" PVC	Flush	Yes	No	No	Yes	No	No	Yes	20 - 40	Shallow	Qal/xMCF	Has 1/2" dedicated tubing.	Requested by NDEP, in area of interest. Close to PMW-8, RIT-6, and RIT-10. Each of these wells is screened in the shallow alluvial zone (about 17 - 40 feet bgs). Historic results from these wells indicate large concentration changes between wells, suggesting all should be sampled
PMW-8	Active	827253.76	26733988.93	1576.37	4/8/2016	41	41.05	8.67	32.38	1567.70	4" PVC	Flush	Yes	No	No	No	No	No	Yes	21 - 41	Shallow	Qal/xMCF	Well is located approx. 50 feet within Archery Range wire fence. Single chain is serving as a gate and has 3 padlocks on it. Has dedicated tubing (1/2").	Requested by NDEP, in area of interest. Close to RIT-6, RIT-10, and PMW-7. Each of these wells is screened in the shallow alluvial zone (about 17 - 40 feet bgs). Historic results from these wells indicate large concentration changes between wells, suggesting all should be sampled
RIT-06	Active	827297.20	26733433.87	1580.05	4/8/2016	42	37.70	10.88	26.82	1569.17	4" PVC	Flush	Yes	Yes	No	Yes	No	No	Yes	32 - 42	Shallow	Qal	Has dedicated tubing (1/2"). Area is very disturbed; vehicle access could be tricky due to rocks and debris.	Requested by NDEP, in area of interest. Close to RIT-10, PMW-7 and PMW-8; however, screened across a 12-foot zone where the other wells in the area have 20-foot or longer screened zones. Each of these wells is screened in the shallow alluvial zone (about 17 - 40 feet bgs). Historic results from these wells indicate large concentration changes between wells, suggesting all should be sampled.
RIT-10	Active	827280.16	26733679.41	1576.44	4/8/2016	40	40.05	7.77	32.28	1568.67	4" PVC	Flush	Inside well box	No	No	Yes	No	No	Yes	25 - 40	Shallow	Qal	This well has very difficult vehicle access; a four wheel drive vehicle might be able to access the well. The road to the well is a soft sandy road with overgrown vegetation. Well was buried in sand - very difficult to find. Recommend cutting back some brush before attempting to drive in. Well has dedicated tubing (1/2").	Requested by NDEP, in area of interest. Close to RIT-6, PMW-7, and PMW-8. Each of these wells is screened in the shallow alluvial zone (about 17 - 40 feet bgs). Historic results from these wells indicate large concentration changes between wells, suggesting all should be sampled
Unknown-1	Dry	--	--	--	4/4/2016	NK	18.15	Dry	Dry	Dry	2" PVC	No well box	No well box	No concrete	NA	No	No	No	NA	--	Shallow	--	Unknown well located approx. 6 feet south and 82 feet east of existing coordinates for HSW-2. There is no well box. Well is obstructed from view by vegetation. Approx. 1.5 feet of casing was observed sticking up from ground surface. Dedicated tubing inside well.	Not being sampled - Dry.
UZO-17 [3]	Active	827323.40	26733274.00	1583.50	4/8/2016	47	--	--	--	--	2" PVC	Monument	Yes, UZO-16	No	No	--	Yes	--	No	17 - 47	Shallow	Qal/xMCf	4/8/16: Could not access well during reconnaissance/survey (previously reported coordinates and elevation are listed). Well has ID plate listing well ID as UZO-16; however, existing coordinates place UZO-17 within 0.25 feet of this location. Yellow monument protected by 4 yellow bumper posts. 4/29/16: Able to access well for sampling. Dedicated tubing inside well	Requested by NDEP, in area of interest.
W02	Plugged & Abandoned	--	--	--	4/5/2016	NK	--	--	--	--	--	--	--	--	--	--	--	--	--	TBD	Middle	UMCf	Unable to locate well. SNWA rep believes the well was cemented in about 4 years ago, and should have had a 6" flush mounted well box.	Not being sampled - Plugged & Abandoned.
WMW3.5N	Active	843836.97	26737791.35	1482.54	4/5/2016	NK	56.6	35.64	20.96	1446.90	2" PVC	Flush	Yes	No	No	Yes	Yes	No	Yes	TBD	TBD	TBD	Metal "wings" welded to bolts; use hammer to tap wings and loosen bolts.	Requested by NDEP, in area of interest.
WMW3.5S	Active	844697.76	26737275.90	1483.54	4/5/2016	NK	59.80	43.60	16.20	1439.94	2" PVC	Flush	Yes	No	No	Yes	No	No	Yes	--	Shallow	--	Small 6" flush mount well box spray painted orange, 2-3 rocks also painted orange sitting on top of well. Have to hop a curb onto shoulder to access well. Well is the middle well in a line of three flush mounted wells.	Adjacent to downgradient study area near Three Kids weir. Could provide important information on contributions in this area, which is complex due to showing perchlorate impacts surfacing on north side of Las Vegas Wash. Very few data points are present on the south side of the wash in this area
WMW4.9N	Active	838408.40	26736756.98	1523.37	4/5/2016	NK	53.00	31.91	21.09	1491.46	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	TBD	Shallow	TBD	Soft silty/sand access road to well off gravel road. Strong recommendation for a four wheel drive vehicle during sampling as some of the wells on the north side of the wash are in very soft soil; this one specifically has very soft soil leading up to the well. SNWA rep mentioned he has had difficulty getting his sampling pump into the well between 20-25 feet.	Requested by NDEP, in area of interest.
WMW4.9S	Active	838411.85	26735290.15	1518.84	4/5/2016	NK	46.75	26.58	20.17	1492.26	4" PVC	Concrete vault	Yes	No	No	Yes	Yes	No	Yes	TBD	Shallow	TBD	Well located on north side of bike path in concrete vault (3' x 4' x 2.5') secured w/ heavy steel plate, pad lock, & two 3/4" bolts. SNWA rep says well box usually has black widows inside.	Requested by NDEP, in area of interest.
WMW5.58S	Active	835070.11	26734647.03	1526.08	4/5/2016	NK	40.95	10.48	30.47	1515.60	4" PVC	Monument	Yes	No	No	Yes	Yes	No	Yes	TBD	Shallow	TBD	Yellow monument well in a cluster of three wells.	Requested by NDEP, in area of interest.
WMW5.5S	Active	835768.11	26733971.74	1528.22	4/5/2016	NK	38.3	15.51	22.79	1512.71	4" PVC	Concrete Vault	Yes	No	No	Yes	No	No	Yes	TBD	Shallow	TBD	Well has 3' x 4' concrete well vault secured with heavy steel plate and two 3/4" bolts. Vault is almost flush with ground surface.	Requested by NDEP, in area of interest. Near well AA-30 at approximately the same depth. May not need to sample both wells in the future depending on the initial sample analytical results
WMW5.7N	Active	834471.76	26734425.52	1528.50	4/5/2016	NK	21	9.47	11.53	1519.03	4" PVC	Monument	Yes	No	Yes	Yes	Yes	No	Yes	TBD	Shallow	TBD	Need open end 3/4" wrench to open. Strong recommendation for a four wheel drive vehicle during sampling as some of the wells on the north side of the wash are in very soft soil; several vehicles are getting stuck at this well. The access road (soft and sandy terrain) to WMW5.7 is a big loop as there is no place to turn around and is slightly overgrown with vegetation (western portion, vehicles will get scratched).	Requested by NDEP, in area of interest.
WMW5.85S	Plugged & Abandoned	--	--	--	4/7/2016	NK	--	--	--	--	--	--	--	--	--	--	--	--	--	TBD	TBD	TBD	Unable to locate well - WMW5.85S presumed to be destroyed. Robert Huening (SNWA) recalls the well having been destroyed.	Not being sampled - Plugged & Abandoned.
WMW6.0N	Dry	833041.48	26734212.99	1532.96	4/8/2016	NK	3.15	Dry	Dry	Dry	6" PVC	--	--	--	--	--	--	--	--	TBD	TBD	TBD	Fiberglass irrigation box with 6" PVC pipe; sand is visible inside the 6" pipe. SNWA rep says WMW6.0N is an irrigation pipe rather than a well. WMW6.0S goes down several feet, makes a 90° turn to cross under the wash (horizontal perforated pipe), then makes another 90° turn to come up on the north side of the wash as well WMW6.0N. This well is located in heavy vegetation along the wash. Total depth 3.15 feet.	Not being sampled - Dry.
WMW6.0S	Dry	833075.47	26733927.75	1533.74	4/5/2016	NK		Dry	Dry	Dry	6" PVC	--	--	--	--	--	--	--	--	TBD	TBD	TBD	WMW6.0S is destroyed. WMW6.0S goes down several feet, makes a 90° turn to cross under the wash (horizontal perforated pipe), then makes another 90° turn to come up on the north side of the wash as well WMW6.0N.	Not being sampled - Dry.
WMW6.15N	Active	832493.06	26735359.77	1552.55	4/5/2016	NK	38.4	23.3	15.1	1529.25	2" PVC	Monument	Yes	No	No	Yes	Yes	--	No		Shallow		There is an obstruction in the well around 23 feet. SNWA rep says it can be difficult to get the pump down into the well.	Requested by NDEP, in area of interest.
WMW6.15S	Active	832119.74	26734098.93	1545.08	4/5/2016	NK	19.41	10.28	9.13	1534.80	4" PVC	Monument	Yes	No	No	Yes	Yes	No	Yes	TBD	Shallow	TBD	SNWA rep mentioned he has had difficulty getting his sampling pump into well; there is a dedicated sampling pump (Aqua Troll) in well. Yellow monument well between two large rocks.	Requested by NDEP, in area of interest.
WMW6.2N	Dry	832116.78	26735142.86	1552.68	4/5/2016	NK	20.6	Dry	Dry	Dry	4" PVC	Concrete vault	Yes	No	No	Yes	No	No	No	TBD	Shallow	TBD	Dry well. Concrete vault is 3' x 4' x 2.5'	Not being sampled - Dry.
WMW6.55S	Active	830218.73	26734351.02	1559.25	4/5/2016	NK	40.67	16.03	24.64	1543.22	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	TBD	Shallow	TBD	Hinge on lid is currently broken and well can be opened without key. Yellow monument well centered between four large rocks.	Requested by NDEP, in area of interest.
WMW6.9N	Active	828913.10	26735560.65	1573.16	4/5/2016	NK	48.55	18.42	30.13	1554.74	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	--	Shallow	--	A lot of 3" irrigation pipes were observed around the well; there is still vehicle access.	Within the downgradient study area north and adjacent to Duck Creek weir. Could provide important information in this area. Very few data points on north side of Las Vegas Wash in this area
WMW6.9S	Active	828430.55	26734539.19	1570.60	4/5/2016	NK	51.55	11.43	40.12	1559.17	2" PVC	Monument	Yes	No	No	Yes	Yes	No	No	--	Shallow	--	Yellow monument well mostly hidden by vegetation.	Within the downgradient study area south and adjacent to Duck Creek weir. Could provide important information in this area. Very few data points south and immediately adjacent to Las Vegas Wash in this area.
WMW7.8N	Active	824429.00	26737603.43	1606.56	4/5/2016	NK	38	11.17	26.83	1595.39	4" PVC	Concrete vault	Yes	No	No	Yes	Yes	No	Yes	TBD	Shallow	TBD	Concrete well vault 3' x 4' x 2.5' secured with heavy steel plate, two 3/4" bolts, and a pad lock	Requested by NDEP, in area of interest
MW-1	Active	838593.43	26731476.23	1563.29	4/6/2016	NK	42.75	5.75	37	1557.54	4" PVC	Flush	Yes	Yes-badly	No	Yes	No	No	Yes	TBD	Shallow	TBD	Chimera Golf Course Hole #17. Dedicated 1/8" tubing inside well. All three bolts observed stripped	Requested by NDEP, in area of interest
MW-2	Active	838816.81	26731044.43	1579.96	4/6/2016	NK	44.9	25.71	19.19	1554.25	4" PVC	Flush	Yes	No	No	Yes	No	No	Yes	TBD	Shallow	TBD	Chimera Golf Course Hole #9. Dedicated 1/8" tubing inside well. All three bolts observed stripped	Requested by NDEP, in area of interest
MW-3	Active	836835.36	26733434.90	1523.29	4/6/2016	NK	13	3.25	9.75	1520.04	4" PVC	Flush	Yes	No	No	Yes	No	No	No	TBD	Shallow	TBD	Chimera Golf Course Hole #12 (near rip rap and green for Hole #12). Dedicated 1/8" tubing inside well. Bolts broken off and rusted to fastening point. Well is in line of fire for Hole #12.	Requested by NDEP, in area of interest. Located near MW-4 at approximately same depth. May not need to sample both wells in the future depending on similarity of initial sample analytical result
MW-4	Active	836666.49	26733446.64	1526.35	4/6/2016	NK	14.5	6.39	8.11	1519.96	4" PVC	Flush	Yes	No	No	Yes	No	No	No	TBD	Shallow	TBD	Chimera Golf Course Hole #12. Dedicated 1/8" tubing inside well.	Requested by NDEP, in area of interest. Located near MW-3 at approximately same depth. May not need to sample both wells in the future depending on similarity of initial sample analytical result

Status	Well Count
Active	58
Active - Use bailer to sample	3
Active - Inaccessible	0
Dry	8
Plugged & Abandoned	14
Insufficient water to sample	1
Access not granted to AECOM	1
Unable to Locate	1
Total Wells in Reconnaissance	86
Wells Proposed for Sampling	**61**

Note well was accessed later for sampling

Table 2
Summary of Well Reconnaissance Data
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Status	Easting (1)	Northing (1)	Elevation TOC (1)	Date Gaged	Expected Total Depth (feet)	Total Measured Well Length/ Depth (feet)	Depth to Water (feet)	Length of Water Column (feet)	GW Elev. (feet amsl)	Casing Diameter (in)/ Material	Well Box Type (flush or monument)	Well # on the well box?	Well box concrete apron cracked?	Water present in well box?	Well casing capped?	Well casing Locked?	Well casing cracked?	Well cover bolted?	Screen Interval (feet, bgs)	Water-Bearing Zone	Lithology	Comments	Rationale for Sampling

Notes:
(1). Well coordinates and elevations surveyed by licensed surveyor (Stanley) April 4 through 8, 2016. Coordinate system: State Plane Coordinate System;
Elevations are referenced to the North American Datum (NAD) 83 Nevada East Zone (2701) with vertical datum based on NAVD 88 referenced to the City of Henderson Benchmark network.
(2). Well abandoned in the summer of 2015 due to damage. Email communication, Gary Carter, April 12, 2016
(3). Well was not accessible during well reconnaisance. Mr. Jeff Gibson provided information on 4/18/16 that well is active. Previously reported coordinates are listed in tab
-- = No data availabl
AMPAC = American Pacific Corporation
bgs = below ground surface
CCPCS = Clark County Parks and Community Services
CGC = Chimera Golf Course
COH = City of Henderson
LWC = LandWell Company
NA = Not applicable
NDEP = Nevada Division of Environmental Protectior
NK = Not known
PVC = Polyvinyl chloride
SNWA = Southern Nevada Water Authority
TBD = To be determined
TOC = Top of Casing
USBR = United States Bureau of Reclamation

Table 3
Summary of Data Validation Results
NERT RI Downgradient Investigation
Henderson, Nevada

	Number	Analyses per sample	Results	Lab Qualified Results	Precent of Results that were Lab Qualified	All Qualified Results	Percent of all Results that were Qualified	Rejected Results	Precent of all Results that were Rejected
Primary Samples	64	7	455	47	10%	53	12%	0	0%
Quality Control Samples	15	7	98	9	9%	11	11%	0	0%
Total Samples	79	7	553	56	10%	64	12%	0	0%

Primary Samples = Samples from 61 wells and 3 wells sampled twice = 64 primary samples

Quality Control Samples = Field duplicates, equipment blanks and field blanks.

Table 4
Analytical Results of Groundwater Well Sampling April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Sample ID	Date	Bromide (mg/L)	Chlorate (µg/L)	Chloride (mg/L)	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Perchlorate (µg/L)	Total Dissolved Solids (mg/L)
	Method		300.0	300.1B	300.0	200.8	218.7	314	SM 2540C
	Screening Level		11.3	1,000	250 mg/L	100 (µg/L)	100 (µg/L)	15 (µg/L)	500 mg/L
	Source		BCL	BCL	2nd MCL	MCL	BCL	BCL	2nd MCL
AA-20	AA-20-20160419	04/19/16	ND (<2.5) UJ	30000	1000 B	34	39	4400	5800
AA-22	AA-22-20160420	04/20/16	ND (<2.5)	100000	1300	80	99	7100	3600
AA-23R	AA-23R-20160418	04/18/16	ND (<2.5)	70000	1100	27	30	5500	5800
AA-30	AA-30-20160422	04/22/16	ND (<5.0)	14000	1300	49	46	4400	6900
COH2B1	COH2B1-20160421	04/21/16	ND (<2.5)	8900	1100	6.8	9.0	5600	4800
DBMW-1	DBMW-1-20160419	04/19/16	ND (<5.0) UJ	22000	1100 B	55	69	9000 F1	6000
DBMW-4	DBMW-4-20160419	04/19/16	ND (<5.0)	77000	1100 B	87	100	6000	5700
DBMW-5	DBMW-5-20160419	04/19/16	2.9 J	97000	1200 B	110	140	6900	5500
DBMW-7	DBMW-7-20160418	04/18/16	ND (<5.0)	8000	1500	66	81	4400	6300
DBMW-7	DBMW-7-20160418-FD	04/18/16	ND (<5.0)	7600	1400	63	79	4600	6300
DBMW-8	DBMW-8-20160418	04/18/16	ND (<5.0)	10000	1400	64	81	7000	6300
DBMW-22	DBMW-22-20160422	04/22/16	ND (<1.3)	ND (<50) UJ	300	5.7 J	6.0	56	4000
HM-2	HM-2-20160428	04/28/16	2.5 J	33000	1000 J-	38	46	6000	5900
LNDMW1	LNDMW1-20160422	04/22/16	ND (<2.5)	4800	680	14	21	1900	4100
LNDMW2	LNDMW2-20160427	04/27/16	3.5 J-	4300	470	5.1 J	8.0	1500	3000
MCF-05	MCF-05-20160425	04/25/16	ND (<13) UF1	ND (<500) UJ	19000	110 F1	2.0	630	76000
MCF-05	MCF-05-20160426	04/26/16	ND (<25)	ND (<2000)	27000	ND (<25)	ND (<0.090)	ND (<95)	120000
MCF-06A-R	MCF-06A-R-20160428	04/28/16	120	1700	56000 J-	ND (<5.0)	ND (<0.090)	ND (<95)	180000
MCF-06B	MCF-06B-20160421	04/21/16	ND (<13)	1500	7000	ND (<10)	ND (<0.090)	2800	39000
MCF-06C	MCF-06C-20160419	04/19/16	ND (<5.0) UJ	9900	1700 B	64	78	5600	7400
MCF-08A	MCF-08A-20160427	04/27/16	ND (<25)	ND (<1000)	45000	ND (<10)	ND (<0.090)	ND (<95)	87000
MCF-08B-R	MCF-08BR-20160427	04/27/16	ND (<25)	ND (<200)	7300	ND (<10)	ND (<0.090)	ND (<9.5)	29000
MCF-08B-R	MCF-08BR-20160427-FD	04/27/16	ND (<25)	ND (<200)	7200	ND (<10)	ND (<0.090)	ND (<9.5)	28000
MCF-18A	MCF-18A-20160426-0800	04/26/16	94	ND (<2000)	100000	ND (<100)	ND (<0.090)	ND (<95)	170000
MCF-18A	MCF-18A-20160427	04/27/16	ND (<25) UF1	ND (<1000)	100000	ND (<20)	ND (<0.090)	ND (<95)	190000
MCF-20A	MCF-20A-20160425	04/25/16	ND (<25) UF1	ND (<2000) UJ	49000	ND (<2.5)	ND (<0.090)	ND (<95)	160000
MCF-20A	MCF-20A-20160427	04/27/16	ND (<25)	ND (<500)	50000 J-	ND (<5.0)	ND (<0.090)	ND (<95)	150000
MCF-31A	MCF-31A-20160428	04/28/16	140	ND (<500)	81000 J-	ND (<5.0)	ND (<0.090)	ND (<95)	190000
MCF-31B	MCF-31B-20160428	04/28/16	ND (<25)	ND (<500)	54000 J-	ND (<5.0)	ND (<0.090)	ND (<95)	130000
MW-02	MW-02-20160428	04/28/16	ND (<1.3)	2800	380 J-	8.6 J	12	2100	3800
MW-04	MW-04-20160420	04/20/16	ND (<5.0)	14000	3100	31	43	8700	13000
MW-05	MW-05-20160420	04/20/16	ND (<1.3)	130	390	17	25	14	3200
MW-06	MW-06-20160428	04/28/16	1.4	ND (<50)	180 J-	8.9 J	5.0	ND (<0.95)	1300
MW-1	MW-1-20160426	04/26/16	ND (<2.5)	16000	1100	41	49	8800	6300
MW-2	MW-2-20160426	04/26/16	ND (<2.5)	11000	870	22	24	7400	5600
MW-3	MW-3-20160426	04/26/16	ND (<2.5)	4600	610	16 J	17	2300	4600
MW-4	MW-4-20160426	04/26/16	ND (<2.5)	5200	610	17 J	19	2600	4500
MW-10	MW-10-20160428	04/28/16	0.63	100 J	300 J-	9.4 J	11	9.8	3100
MW-10	MW-10-20160428-FD	04/28/16	0.67	110 J	280 J-	9.5 J	10	8.2	3200
MW-11	MW-11-20160420	04/20/16	1.0	93 J	320	18	25	24	2600
MW-12	MW-12-20160421	04/21/16	ND (<2.5)	3400	520	ND (<5.0) U	14	2400	4200
MW-13	MW-13-20160421	04/21/16	ND (<2.5)	15000	860	48	39	3800	5100
MW-18	MW-18-20160420	04/20/16	ND (<1.3)	ND (<50)	670	14	21	3.4 J	3100
MW-20	MW-20-20160422	04/22/16	ND (<2.5)	120	970	ND (<1.0) U	ND (<0.090)	160	4600
MW-25	MW-25-20160421	04/21/16	ND (<1.3)	ND (<50)	490	15	20	4.7	3400
PC-74	PC-74-20160429	04/29/16	4.9 J	460	590	ND (<5.0)	1.8 J	1700	4200
PC-74	PC-74-20160429-FD	04/29/16	2.6 J	400	580	ND (<5.0)	2.7 J	2100	4100
PC-76	PC-76-20160429	04/29/16	3.5 J	ND (<50)	630	ND (<5.0)	ND (<0.090)	800	4400
PC-76	PC-76-20160429-FD	04/29/16	3.1	ND (<50)	640	ND (<5.0)	ND (<0.090)	950	4500
PC-77	PC-77-20160421	04/21/16	ND (<2.5)	390	700	ND (<2.5)	ND (<0.090)	2800	4000
PC-78	PC-78-20160421	04/21/16	2.6 J	390	780	1.1 J	ND (<0.090)	2900	4200
PMW-7	PMW-7-20160422	04/22/16	ND (<2.5)	ND (<500) UJ	820	4.6 J	4.0	53	5300
PMW-8	PMW-8-20160422	04/22/16	3.8 J+	180 J-	790	4.6 J	3.0	57	5200
RIT-6	RIT-6-20160422	04/22/16	4.9 J+	1100	460	4.2 J	5.0	3400	3400
RIT-10	RIT-10-20160422	04/22/16	2.0 J+	710	540	3.0 J	2.0	1300	3800
UZO-17	UZO-17-20160429	04/29/16	5.9	800	520	5.1 J	3.6	2500	3700
WMW3.5N	WMW3.5-N-20160427	04/27/16	ND (<2.5)	480	1000	ND (<5.0)	ND (<0.090)	340	5200
WMW3.5N	WMW3.5N-20160427-FD	04/27/16	ND (<2.5)	480	1000	ND (<5.0)	ND (<0.090)	360	5100
WMW3.5S	WMW3.5S-20160428	04/29/16	3.2	3800	480	9.9 J	9.9	1400	3100
WMW4.9N	WMW4.9N-20160427	04/27/16	ND (<1.3)	ND (<200)	400	ND (<5.0)	ND (<0.090)	890	2600
WMW4.9S	WMW4.9S-20160422	04/22/16	ND (<0.50)	580	290 J-	ND (<1.0) U	2.0	270	1500
WMW5.58S	WMW5.58S-20160505	05/05/16	1.7	ND (<50)	320	ND (<0.50)	ND (<0.090)	510	1800
WMW5.5S	WMW5.5S-20160422	04/22/16	2.2 J	6400	570	ND (<1.0) U	3.0	3200	2800
WMW5.7N	WMW5.7N-20160428	04/28/16	1.6	ND (<50)	280	ND (<5.0)	ND (<0.090)	4.8	1500
WMW6.15N	WMW6.15N-20160420	04/20/16	ND (<1.3)	ND (<50)	360	3.6 J	ND (<0.090)	ND (<0.95)	4500
WMW6.15S	WMW6.15S-20160422	04/22/16	2.0 J+	ND (<10)	410	ND (<2.5)	ND (<0.090)	360	2200
WMW6.55S	WMW6.55S-20160421	04/21/16	2.2 J	450	640	ND (<1.0)	1.0	1800	3900
WMW6.9N	WMW6.9N-20160420	04/20/16	0.67 J	ND (<50)	310	3.5 J	ND (<0.090)	ND (<0.95)	2400
WMW6.9N	WMW6.9N-20160420-FD	04/20/16	0.72 J	ND (<50)	300	3.9 J	ND (<0.090)	ND (<0.95)	2400
WMW6.9S	WMW6.9S-20160421	04/21/16	ND (<2.5)	ND (<50)	760	1.4 J	ND (<0.090)	12	5500
WMW7.8N	WMW7.8N-20160420	04/20/16	0.28 J	ND (<50)	230	2.9 J	ND (<0.090)	ND (<0.95)	1400
Equipment Blank	DBMW-4-20160419-EB	04/19/16	ND (<0.25)	ND (<10)	ND (<0.25)	ND (<0.50)	ND (<0.090)	ND (<0.95)	ND (<5.0)
Equipment Blank	PC-76-20160429-EB	04/29/16	ND (<0.25)	ND (<10)	0.30 J	ND (<0.50)	ND (<0.090)	ND (<0.95)	ND (<5.0)
Equipment Blank	WMW4.9N-20160427-EB	04/27/16	ND (<0.25)	ND (<10)	ND (<0.25)	ND (<0.50)	ND (<0.090)	ND (<0.95)	ND (<5.0)

Table 4
Analytical Results of Groundwater Well Sampling April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Sample ID	Date	Bromide (mg/L)	Chlorate (µg/L)	Chloride (mg/L)	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Perchlorate (µg/L)	Total Dissolved Solids (mg/L)
Equipment Blank	**WMW5.5S-20160422-EB**	**04/22/16**	ND (<0.25)	ND (<10)	ND (<0.25)	**0.86 J**	ND (<0.090)	ND (<0.95)	ND (<5.0)
Field Blank	**LNDMW2-20160427-FB**	**04/27/16**	ND (<0.25)	ND (<10)	ND (<0.25)	ND (<0.50)	ND (<0.090)	ND (<0.95)	ND (<5.0)
Field Blank	**MW-25-20160421-FB**	**04/21/16**	ND (<0.25)	ND (<10)	ND (<0.25)	**0.80 J**	ND (<0.090)	ND (<0.95)	ND (<5.0)
Field Blank	**PC-74-20160429-FB**	**04/29/16**	ND (<0.25)	ND (<10)	**0.30 J**	ND (<0.50)	ND (<0.090)	ND (<0.95)	ND (<5.0)
Field Blank	**RIT-10-20160422-FB**	**04/22/16**	ND (<0.25)	ND (<10)	**0.30 J**	ND (<2.5)	ND (<0.090)	ND (<0.95)	ND (<5.0)

Source: AECOM 2016. Quality Assurance Project Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site Henderson, Nevada. March.

BCL = Basic Comparison Level: Residential water basic comparison levels in NDEP August 2013 BCL Spreadsheet (NDEP 2013).
BCL for perchlorate is identified as 15 ug/l to include the Federal Preliminary Remediation Goal and to be consistent with the NERT Ri/FS work
MCL = Maximum Contaminant Level: Primary United States Environmental Protections Agency maximum contaminant level (USEPA 40 CFR Part 141).
2nd MCL = 2nd Maximum Contaminant Level: National Secondary Drinking Water Regulations (USEPA, 40 CFR Part 143).
Gray Shading = Value exceeds screening level
ND - Not Detected above associated method detection limit
B - Analyte was detected in associated blank
F1 -MS and/or MSD Recovery is outside acceptance limits
J - Associated concentration is estimated
J+ - Associated concentration is estimated potentially biased high
J- - Associated concentration is estimated potentially biased low
U - Concentration was reported as a detection, but was reclassified during validation
UJ - Associated reporting limit is estimated
µg/L - Micrograms per liter
mg/L - Milligrams per liter
Silver State performed hexavalent chromium analysis
TestAmerica performed bromide, chlorate, chromium, perchlorate and total dissolved solids analysis

Table 5
Groundwater Elevations April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Easting [1]	Northing [1]	Elevation [1] (feet amsl, TOC)	Date Gaged	Depth to Water (feet, TOC)	Elevation (feet amsl)
AA-20	831811.79	26728007.77	1628.46	4/19/2016	31.52	1596.94
AA-22	833427.04	26731587.32	1579.85	4/19/2016	32.05	1547.80
AA-23R	833924.30	26732035.85	1561.68	4/18/2016	31.22	1530.46
AA-30	836125.80	26733691.92	1532.35	4/22/2016	19.45	1512.90
COH2B1	832598.59	26733593.69	1546.95	4/21/2016	16.11	1530.84
DBMW-1	830469.80	26727999.08	1626.60	4/19/2016	37.09	1589.51
DBMW-4	832295.68	26729903.39	1605.83	4/19/2016	26.11	1579.72
DBMW-5	833399.07	26729807.30	1609.61	4/19/2016	28.21	1581.40
DBMW-7	835304.94	26729069.98	1631.61	4/18/2016	58.45	1573.16
DBMW-8	835406.66	26729026.85	1632.03	4/18/2016	57.73	1574.30
DBMW-22	839141.01	26733030.27	1535.03	4/22/2016	29.16	1505.87
HM-2	832227.03	26731037.68	1587.05	4/28/2016	27.54	1559.51
LNDMW1	841145.67	26736145.45	1511.19	4/22/2016	36.55	1474.64
LNDMW2	840864.28	26737125.16	1501.98	4/27/2016	34.40	1467.58
MCF-05	832871.14	26728512.87	1627.26	4/25/2016	43.85	1583.41
MCF-06A-R	834929.39	26729028.09	1632.77	4/28/2016	107.85	1524.92
MCF-06B	834930.85	26729012.56	1633.01	4/21/2016	57.88	1575.13
MCF-06C	834945.70	26729004.80	1632.95	4/18/2016	56.61	1576.34
MCF-08A [2]	827753.95	26733221.82	1580.33	4/27/2016	1.56	1578.77
MCF-08B-R [2]	827786.62	26733202.26	1580.39	4/27/2016	1.19	1579.20
MCF-18A	831877.31	26731585.95	1577.53	4/27/2016	23.00	1554.53
MCF-20A	833381.19	26728860.07	1626.23	4/25/2016	73.06	1553.17
MCF-31A [2]	838327.14	26733550.41	1526.66	4/28/2016	1.54	1525.12
MCF-31B	838313.65	26733552.59	1527.42	4/28/2016	20.27	1507.15
MW-1	838593.43	26731476.23	1563.29	4/26/2016	5.81	1557.48
MW-2	838816.81	26731044.43	1579.96	4/26/2016	25.04	1554.92
MW-3	836835.36	26733434.90	1523.29	4/26/2016	3.02	1520.27
MW-4	836666.49	26733446.64	1526.35	4/26/2016	6.2	1520.15
MW-02	838994.12	26734478.11	1533.13	4/28/2016	39.91	1493.22
MW-04	838288.65	26733551.66	1530.64	4/20/2016	23.09	1507.55
MW-05	840501.38	26733563.04	1569.13	4/20/2016	44.65	1524.48
MW-06	841529.98	26733596.69	1610.75	4/28/2016	31.83	1578.92
MW-10	840223.23	26734019.86	1546.44	4/28/2016	37.20	1509.24
MW-11	839738.37	26733930.02	1543.35	4/20/2016	47.96	1495.39
MW-12	838999.98	26733800.85	1547.26	4/21/2016	51.89	1495.37
MW-13	838306.91	26734740.22	1529.84	4/21/2016	35.27	1494.57
MW-18	840946.07	26734674.06	1582.48	4/20/2016	68.77	1513.71
MW-20	840590.41	26735460.67	1512.54	4/22/2016	32.61	1479.93
MW-25	839862.75	26734834.10	1531.65	4/21/2016	39.65	1492.00
PC-74	829203.19	26734003.83	1565.32	4/29/2016	11.00	1554.32
PC-76	829183.48	26734007.08	1565.05	4/29/2016	10.86	1554.19
PC-77	829031.31	26733568.45	1566.86	4/21/2016	6.62	1560.24
PC-78	829032.90	26733560.47	1566.77	4/21/2016	5.89	1560.88
PMW-7	826962.08	26733788.69	1579.81	4/22/2016	9.5	1570.31
PMW-8	827253.76	26733988.93	1576.37	4/22/2016	7.78	1568.59
RIT-06	827297.20	26733433.87	1580.05	4/22/2016	9.93	1570.12
RIT-10	827280.16	26733679.41	1576.44	4/22/2016	6.85	1569.59
UZO-17 [3]	827323.40	26733274.00	1583.50	4/29/2016	12.28	1571.22
WMW3.5N	843836.97	26737791.35	1482.54	4/27/2016	35.65	1446.89
WMW3.5S	844697.76	26737275.90	1483.54	4/29/2016	43.28	1440.26
WMW4.9N	838408.40	26736756.98	1523.37	4/27/2016	31.79	1491.58
WMW4.9S	838411.85	26735290.15	1518.84	4/22/2016	26.44	1492.40
WMW5.5S	835768.11	26733971.74	1528.22	4/22/2016	14.46	1513.76
WMW5.58S	835070.11	26734647.03	1526.08	5/5/2016	8.00	1518.08
WMW5.7N	834471.76	26734425.52	1528.50	4/28/2016	7.80	1520.70
WMW6.15N	832493.06	26735359.77	1552.55	4/20/2016	22.28	1530.27
WMW6.15S	832119.74	26734098.93	1545.08	4/22/2016	9.05	1536.03
WMW6.55S	830218.73	26734351.02	1559.25	4/21/2016	15.95	1543.30
WMW6.9N	828913.10	26735560.65	1573.16	4/20/2016	18.32	1554.84

Table 5
Groundwater Elevations April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Easting (1)	Northing (1)	Elevation (1) (feet amsl, TOC)	Date Gaged	Depth to Water (feet, TOC)	Elevation (feet amsl)
WMW6.9S	828430.55	26734539.19	1570.60	4/21/2016	10.95	1559.65
WMW7.8N	824429.00	26737603.43	1606.56	4/20/2016	11.06	1595.50

Notes:
(1) Well coordinates and elevations surveyed by licensed surveyor (Stanley) April 4 through 8, 2016. Coordinate system: State Plane Coordinate System; Elevations are referenced to the North American Datum (NAD) 83 Nevada East Zone (2701) with vertical datum based on NAVD 88 referenced to the City of Henderson Benchmark network.
(2) Artesian Well - Groundwater levels were observed to be above the ground surface during the sampling event. These wells were not used to contour groundwater elevations.
(3) Well was not accessible during survey, later made accessible for sampling. Previously reported coordinates and elevation are listed. Well will be surveyed during the geophysical pilot test study.
amsl = Above mean sea level
TOC = Top of casing

Table 6
Water Quality Parameters April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Screen Interval (feet, bgs)	Water-Bearing Zone	Lithology	Time (24 hour)	Volume Removed (Liters)	Temp (°C)	pH	EC (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Depth to water (feet)	Color / Odor	Comments
AA-20	10 - 30	Shallow	Qal	9:22	10.00	24.80	7.22	7294	6.33	41.90	51.9		31.57	Light Cloudy	Well was purged and sampled using a bailer. Turbidity reading not within range. DTW at sample collection = 31.53.
AA-22	11 - 31	Shallow	Qal	13:17	12.50	23.30	7.26	7132	5.13	43.30	181	NA	33	Tan/ No Odor	4/19/16: Well AA-22 purged 3 volumes 4/19 using a bailer; no sample recovered. Turbidity readings not within range. 4/20: Well was purged and sampled using a bailer. DTW at sample collection = 32.15.
AA-23R	20 - 45	Shallow	Qal	9:57	5.5	23.6	7.22	7194	5.58	163.8	3.16	250	31.25	Clear/ None	Pump set at 40 feet bgs.
AA-30	11.7 - 31.7	Shallow	Qal	7:59	5	23.89	7.05	9115	0.58	181.7	0.45	200	19.46	Clear/ None	Screen interval at 11.7-31.7 feet. Pump set at 27 feet.
COH2B1	TBD	TBD	TBD	8:55	8	22.4	7.23	6237	0.41	1.5	125	120	16.12	Light Tan/ No Odor	Initial pump rate at 250 mL/min. Water turbid, lowered pump rate to 120 mL/min due to high turbidity. Pump set at 62 feet below TOC; assume well screen interval from 57-67 feet.
DBMW-1	19 - 49	Shallow	Qal/UMCf	10:43	5	25.6	7.13	7852	4.69	12.1	0.56	125	37.67	Clear/ None	Pump set at 45 feet; 10:21 lowered pump rate to 125 mL/min; MS/MSD samples collected.
DBMW-4	10 - 30	Shallow	Qal/UMCf	10:56	4	25.33	7.3	7355	4.53	154.1	0.37	210	26.23	Clear/ None	Pump set at 29 feet.
DBMW-5	15 - 35	Shallow	UMCf	9:24	6	24.04	7.32	7021	5.21	173.7	30.6	225	25.31	Clear/ None	Pump set at 32 feet.
DBMW-7	50 - 70	Shallow	UMCf	14:45	2.625	25.31	7.34	8168	6.12	185.2	0.11	175	58.55	Clear/ None	Pump set at 65 feet.
DBMW-8	47.5 - 67.5	Shallow	UMCf	12:08	2.25	27	7.19	8595	6.2	46.8	1.36	125	57.88	Clear/ None	Pump set at 65 feet.
DBMW-22	35 - 55	Shallow	UMCf	14:58	1.23	29.92	7.72	5254	0.67	116.2	0.74	35	29.76	Clear/ None	Parameters not stabilized; unable to keep well from drawing down. Screen interval set at 35-55 feet. Pump set at 45 feet.
HM-2	? - 36.89	Shallow	TBD	9:28	10.5	16.6	7.91	7060	0.83	147	22.3	100	27.72	Clear/ No Odor	No screen interval listed; assuming 10 foot screen at 26-36 feet. Pump set at 31 feet.
LNDMW1	TBD	TBD	TBD	13:14	2.25	28.72	7.12	6254	2.11	147.8	5.04	75	36.68	Clear/ None	Assumed well screened from 51.56-61.56 feet. Pump set at 56.5 feet.
LNDMW2	TBD	TBD	TBD	11:22	5	18.8	6.91	4240	1.18	176	2.19	210	34.41	Light Tan/ None	No screen interval listed; assuming 10 foot screen from 45-55 feet. Pump set at 50 feet.
MCF-05	221 - 231	Middle	UMCf	13:45	6	24.28	9.34	73970	1.95	123.5	423	--	54.17	Cloudy/ None	Well was purged and sampled using a bailer. Screen interval at 221-231 feet. Could not purge wells so pulled existing bladder pump from the well.
MCF-06A-R	333 - 373	Deep	UMCf	7:40	3	22.18	8.62	156805	1.19	-21.2	2.94	160	106.32	Clear/ None	4/21: Difficultly purging this deep well; 4/28/16: Screen interval set at 333-373 feet. Pump set at 353 feet.
MCF-06B	67 - 82	Shallow	UMCf	8:07	4.7	23.36	8.2	38333	1.87	229	0.41	50	59.67	Clear/ None	4/21: used flow rate of 50 mL/min but was still drawing down the water level. Screen interval set at 67-82 feet. 1 gallon pumped to clear stagnant water tubing and pump; unable to control drawdown.
MCF-06C	44 - 59	Shallow	UMCf	14:10	13	24.3	7.1	9267	4.8	36.5	50.2	NA	61.25	Light Brown	4/18/16: Well MCF-06C was hand bailed and went dry. The well did not recover to 85% before the day was over. Turbidity reading not within range. Well dry at 17.5 L. As of 15:29 well recharged to 58.94. Water level was at 57.63 when sample was collected using a bailer (4/19/16 08:05).
MCF-08A	350 - 370	Deep	UMCf	8:59	10.2	23.53	7.22	135540	0.32	17.5	23.6	100	6.25	Clear/ None	Screen interval set at 350-370 feet. Assume pump set at 260 feet; pump at 40 psi. Cleared 2.5 gallons of stagnant water from tubing and pump before started to collect field parameters.
MCF-08B-R	96.5 - 136.5	Middle	UMCf	9:54	6.5	24.74	7.62	39191	0.44	-117.6	1.81	200	4.4	Clear/ None	Screen interval at 96.5-136.5 feet. Assume pump set at 116.5. Clear 1 gallon stagnant water from tubing before collecting field parameters.
MCF-18A	360 - 400	Deep	UMCf	7:00	--	26.37	7.04	244157	0.56	168.7	61.2	--	393.4	Clear/ None	Well was purged and sampled using a bailer. Screen interval set at 360-400 feet. Sample collected at 397 feet.
MCF-20A	340 - 380	Deep	UMCf	10:25	6	24.8	6.86	160300	0.63	14.1	26	--	87.36	Clear/ None	4/25/16: Screen interval at 340-380 feet. Assume pump set at 360 feet. Attempted to purge well but no water came up through the existing pump; so pulled existing pump from the well and bailed approx. 9 gallons from the well. Sample collected using bailer. 4/27/16: Pump set at 360 feet. Difficulty setting pump and purging well; unable to control drawdown.

Table 6
Water Quality Parameters April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Screen Interval (feet, bgs)	Water-Bearing Zone	Lithology	Time (24 hour)	Volume Removed (Liters)	Temp (°C)	pH	EC (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Depth to water (feet)	Color / Odor	Comments
MCF-31A	361 - 381	Deep	UMCf	10:30	1.75	20.95	6.91	175827	0.63	-59.3	32.9	75	2.6	Clear/ None	4/21/16: MCF-31A is located in cluster as MCF-31B. Well has DTW 1.40 feet above ground surface, also seemed to draw down and not recover when purged. Pumped 5 gallons of water out of 500 mL/min to clear stagnant water from pump and dedicated tubing. Water level was at 4.25 feet when sample was collected. 4/28/16: Screen interval set at 361-381 feet. Pump set at approximately 371 feet.
MCF-31B	210 - 230	Middle	UMCf	9:54	3	22.96	7.1	151889	0.44	-64.6	3.3	180	22.46	Clear/ None	4/21/16: Crew pumped well at 200 mL/min for a total of 30 min (15:00-15:30) to ensure all stagnant water was cleared from dedicated tubing and pump prior to sampling; this resulted in 6 L of water. When we returned to purge and sample the well the next day at 15:00, DTW was 20.56, the water level in the well hadn't recovered (initial DTW 17.79.) 4/28/2016: Screen interval set at 210-230 feet. Assume pump set at 220 feet.
MW-02	? - 45	Shallow	TBD	13:05	4	18.3	7.66	4530	2.98	179	0	175	39.92	Clear/ No Odor	Pump rate of 175 mL/min.
MW-04	? - 30	Shallow	Qal	13:44	3.2	27.63	7.5	21457	2.22	140.2	1.63	50	23.74	Clear/ None	Screen interval at 29-39 feet. Pump set at 34 feet. Difficulty with drawdown even at 50 mL/min. Well slow to recover even when pump was stopped.
MW-05	? - 66.7	Shallow	TBD	10:14	6.5	25.13	7.32	5267	4.28	170.6	8.58	140	44.88	Clear/ None	Screen interval at 44-64 feet. Pump set at 54.5 feet. Small pieces of brown algae/moss observed in purge water; lots of algae/moss on pump when removed from well.
MW-06	? - 52	Shallow	TBD	14:40	--	16.4	8.3	2030	2.04	20	2.5	20	32.25	Clear/ No Odor	No screen interval listed; assuming 10 foot screen from 42-52 feet (TD listed at 52 feet). Set pump at 47 feet. Paused flow 14:01-14:06 due to excess drawdown.
MW-10	? - 60	Shallow	TBD	12:32	5	21.9	7.67	4278	1.95	33.5	2.41	200	37.22	Clear/ None	Screen interval set at 45-55 feet. Pump set at 50 feet.
MW-11	? - 70	Shallow	TBD	8:31	4	24.09	7.48	4012	4.75	247	1.03	200	48	Clear/ None	Pump set at 60 feet. Bottom of screen at 70 feet. Top of screen unknown.
MW-12	? - 61	Shallow	TBD	13:41	4.1	24.73	7.32	5016	5.37	169.8	2.65	200	51.9	Clear/ None	Screen interval at 51-61 feet. Pump set at 56 feet.
MW-13	? - 48	Shallow	Qal	12:24	4	23.96	7.07	6066	2.92	170.1	1.12	200	35.3	Clear/ None	Screen interval at 38-48 feet. Pump set at 43 feet.
MW-18	--	--	--	12:00	2.5	27.56	7.48	5516	3.36	157.2	2.62	80	68.78	Clear/ None	Screen interval at 90.6-105.6 feet. Pump set at 99 feet. Difficulty pulling pump from 99 to 90 when removing it from well.
MW-20	--	--	--	11:44	2.25	26.32	7.33	6984	0.84	129.9	2	80	32.77	Clear/ None	Screen interval set at 50-65 feet. Pump set at 58 feet.
MW-25	--	--	--	11:03	4	26.46	7.24	4590	3.73	179.4	3.52	160	39.66	Clear/ None	Screen interval at 38-53 feet. Pump set at 47 feet.
MW-1	TBD	TBD	TBD	10:24	15	18.2	7.63	8230	3.33	197	162	125	6.05	Light Tan/ None	4/26/16: Pump at initial rate of 30 mL/min; water level drawing down approaching 3 inches. Periodically adjusting flow rate but having issues getting water while pumping lower than 100 mL/min after 5L. No screen interval listed; assuming 10 feet screen from 33-45 feet; pump set at 38 feet below TOC.
MW-2	TBD	TBD	TBD	11:43	2.25	18	7.56	7140	3.34	184	1.71	50	25.23	Clear/ No Odor	No screen interval listed; assuming screen set at 35-45 feet. Set pump at 40 feet. Existing tubing removed and bagged prior to purging; placed back in well after sampling.
MW-3	TBD	TBD	TBD	13:07	6	17.4	7.47	5750	3.47	180	0	185	3.03	Clear/ None	No screen interval listed; assuming 10 foot screen from 3-13 feet. Set pump at 8 feet. Existing tubing removed and bagged prior to purging; placed back in well after sample.
MW-4	TBD	TBD	TBD	14:00	6	18.2	7.32	5630	3.32	198	0	190	6.2	Clear/ None	No screen interval listed; assuming 10 foot screen from 5-15 feet. Pump set at 10 feet. Existing tubing removed and bagged prior to purging; placed back in well after sampling.
PC-74	39.5 - 49.5	Shallow	Qal	10:54	6	18	7.73	5380	0.9	148	48.5	200	11	Clear/ No Odor	Screen interval set at 39.5-49.5 feet. Pump set at 44.5 feet.
PC-76	15 - 20	Shallow	Qal	11:54	0.25	21.6	8.04	5720	1.31	152	11.5	20	11.08	Clear/ No Odor	Screen interval set at 15-20 feet. Set pump at 17.5 feet. Well drawdown approximately 4 inches at start up; turned off pump, wait for recharge; well level at 11.23 feet at 10:56.
PC-77	29.5 - 39.5	Shallow	Qal	14:50	8	27.1	7.27	6151	0.96	-6.9	21.6	190	6.83	Clear/ No Odor	Screen interval listed at 29.5-39.5 feet. Set pump at 34.5 feet below TOC.
PC-78	11.5 - 21.5	Shallow	Qal	13:31	8	24	7.64	6198	5.08	19.1	11.73	200	5.91	Clear/ No Odor	Screen interval listed as 11.5-21.5 feet. Set pump at 16.5 feet below TOC.
PMW-7	20 - 40	Shallow	Qal/xMCf	10:08	5	23.7	7.06	6784	2.65	-24.3	1.87	275	9.5	Clear/ No Odor	Well screen interval listed at 20-40 feet. Set pump at 30 feet below TOC.

Table 6
Water Quality Parameters April 2016
NERT Downgradient Study Area
Henderson, Nevada

Well ID	Screen Interval (feet, bgs)	Water-Bearing Zone	Lithology	Time (24 hour)	Volume Removed (Liters)	Temp (°C)	pH	EC (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Depth to water (feet)	Color / Odor	Comments
PMW-8	21 - 41	Shallow	Qal/xMCf	11:23	5	24.3	7.15	6813	4.4	-2.8	1.08	250	7.64	Clear/ No Odor	Well screen interval listed at 21-41 feet. Set pump at 31 feet below TOC. Water level increased to 7.63 feet after placing pump in well.
RIT-06	32 - 42	Shallow	Qal	12:38	5	23	7.22	4513	3.75	20.5	0.02	210	9.95	Clear/ No Odor	Well screen interval listed at 32-42 feet. Set pump at 37 feet below TOC.
RIT-10	25 - 40	Shallow	Qal	13:52	8	24.8	7.13	5191	2.49	18.2	0	250	6.85	Clear/ No Odor	Well screen interval listed at 25-40 feet. Set pump at 32.5 feet below TOC.
UZO-17	17 - 47	Shallow	Qal/xMCf	9:15	5	17.5	7.81	4890	2.18	169	0	240	12.29	Clear/ No Odor	Well screen interval listed at 17-47 feet. Set pump at 32 feet.
WMW3.5N	TBD	TBD	TBD	8:48	6.25	17.9	7.06	6970	2.65	215	>1000	40	35.67	Red Brown/ None	Turbidity reading over 1000 throughout purge. No screen interval listed; assuming 10 foot screen from 37-57 feet. Place pump at 52 feet below TOC. Water level at 35.30 feet after placing pump in well.
WMW3.5S	--	--	--	7:47	7.5	17.6	7.74	4300	0.97	98	4.8	200	43.33	Clear/ No Odor	No screen interval listed; assuming 10 foot screen from 59.80 to 49.80 feet.
WMW4.9N	TBD	TBD	TBD	13:18	13	18.5	6.88	3790	0.55	109	6.2	160	31.83	Clear/ No Odor	No screen interval listed; assuming 10 foot screen from 43-53 feet. Pump set at 48 feet.
WMW4.9S	TBD	TBD	TBD	10:37	4	25.46	7	2647	1.64	163.3	4.98	160	26.46	Clear/ None	Assume well screen from 26.75-46.75 feet. Pump set at 42 feet.
WMW5.5S	TBD	TBD	TBD	9:20	5.5	22.87	7.09	4056	3.56	167.3	9.2	180	14.47	Clear/ None	Assumed well screened from 28-38 feet. Set pump at 33 feet.
WMW5.58S	TBD	TBD	TBD		2.75	19.63	6.21	2850	8.42	175	35.3	150	8.04	Clear/ None	Need SNWA key to unlock. Yellow monument well in a cluster of three wells.
WMW5.7N	TBD	TBD	TBD	14:23	2	21.14	7.23	2613	0.53	47.6	1.67	100	7.8	Clear/ None	Assume screen interval set at 11-21 feet. Set pump at 16 feet.
WMW6.15N	--	--	--	14:07	14	24.5	7.11	5142	2.46	-11	7.7	250	22.37	Clear/H2S Odor	Assume 10 foot screen from 28.4-28.4. Set pump at 33.5 feet below TOC.
WMW6.15S	TBD	TBD	TBD	8:04	8	19.4	7.38	3177	6.35	<0.7	6.74	200	9.06	Clear/ None	Well screen interval not listed. Assume TD is 20 feet and screened at 10-20 feet. Set pump at 15 feet below TOC.
WMW6.55S	TBD	TBD	TBD	10:47	8	23.4	7.23	5426	3.87	-6	6.13	225	15.95	Clear/ No Odor	Assume well screen from 31-41 feet. Set pump at 36 feet below TOC.
WMW6.9N	--	--	--	12:13	12	26.6	7.12	3650	1.52	3.5	66.4	140	18.37	Clear/ None	Assume 10 foot screen from 38.5-48.5 below TOC. Set pump at 43.5 feet.
WMW6.9S	--	--	--	12:07	8	22.4	7.09	6926	0.5	5.2	27.4	200	10.98	Clear/ No Odor	Assume screen interval at 41.5-51.5 feet. Set pump at 46.5 below TOC.
WMW7.8N	TBD	TBD	TBD	9:49	8	25	7.32	2304	1.43	-0.1	0	270	11.1	Clear/ No Odor	Assume screen interval 10 feet from 28-38 feet. Set pump at 33 feet below TOC.

Notes:
-- = No data available
bgs = below ground surface
°C = Degrees Celsius
DO = Dissolved Oxygen
EC = Electrical Conductivity
ORP - Oxidation reduction potential
mg/L = milligrams per liter
mL/min = milliliters per minute
mV = millivolts
NA = Not applicable
NTU = Nephelometric Turbidity Units
TBD = To be determined
TOC = Top of Casing
µS/cm = microSiemens per centimeter

Appendix A

Modified Groundwater Sampling Techniques for Wells with Slow Recharge Rates

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

(805)388-3775 tel
(805)388-3577 fax

Memorandum

To	Carlton Parker and Weiquan Dong	Pages 2
CC	James Dotchin	
Subject	Modified Groundwater Sampling Techniques for Wells with Slow Recharge Rates	

From	AECOM
Date	April 28, 2016

The Initial Sampling of Groundwater for the Nevada Environmental Response Trust Site (NERT) – Downgradient Study Area commenced on April 18, 2016. The scope of work calls for wells to be sampled using low-flow sampling techniques in which low volumes of water are purged (using a bladder pump) with little or no drawdown, while allowing water quality field parameters to stabilize. Field personnel reported that groundwater levels in several wells were being drawn down even at low pumping rates of 50 milliliters per minute (mL/min). The drawdown is the result of slow recharge rates, which may be caused by the low hydraulic conductivity of the formation or fouling of the well screen and gravel pack. Recovery rates as low as 50 percent of the initial water column were observed over a 14.5-hour period, even after the screen interval was swabbed to try to improve recharge. Drawdown at low pumping rates experienced at several wells does not fall within the sampling protocols in the approved Groundwater Sampling Plan.[1]

These field conditions in wells were discussed with Nevada Department of Environmental Protection (NDEP) and NERT on April 26, 2016. During the NERT coordination call, NERT suggested that AECOM use the same sampling techniques that Ramboll (NERT consultant) uses to sample wells with slow recharge rates in their program so that the AECOM sample results are comparable to those of Ramboll. Mr. Chris Ritchie of Ramboll was contacted to see how they deal with slow recharging wells. Mr. Ritchie is not aware of any swabbing of the well conducted by Ramboll to improve recharge rates. Ramboll is currently revising the Low-Flow Field Guidance Document (FGD) because they too have experienced drawdown in certain wells at very low pumping rates. The FGD will be revised with the sampling procedures listed below, which, after consultation with NDEP, have been adopted for the remaining groundwater sampling in the Downgradient Study Area.

The following groundwater sampling procedures will be used when drawdown in a well occurs while pumping at 100 mL/min:

- Purge the complete pump system (hoses and flow-through cell).

[1] AECOM 2016. Groundwater Sampling Plan, NERT Remedial Investigation – Downgradient Study Area, Nevada Environmental Response Trust Site, Henderson, Nevada, February 29.

- Record Field Parameters – collection of only one to two readings is acceptable. Field parameters do not need to stabilize before collecting a sample.
- Collect sample after pump system (pump and lines) has been purged completely.

Implementation of these sampling procedures will reduce sampling times, minimize the volume of purge water generated, and will be consistent with those used by Ramboll for the NERT site. Using the same sampling techniques as Ramboll will allow for better comparison between the two datasets.

On April 27, 2016, Mr. Carlton Parker and Mr. Weiquan Dong agreed (via email) that mirroring the Ramboll procedures is acceptable for the Downgradient Study Area. Sampling procedures were implemented in the field on the morning of April 27, 2016.

NEVADA DIVISION OF
ENVIRONMENTAL PROTECTION

STATE OF NEVADA
Department of Conservation & Natural Resources
Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
David Emme, Administrator

May 2, 2016

Harry Van Den Berg
AECOM, Inc
1220 Avenida Avenue
Camarillo, CA 93012

Re: **Tronox LLC (TRX) Facility**
Nevada Environmental Response Trust (Trust) Property
NDEP Facility ID #H-000539
Nevada Division of Environmental Protection (NDEP) Response to:
Modified Groundwater Sampling Techniques for Wells with Slow Recharge Rates
Dated: April 28, 2016

Dear Mr. Van Den Berg,

The NDEP has received and reviewed the Trust's above-identified Deliverable and finds that the document is acceptable.

Please contact the undersigned with any questions at jcarltonparker@ndep.nv.gov or 702-486-2850 x228.

Sincerely,

Carlton Parker, P.G.
Supervisor, Bureau of Industrial Site Cleanup
NDEP-Las Vegas City Office

CP:jp

EC:
James Dotchin, NDEP BISC Las Vegas
Carlton Parker, NDEP BISC Las Vegas
Weiquan Dong, NDEP BISC Las Vegas
Adam Baas, Edgcomb Law Group
Allan Delorme, Ramboll Environ
Alison Fong, U.S. Environmental Protection Agency, Region 9
Andrew Barnes, Geosyntec
Andrew Steinberg, Nevada Environmental Response Trust
Anna Springsteen, Neptune & Company Inc.
Betty Kuo Brinton, MWDH2O
Brenda Pohlmann, City of Henderson
Brian Waggle, Hargis + Associates

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Chuck Elmendorf, Stauffer Management Company, LLC
Dave Share, Olin
David Johnson, Central Arizona Water Conservation District
Dave Johnson, LVVWD
Derek Amidon, Tetratech
Ebrahim Juma, Clean Water Team
Ed Modiano, de maximis, inc.
Eric Fordham, Geopentech
Frank Johns, Tetratech
Gary Carter, Endeavour
George Crouse, Syngenta Crop Protection, Inc.
Jasmine Mehta, AG Office
Jay Steinberg, Nevada Environmental Response Trust
Jeff Gibson, Endeavour
Jill Teraoka, MWDH2O
Joanne Otani
Joe Kelly, Montrose Chemical Corporation of CA
Joe Leedy, Clean Water Team
John Pekala, Ramboll Environ
Katherine Baylor, U.S. Environmental Protection Agency, Region 9
Kelly McIntosh,GEI Consultants
Kevin Fisher, LV Valley Water District
Kirk Stowers, Broadbent & Associates
Kirsten Lockhart, Neptune & Company Inc.
Kim Kuwabara, Ramboll Environ
Kurt Fehling, The Fehling Group
Kyle Gadley, Geosyntec
Kyle.Hansen, Tetratech
Lee Farris, BRC
Marcia Scully, Metropolitan Water District of Southern California
Maria Lopez, Water District of Southern California
Mark Paris, Landwell
Michael J. Bogle, Womble Carlyle Sandridge & Rice, LLP
Michael Long, Hargis + Associates
Mickey Chaudhuri, Metropolitan Water District of Southern California
Nicholas Pogoncheff, PES Environmental, Inc.
Paul Black, Neptune and Company, Inc.
Paul Hackenberry, Hackenberry Associates, LLC
Patti Meeks, Neptune & Company Inc.
Peggy Roefer, CRC
Ranajit Sahu, BRC
Richard Pfarrer, TIMET
Rick Kellogg, BRC
Scott Bryan, Central Arizona Project
Steve Clough, Nevada Environmental Response Trust
Tanya O'Neill, Foley & Lardner L
Todd Tietjen, SNWA

Appendix B

Access Agreements, Permits, and Authorizations

From: Xiaoping Zhou <xiaoping.zhou@snwa.com>
Sent: Monday, February 01, 2016 10:10 AM
To: Piper, Sara
Cc: Todd Tietjen; Roslyn Ryan; Robert Huening
Subject: RE: NDEP LV Wash Perchlorate Study well access

Hi Sara,

It would be fine for you to access the shallow groundwater water monitoring wells (Note: "WMW…" instead of "VMW…" in our naming system) along the Wash.

Xiaoping Zhou, Ph.D.
Senior Hydrologist
Regional Water Quality Division
Southern Nevada Water Authority (SNWA)
P.O. Box 99954
Las Vegas, NV 89193-9954
(702) 856-3649 (office)
(702) 271-3973 (cell)

From: Piper, Sara [mailto:Sara.Piper@aecom.com]
Sent: Thursday, January 28, 2016 12:12 PM
To: Xiaoping Zhou <xiaoping.zhou@snwa.com>
Subject: NDEP LV Wash Perchlorate Study well access

Xiaoping,

We are slowly comple. ng permit applica ons with the various property owners along the study area. BOR, as back up for their use permit, would like something in wri ng from well owners that we are approved access. If you can send me and email sta ng that we are allowed access to your wells that should work.

These are the SNWA wells within the study area, the COH wells were listed as yours but are the City of Henderson's wells?, : let me know if any are incorrect:

LNDMW1	160-29-601-001
LNDMW2	160-29-601-001
VMW3.5N	160-29-601-001
VMW3.5S	160-29-601-001
VMW4.9N	160-29-601-001
VMW4.9S	160-29-701-002
VMW5.5S	160-30-000-003
VMW5.7N	160-30-000-003
VMW5.85S	160-30-000-003
VMW6.0N	160-30-000-003
VMW6.0S	160-30-000-003

VMW6.15N	161-25-801-001
VMW6.15S	161-25-801-001
VMW6.2N	161-25-801-001
VMW6.55S	161-25-701-001
WO2	160-29-301-001
COH-1	160-30-000-003
COH-1A	160-30-000-003
COH-2A	

We plan on conduc ng a reconnaissance of wells at the end of this month as soon as we secure all land use permits and access agreements (it is taking longer than an cipated). I will contact you when we have the date and me.

A ached is a map of the study area and the wells.

Thank you,
Sara

Sara Arav Piper, CEM, PG
D 1.805.233.3990
sara.piper@aecom.com

AECOM
1220 Avenida Acaso, Camarillo, California, 93012
T 1.805.388.3775 F 1.805.388.3577
www.aecom.com

Clark County
Parks & Recreation Department

2601 E Sunset Rd • Las Vegas NV • 89120-3515
(702) 455-8200

Jane Pike, Director
Mindy Meyers, Assistant Director

February 16, 2016

Sara Piper
AECOM
1220 Avenida Acaso
Camarillo, CA 93012

Subject: Use Authorization for Ground and Surface Water Sampling in the Las Vegas Wash, Clark County Wetlands Park

Dear Ms. Piper,

Clark County has reviewed the Use Authorization request to conduct ground and surface water sampling in the Las Vegas Wash, Clark County Wetlands Park in the application emailed on January 28, 2015 to include well and surface water sampling and monitoring. All work will be performed solely on Clark County Lands.

Authorization is granted for the work described above and per the approved map on County lands contingent upon AECOM obtaining all applicable permits, maintaining compliance with all local, state, and federal laws and in accordance with the Historic Preservation Programmatic Agreement (PA) for the Wetlands Park.

The Clark County Wetlands Park supports AECOM's efforts to sample and monitor water quality, and study perchlorate loading from groundwater into the Las Vegas Wash. If you have any questions, please contact me at 702-455-8131 or bickmore@clarkcountynv.gov.

Sincerely,

p.p. Ben Jurand

Elizabeth Bickmore
Senior Program Administrator, Wetlands Park

cc: Jane Pike, Director, Parks and Recreation
cc: Darren R. Daniels, Manager, Real Property Management
cc: Brandon Barrow, Realty Specialist, U.S. Bureau of Reclamation

BOARD OF COUNTY COMMISSIONERS
STEVE SISOLAK, Chairman • LARRY BROWN, Vice-Chairman
SUSAN BRAGER • CHRIS GIUNCHIGLIANI • MARY BETH SCOW • LAWRENCE WEEKLY • MARILYN KIRKPATRICK
DON G. BURNETTE, County Manager

ACCESS AGREEMENT – MONITORING OF EXISTING WELLS

WHEREAS, AECOM TECHNICAL SERVICES, INC. ("AECOM") has been retained by the Nevada Division of Environmental Protection/Bureau of Industrial Site Cleanup ("CLIENT") to perform groundwater sampling and analysis on property owned by Chimera Golf Club ("OWNER") at 901 Olivia Pkwy, Henderson, Nevada (the "Site"); and

WHEREAS, the environmental services to be performed by AECOM and AECOM's subcontractors may include water level gauging, surveying and sampling of existing wells (collectively the "Services"), all of which involve an inherent risk to the property of OWNER; and

WHEREAS, OWNER understands the risks involved with the Services and desires to grant AECOM the right to enter its premises for the purpose of conducting the Services.

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, AECOM and OWNER hereby agree as follows:

1. OWNER grants AECOM full access to the Site for the purposes of performing the Services for CLIENT;

2. OWNER will cooperate fully with AECOM and will take all actions necessary to allow AECOM to complete the Services in the most expeditious manner possible;

3. AECOM will take all reasonable precautions necessary and due care to minimize damage to the Site excepting reasonable wear and tear;

4. Owner recognizes that AECOM is entering the Site with the intent of investigating a potential groundwater condition and therefore and in consideration of such, Owner agrees to waive and release AECOM from any and all claims arising from the granting of access under this Agreement.

5. This Agreement will be interpreted under the laws of the State of California.

SIGNED this 19th day of February, 2016

AECOM TECHNICAL SERVICES, INC.

By:_____

Name: Harry Van Den Berg

Title: Associate Vice President

OWNER

By:_____

Name: Thomas R Burke

Title: Owner

From: Barrow, Brandon <bbarrow@usbr.gov>
Sent: Monday, February 29, 2016 1:50 PM
To: Piper, Sara
Cc: Ho, Brian; Van Den Berg, Harry; Caceres-Schnell, Carmen
Subject: Re: LV Wash Well Monitoring

Sara,
You have permission to access the wells that are located on Bureau of Reclamation lands. Access is limited to vehicular traffic on existing roads only. Any off road travel will be restricted to foot traffic.

Brandon

Brandon Barrow
Realty Specialist
Wildfire Program Coordinator
Resource Management Office
Lower Colorado Region
Bureau of Reclamation
702-293-8171 (office)

On Mon, Feb 29, 2016 at 1:29 PM, Piper, Sara <Sara.Piper@aecom.com> wrote:
Brandon,

We intend to perform a reconnaissance of the wells starting March 16, 2016. Do we have permission to access the property and wells to perform the reconnaissance which will include finding the well, confirming its integrity and accessibility, opening and gauging the well and perform an elevation survey. We don't anticipate the need for clearing at this stage but we will identify whether clearing is required before we actually sample the wells.

Sara

Sara Arav Piper, CEM, PG
AECOM
805-233-3990

Civilization exists by geologic consent; subject to change at any moment…Will Durant

From: Barrow, Brandon [mailto:bbarrow@usbr.gov]
Sent: Monday, February 29, 2016 12:15 PM
To: Piper, Sara
Subject: Re: LV Wash Well Monitoring

Sara,
I need to know if AECOM is doing any vegetation clearing to conduct the sampling. So, if wells aren't accessible and you need to clear veg to get the smeal rig in, we need to know that for our NEPA/ESA

work. Yes, we want to get the permit to you prior to the March 21 date. I understand you can't get to every well, but if you know the wells on Reclamation lands are accessible then there won't be any required clearing, but I am waiting for AECOM to let us know if clearing is required. That is what has stopped the permit process at this point.

As far at the biological assessment, if you have a survey report or something of that nature, we can use that for ESA. The more you give us the easier it is for us to get this compliance work done.

thanks,
Brandon

Brandon Barrow
Realty Specialist
Wildfire Program Coordinator
Resource Management Office
Lower Colorado Region
Bureau of Reclamation
702-293-8171 (office)

On Mon, Feb 29, 2016 at 12:06 PM, Piper, Sara <Sara.Piper@aecom.com> wrote:
Brandon,

Does the permit to conduct sampling require the biological assessment that we are conducting? Our biologist is still in the field and he is not going to each well. However we would like to get out on March 21, 2016 to check the physical condition of the wells (77 + wells and many have not been sampled for the past 7 years) and we would need the permit for that and the follow sampling.

Sara

Sara Arav Piper, CEM, PG
AECOM
805-233-3990

Civilization exists by geologic consent; subject to change at any moment…Will Durant

From: Barrow, Brandon [mailto:bbarrow@usbr.gov]
Sent: Thursday, February 25, 2016 10:46 AM
To: Piper, Sara
Cc: Faye Streier
Subject: LV Wash Well Monitoring

Hi Sara,
I just wanted to briefly follow-up with you to see if your biologist had any potential issues or areas of concern related to the subject project? Our NEPA team is working on this action now, and if there is no vegetation clearing required please let us know.

Once NEPA is done the Entry Permit will be sent in short order.

Thanks,
Brandon

Brandon Barrow
Realty Specialist
Wildfire Program Coordinator
Resource Management Office
Lower Colorado Region
Bureau of Reclamation
702-293-8171 (office)

From: lfarris landwellco.com [mailto:lfarris@landwellco.com]
Sent: Monday, February 01, 2016 11:41 AM
To: Piper, Sara
Cc: Sahu, Ranajit (Ron)
Subject: Access Agreement - AEcom

Attached is a draft of our standard access agreement. Please review and fill in blanks.

Additionally, please consider this email as BMIs permission to sample wells not our property subject to the following conditions:

1. You obtain permission from the owner for access before sampling.
2. You notify BMI 48 hours in advance of sampling.
3. You provide results of any sampling event to BMI for review.

SITE ACCESS AGREEMENT

This SITE ACCESS AGREEMENT ("**Agreement**") is made as of the Effective Date, as hereinbelow defined, by and between THE LANDWELL COMPANY, L.P., a Delaware limited partnership ("**LandWell**"), and AECOM Technical Services Inc., a California corporation ("**AECOM**"). LandWell and AECOM are hereinafter from time to time referred to collectively as the "**Parties**" or individually as a "**Party**".

RECITALS

A. LandWell is the owner in fee simple of the premises commonly known as Assessor's Parcel Numbers 160-31-101-002, 160-31-401-003, 160-31-401-005 and 160-31-801-002 located in the City of Henderson, Nevada and shown in Exhibit "A" attached hereto and incorporated herein by reference (the "**Premises**").

B. AECOM has been engaged by the Nevada Division of Environmental Protection and desires to access the Premises and the wells located thereon to obtain groundwater samples from the wells (the "**Permitted Activities**").

NOW, THEREFORE, in consideration of the mutual promises herein contained, the Parties agree as follows:

SECTION 1. GRANT AND SCOPE OF ACCESS.

(a) LandWell hereby grants to AECOM and its duly authorized agents and contractors the revocable right to enter the Premises for the Permitted Activities, subject to all the terms and conditions hereof.

(b) Any damage caused by the acts or omissions of AECOM or its employees, agents or contractors to the Premises shall be repaired by AECOM or its designated licensed contractor at AECOM's sole cost and expense within ten (10) days after receiving notice of the damage.

(c) Access to the Premises is granted hereunder solely for the purpose of the Permitted Activities. All such Permitted Activities shall be performed in a manner so as to not interfere with the business or other facility operations of LandWell taking place at the Premises, as determined within the sole discretion of LandWell.

(d) Permitted Activities do not include the right to affix to the Premises or otherwise install at the Premises any permanent device, fixture or facility.

(e) All on-Premises Permitted Activities shall be performed in accordance with all applicable federal and state laws and regulations and local ordinances.

(f) AECOM shall give LandWell notice at least one (1) business day prior to the day(s) during the term of this Agreement on which AECOM shall require access to the Premises pursuant to this Agreement. AECOM shall take reasonable precautions to ensure that no unauthorized persons access the Premises.

SECTION 2. EFFECTIVE DATE AND TERM.

This Agreement shall become effective on and after the date that this Agreement has been executed by both Parties ("**Effective Date**"). Except for the provisions of Section 6(d), which shall remain in effect for the maximum period permissible under Nevada law, this Agreement will terminate three hundred and sixty (360) days following the Effective Date. Notwithstanding the foregoing, LandWell shall have the right to terminate this Agreement, in its sole and absolute discretion, upon three (3) days prior written notice to AECOM.

SECTION 3. DELIVERY OF NOTICES

Notices shall be sent by first class mail, return receipt requested, by facsimile transmission, by hand delivery, or by overnight delivery service, at the discretion of the distributing Party, to the addresses specified below.

(a) Notices to LandWell shall be sent to:

The LandWell Company, L.P.
875 Warm Springs Road
Henderson, Nevada 89011
Attn: Mr. Lee Farris
Phone: (702) 567-0463
Facsimile: (702) 567-0473

(b) Notices to AECOM shall be sent to:

AECOM
1220 Avenida Acaso
Camarillo, CA 93012-8738
Attention: Harry Van Den Berg
Phone: (805) 764-4045
Facsimile: (805) 388-3577

SECTION 4. CONDITION OF PREMISES NOT WARRANTED.

LandWell does not warrant or represent that the Premises are safe, healthful, or suitable for the purpose for which access is granted hereunder. By entering upon the Premises, AECOM shall be deemed to have accepted the Premises "AS-IS," in its then condition, and AECOM assumes all risks of loss or damage to its equipment and other property on the Premises.

SECTION 5. ENTIRE UNDERSTANDING.

The making, execution and delivery of this Agreement by AECOM has not been induced by any representations, statements, warranties or agreement other than those herein expressed. This Agreement embodies the entire understanding of the Parties and there are no other or further agreements or understandings, written or oral, in effect between the Parties relating to the subject matter hereof.

SECTION 6. INSURANCE AND INDEMNIFICATION OF LANDWELL.

(a) Insurance Requirements. AECOM, at its sole cost and expense, shall procure from a company or companies lawfully authorized to do business in Nevada, and maintain in full force and effect insurance sufficient to fully protect LandWell from claims which may arise out of, relate to or result from AECOM's operations under this Agreement. All insurance companies used by AECOM must be approved by LandWell in advance and have a minimum A.M. Best rating of "A-, VII." All coverage must be on an occurrence basis and not a claims-made basis. Any and all insurance policies maintained by AECOM or required to be maintained by AECOM pursuant to the provisions of this Agreement which contain an aggregate limit must be endorsed so that the aggregate limit applies separately to the Permitted Activities. AECOM shall be responsible for satisfying all policy premiums, deductibles, coinsurance or other payments required in connection with the insurance policies required hereunder, and all self-insured exposures, uninsured or underinsured exposures are at the sole risk of AECOM. LandWell shall have no duty or obligation to verify the existence or adequacy of the insurance coverage required herein, or the adequacy of required certificate(s) of insurance. Failure of AECOM to secure and maintain the insurance coverages and minimum amounts set forth below, or the failure to supply certificates of insurance properly evidencing such coverages, minimum limits, or acceptable A.M. Best ratings, shall in no way constitute a waiver, or otherwise relieve AECOM from any of the requirements herein:

Without limiting the generality of the foregoing, AECOM shall purchase and maintain insurance with coverage in the following minimum amounts:

i. Commercial General Liability Insurance (and/or Excess or Umbrella Liability Insurance) written on an occurrence basis, with policy limits of not less than Five Million Dollars ($5,000,000) for each occurrence. Such policy(s) must include Contractual Liability coverage. Such coverage shall be kept in force until two (2) years following the expiration or earlier termination of this Agreement.

ii. Automobile Liability Insurance for owned, non-owned, hired and leased vehicles with limits of liability of not less than Two Million Dollars ($2,000,000) combined single limit for bodily injury and property damage. Such coverage shall be kept in force until the expiration or earlier termination of this Agreement.

iii. Worker's Compensation insurance with statutory limits in compliance with all Workers' Compensation laws of the State of Nevada. If AECOM is qualified self-insurer in the State of Nevada, pursuant to N.R.S. 616B.300 through 336, AECOM shall provide to LandWell written evidence of AECOM's authorization to self-insure prior to the Effective Date. In addition, AECOM agrees to waive subrogation for any payments that it, or its third party administrator, may make as a qualified self-insurer.

iv. Employer's Liability Insurance with limits of: (i) Two Million Dollars ($2,000,000) per accident for bodily injury by accident, (ii) Two Million Dollars ($2,000,000) each employee for bodily injury by disease, and (iii) Two Million Dollars ($2,000,000) policy limit for bodily injury or disease. In addition, if AECOM obtains any of its employees from an employee leasing firm, or similar type arrangement, AECOM

shall require that the employee leasing company provide all of the same coverages, limits and endorsements, in favor of the LandWell Insured Parties as set forth in this Agreement.

(b) Additional Requirements. In addition to the requirements set forth above, each insurance policy required by this Section 6 shall provide for or include the following:

i. Name LandWell Insured Parties as additional insureds under each policy of insurance excluding Worker's Compensation. As used herein, "LandWell Insured Parties" shall mean LandWell, LandWell's divisions, affiliates, subsidiary companies, parent companies, and each of their respective officers, directors, partners, principals, members, managers, employees and agents.

ii. Provide that AECOM's insurance shall be primary and non-contributory to any insurance coverage otherwise available to LandWell, any LandWell Insured Parties, or any of their respective affiliates, agents or employees.

iii. Apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

iv. An express waiver of any and all rights of recovery and/or subrogation thereunder by the insurer against any or all LandWell Insured Parties and/or their respective insurers.

(c) Evidence of Insurance. On or before the Effective Date, AECOM shall furnish LandWell with certificate(s) of insurance, in form and substance satisfactory to LandWell, evidencing the required coverages and minimum limits for each policy of insurance required to be maintained by AECOM pursuant to this Section 6 above or elsewhere in this Agreement. Thereafter, AECOM shall furnish additional certificate(s) of insurance evidencing the required coverages and minimum limits upon policy renewal or replacement during the term of this Agreement, and as long thereafter as is necessary to evidence continuing coverage required pursuant to the terms of this Agreement. In addition, AECOM shall provide to LandWell, within three (3) business days of receipt, copies of any cancelation or non-renewal notices received from its insurers, related to the insurance coverage required herein. AECOM shall provide certificates of insurance evidencing replacement coverage within ten (10) days after the effective date of such cancelation or non-renewal. Upon written request by LandWell, AECOM shall provide LandWell with complete copies of any or all insurance policies required herein. AECOM shall provide to LandWell evidence of continuing coverage of the LandWell Insured Parties for a period of two (2) years after the expiration or earlier termination of this Agreement.

(d) AECOM shall indemnify, defend and hold harmless LandWell, its partners, affiliates, directors, officers, employees and agents from and against any and all liability, loss, damage, expense and costs (including without limitation costs and fees of litigation) of every kind and nature arising out of or in connection with the performance of the Permitted Activities at the Premises or AECOM's failure to comply with any of its obligations contained in this Agreement.

SECTION 7. AMENDMENTS TO AGREEMENT.

This Agreement may be amended only by a writing (or counterpart thereof) executed by both AECOM and LandWell.

SECTION 8. ATTORNEYS' FEES.

In the event of any litigation arising from this Agreement, the prevailing party shall have the right to recover reasonable attorneys' fees, costs, and expenses as awarded by the court of competent jurisdiction.

SECTION 9. GOVERNING LAW.

This Agreement shall be governed by and construed under the laws of the State of Nevada.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year herein below written.

THE LANDWELL COMPANY, L.P.
a Delaware limited partnership

By: _____
Name: Mark Paris
Its: President and Chief Executive Officer

Date: 2/26/16

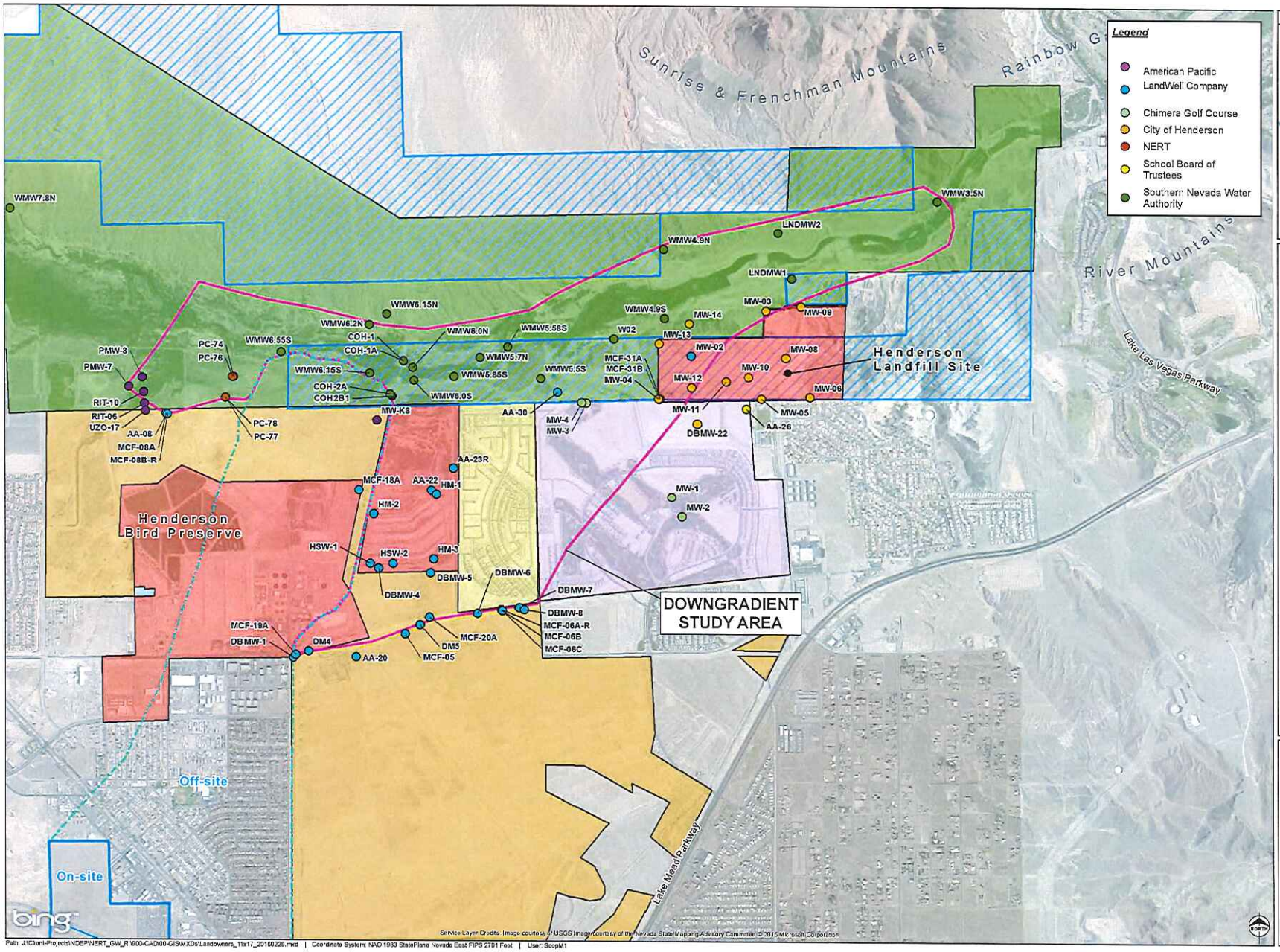
AECOM TECHNICAL SERVICES, INC.,
a California corporation

By: _____
Name: Harry Van Den Berg
Its: Associate Vice President

Date: 3/7/2016

EXHIBIT "A"
PREMISES

(see attached)



OVERVIEW MAP

Legend

- NERT Downgradient Study Area
- NERT Study Area (Off-site)
- NERT Study Area (On-site)

Land Owner

- LandWell Company
- Clark County Wetlands Park
- City of Henderson
- Bureau of Reclamation
- Private Residences
- Chimera Golf Club

0 1,750 Feet

Scale 1:23,000
1 inch = 1,917 feet

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

NERT
Remedial Investigation
Downgradient Study Area

LAND OWNERSHIP
JURISDICTIONAL
MANAGEMENT

Date: 2/26/2016 Project: 60477365

AECOM Exhibit A

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 02/23/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Marsh Risk & Insurance Services
CA License #0437153
777 South Figueroa Street
Los Angeles, CA 90017
Attn: LosAngeles.CertRequest@Marsh.Com
06510 -AECOM--15-16 Camari GLAL 02 2016 .

CONTACT NAME:
PHONE (A/C, No, Ext): **FAX (A/C, No):**
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Zurich American Insurance Company	16535
INSURER B : N/A	N/A
INSURER C : N/A	N/A
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
AECOM
AECOM Technical Services, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

COVERAGES **CERTIFICATE NUMBER:** LOS-001993564-01 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			GLO 5965891 07	04/01/2015	04/01/2016	EACH OCCURRENCE	$ 5,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 5,000,000
							MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 5,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 5,000,000
	X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 5,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY			BAP 5965893 07	04/01/2015	04/01/2016	COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$
	DED / RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Re: AECOM Project No. 60477365. Landwell Access Agreement for NDEP project.

The Landwell Company, L.P. is named as additional insured for GL & AL coverages, but only as respects work performed by or on behalf of the named insured where required by written contract. Waiver of Subrogation is applicable where required by written contract with respect to GL and AL. This insurance is primary and non-contributory over any existing insurance and limited to liability arising out of the operations of the named insured and where required by written contract with respect to the GL & AL coverages. Contractual Liability is included in the General Liability coverage. Severability Of Interest/Cross Liability is included for General Liability coverage.

CERTIFICATE HOLDER
The Landwell Company, L.P.
875 Warm Springs Road
Henderson, NV 89015

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
of Marsh Risk & Insurance Services
James L. Vogel

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ACORD®

CERTIFICATE OF LIABILITY INSURANCE

1/1/2017

DATE (MM/DD/YYYY): 2/23/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Lockton Insurance Brokers, LLC
19800 MacArthur Blvd., Suite 1250
CA License #0F15767
Irvine 92612
949-252-4400

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : *** SEE ATTACHMENT ***	
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
1075642
AECOM
AECOM Technical Services, Inc.
1220 Avenida Acaso
Camarillo CA 93012

COVERAGES AECTE01 CERTIFICATE NUMBER: 13922517 REVISION NUMBER: XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC OTHER:			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
							GENERAL AGGREGATE	$ XXXXXXX
							PRODUCTS - COMP/OP AGG	$ XXXXXXX
								$
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
							BODILY INJURY (Per person)	$ XXXXXXX
							BODILY INJURY (Per accident)	$ XXXXXXX
							PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							AGGREGATE	$ XXXXXXX
								$ XXXXXXX
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	SEE ATTACHED ACORD 101	1/1/2016	1/1/2017	X PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ 2,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 2,000,000
							E.L. DISEASE - POLICY LIMIT	$ 2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Notice of Cancellation applies per attached endorsement. Re: AECOM Project No. 60477365. Landwell Access Agreement for NDEP project. Waiver of Subrogation applies per attached endorsement(s) or policy language.

CERTIFICATE HOLDER
13922517
The Landwell Company, L.P.
875 Warm Springs Road
Henderson NV 89015

CANCELLATION See Attachments

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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ACORD 101

Policy #	Issuing Company	State(s) Covered
0910710	National Union Fire Insurance Company of Pittsburgh, PA - NAIC #19445	OH
014268016	The Insurance Company of the State of Pennsylvania - NAIC #19429	FL
014268017	The Insurance Company of the State of Pennsylvania - NAIC #19429	ME
014268019	The Insurance Company of the State of Pennsylvania - NAIC #19429	IL,KY
014268020	The Insurance Company of the State of Pennsylvania - NAIC #19429	NV
014268021	The Insurance Company of the State of Pennsylvania - NAIC #19429	CO
014268022	The Insurance Company of the State of Pennsylvania - NAIC #19429	NJ,PA
014268023	The Insurance Company of the State of Pennsylvania - NAIC #19429	MA,ND,OH,WA,WI,WY
014268024	The Insurance Company of the State of Pennsylvania - NAIC #19429	CA
014268025	The Insurance Company of the State of Pennsylvania - NAIC #19429	IL,KY,NC,NH,UT,VT
014268026	The Insurance Company of the State of Pennsylvania - NAIC #19429	AL,AR,CO,CT,DC,DE,GA,HI,IA,ID,IN,KS,LA,MD,MI,MN,MO,MS, MT,NE,NM,NV,NY,OK,OR,RI,SC,SD,TN,TX,WV
014268027	The Insurance Company of the State of Pennsylvania - NAIC #19429	AK,AZ,VA
014268028	The Insurance Company of the State of Pennsylvania - NAIC #19429	NY
014268018	The Insurance Company of the State of Pennsylvania - NAIC #19429	IL,WA
014268029	The Insurance Company of the State of Pennsylvania - NAIC #19429	CO,ID,NM,SC,TN
014268030	The Insurance Company of the State of Pennsylvania - NAIC #19429	TX

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement changes the policy to which it is attached effective on the inception date of the policy unless a different date is indicated below.

(The following "attaching clause" need be completed only when this endorsement is issued subsequent to preparation of the policy).

This endorsement, effective 12:01 AM 1/1/2016 forms a part of Policy No. SEE ATTACHED ACORD 101

Issued to AECOM
AECOM Technical Services, Inc.

By The Insurance Company of the State of Pennsylvania

LIMITED ADVICE OF CANCELLATION TO SCHEDULED ENTITIES (WORKERS' COMPENSATION ONLY)

This policy is amended as follows:

In the event that the Insurer cancels this policy for any reason other than non-payment of premium, and

1. the cancellation effective date is prior to this policy's expiration date;

2. the **Named Insured** or, if applicable, any other employers named in Item 1 of the Information Page is under an existing contractual obligation to notify a certificate holder(s) when this policy is canceled (hereinafter, the "Certificate Holder(s)") and the **Named Insured** has provided the **Insurer**, either directly or through its broker of record, either:

(a) the name of the entity shown on the certificate, a contact name at such entity and the U.S. Postal Service mailing address of each such entity; or

(b) the email address of a contact at each such entity; and

3. prior to the effective date of cancellation, the **Named Insured** confirms to the Insurer, either directly or through its broker of record, that the persons or organizations set forth in the Schedule below, as well as their respective addresses listed, should continue to be a part of the Schedule and, if not, the names of the persons or organizations that should be deleted,

the **Insurer** will provide advice of cancellation (the "Advice") to each such Certificate Holder(s) confirmed by the **Named Insured** in writing to be correctly a part of the Schedule within 30 days after the **Named Insured** confirms the accuracy of the Schedule below with the **Insurer**; provided, however, that if a specific number of days is not stated above, then the Advice will be provided to such Certificate Holder(s) as soon as reasonably practicable after the **Named Insured** confirms the accuracy of the Schedule below with the **Insurer**.

Proof of the **Insurer** emailing the Advice, using the information provided and subsequently confirmed by the **Named Insured** in writing, will serve as proof that the **Insurer** has fully satisfied its obligations under this endorsement.

This endorsement does not affect, in any way, coverage provided under this policy or the cancellation of this policy or the effective date thereof, nor shall this endorsement invest any rights in any entity not insured under this policy.

The following definitions apply to this endorsement:

1. **Named Insured** means the first named employer in Item 1 of the Information Page of this policy.

2. **Insurer** means the insurance company shown in the header on the Information Page of this policy.

WC 99 00 58
(Ed. 04/11)

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement changes the policy to which it is attached effective on inception date of the policy unless a different date is indicated below.

(The following "attaching clause" need be completed only when this endorsement is issued subsequent to preparation of the policy.)

This endorsement, effective 12:01 AM 1/1/2016 forms a part of Policy No. See Attached Form 101

Issued to AECOM
AECOM Technical Services, Inc.

By THE INSURANCE COMPANY OF THE STATE OF PENNSYLVANIA

Premium INCLUDED

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

ANY PERSON OR ORGANIZATION WITH WHOM YOU HAVE ENTERED INTO A CONTRACT, A CONDITION OF WHICH REQUIRES YOU TO OBTAIN THIS WAIVER FROM US. THIS ENDORSEMENT DOES NOT APPLY TO BENEFITS OR DAMAGES PAID OR CLAIMED:
1. PURSUANT TO THE WORKERS' COMPENSATION OR EMPLOYERS' LIABILITY LAWS OF KENTUCKY, NEW HAMPSHIRE, OR NEW JERSEY; OR,
2. BECAUSE OF INJURY OCCURRING BEFORE YOU ENTERED INTO SUCH A CONTRACT.

This form is not applicable in California, Kentucky, New Hampshire, New Jersey, North Dakota, Ohio, Tennessee, Texas, Utah, or Washington

WC 00 03 13
(Ed. 4-84)

CITY OF HENDERSON
240 Water Street
P. O. Box 95050
Henderson, NV 89009-5050

March 28, 2016

Sara Arav Piper
AECOM Technical Services
1220 Avenida Acaso
Camarillo, CA 93012

Subject: Right of Entry and Liability Release Agreement
Groundwater Sampling Project for NDEP

Dear Sara:

Please find enclosed the executed Right of Entry and Liability Release Agreement for the groundwater sampling project. If you have any questions, please feel free to call me at (702) 355-3114 or by email at Brian.Podmenik@cityofhenderson.com.

Sincerely,

Brian Podmenik, SR/WA
Real Property Agent

BCP:bp:477
Enclosure

RIGHT OF ENTRY AND
LIABILITY RELEASE AGREEMENT

This Right of Entry and Liability Release Agreement ("Agreement") is made as of the 21st day of March, 2016 by and between the CITY OF HENDERSON, a municipal corporation and political subdivision of the State of Nevada ("Licensor"), and AECOM Technical Services, Inc., a California corporation ("Licensee").

In consideration of the mutual promises herein contained, the parties agree as follows:

Section 1. Grant of License: Description of Property. Licensor hereby grants to Licensee a revocable conditional right and license (the "License") to have access to and to use, subject to all the terms and conditions hereof, real property owned in fee simple by the Licensor described as:

> Portions of Sections 28, 29 and 31, Township 21 South, Range 63 East, M.D.M., Henderson, Nevada identified as Assessor's Parcel Nos.: 160-28-401-002, 160-29, 801-003, 160-31-301-003, 160-31-501-005 and 160-32-501-004 ("Property).

Section 2. Limitation to Described Purpose. The Property may be used by Licensee during the term of this License to conduct groundwater sampling from several existing wells, in connection with a Nevada Division of Environmental Protection contract to study perchlorate levels in groundwater flowing into the Las Vegas Wash ("Work Program").

Section 3. Term. The term of the License shall commence March 10, 2016 and continue until May 13, 2016. Upon the expiration of such term, Licensee shall have no further rights to use the Property.

Section 4. Condition of Property Not Warranted. Licensor does not warrant or represent that the Property is safe, healthful, or suitable for the purpose for which they are permitted to be used under the terms of this License. Licensee acknowledges that certain portions of the Property may present or contain apparent and/or latent hazards including without limitation environmental contamination and unapparent subsurface voids and dangerous conditions.

Section 5. Allocation of Risk. Licensee shall undertake all work on the property of Licensor at its own sole risk and expense. Licensee shall be responsible for ensuring that its contractors and subcontractors are aware of, and comply with, the terms and conditions of this License. Licensor is not responsible for performance of any work by Licensee on the property of Licensor, and, to the extent Licensor incurs any costs directly on behalf of Licensee during the performance of any such work, Licensee agrees to promptly reimburse Licensor and hold it harmless therefrom.

Section 6. **Assumption of Liability**. Licensee hereby agrees to assume liability for and, to the maximum extent and duration permissible by law, to protect, indemnify and save and hold Licensor, its councilmember's, officers and employees harmless from and against any and all liability, claims, demands, losses, fines, expenses or causes of action of any kind to the extent arising out of the acts or omissions of Licensee or its employees, agents or contractors or subcontractors while on the Property, including, without limitation (i) loss of or damage to the Property or other property of Licensor; (ii) loss of or damage to third party property, (iii) loss attributable to bodily or personal injury, disease or death suffered by representatives, employees or agents of Licensor or its contractors and their subcontractors; and (iv) damage or harm to the environment. Licensee's obligations under this Section 6 shall survive the expiration or termination of this License.

Section 7. **Insurance**: Licensee shall, at its expense, carry and maintain while performing any work upon the property of Licensor insurance policies in a company or companies satisfactory to Licensor of the following types and of not less than the following amounts:

(a) Statutory Workers' Compensation Insurance, including Employers' Liability Insurance with limits of One Hundred Thousand Dollars ($100,000) each accident, covering all of Licensee's personnel performing work upon the property of Licensor, and

(b) Comprehensive General Liability Insurance covering all operations (including products and completed operations) and covering all vehicles and equipment used in the performance of any work on the property of Licensor (whether owned, rented or borrowed) with combined limits of One Million Dollars ($1,000,000) for bodily injury, including death, and property damage as to any one occurrence or as to any one claim.

The Comprehensive General Liability Policy shall name Licensor as additional insured with respect to any entry onto the Property of Licensor under this Agreement, but only to the extent of indemnities assumed by, or obligations of, Licensee hereunder. Such policy shall include contractual liability coverage for the indemnity provisions contained in Section 6, shall contain a broad form property damage endorsement and the coverage of such policy shall be primary without regard to any insurance carried and maintained by Licensor, but only to the extent of indemnities assumed by Licensee hereunder.

Prior to entry upon the Property of Licensor, Licensee shall furnish Licensor with Certificates of Insurance evidencing the above coverages and endorsements and containing the following statement:

> Thirty (30) days' notice shall be given to Licensor before any material change in cancellation, or renewal of this policy shall be effective.

Licensee further agrees to provide Licensor with any special insurances and additional coverages or limits which Licensor may by notice to Licensee reasonably require; provided that such special or additional coverages are available to Licensee upon commercially reasonable terms.

Licensee shall cause each contractor and subcontractor to carry insurance equivalent to subparagraphs (a) and (b) above covering such contractor's or subcontractor's work. Further, each contractor and subcontractor shall furnish to Licensor, via the Licensee, the certificates of insurance and endorsements described hereinabove.

The consent of Licensor to the insurance and limits insured as shown in this Paragraph shall not be considered as a limitation of Licensee's liability under this License nor an agreement by Licensor to assume liability in excess of said amounts or for risks not insured against.

Section 8. **Mechanics' Liens**. Licensee shall indemnify and hold harmless Licensor against any and all lien claims related to any activity of Licensee or its contractors or subcontractors on the Property pursuant to this License.

Section 9. **License Only.** It is agreed between Licensor and Licensee that this License is to Licensee and shall not inure to the successors or assigns of Licensee. No assignment of this License or any interest therein and no sublicenses for any purpose shall be made or granted by Licensee without the prior consent of Licensor, which consent may be denied or conditioned by Licensor at its sole discretion, and any attempted assignment or sublicense shall be void and automatically terminate this License.

Section 10. **Licensee Has No Interest Or Estate.** Licensee agrees that it does not and shall not claim at any time any interest, estate or right of any kind or extent whatsoever in on or under the Property whether by virtue of this License or by its occupancy or use of the Property hereunder.

Section 11. **Requirements Applicable to Work Program.**

(a) All Work Program activities shall be performed by qualified personnel using appropriate field techniques in accordance with all applicable laws and regulations and, further, in accordance with a written work plan(s), a copy of which shall be provided to Licensor before the initiation of the Work Program.

(b) All Work Program activities shall be performed during weekday business hours between 6 a.m. and 4 p.m. Monday through Thursday, or otherwise as agreed between the parties. All Work Program activities shall be performed in a manner so as to not interfere with the business or other facility operations of Licensor or authorized third parties taking place at the Property, as determined within the sole discretion of Licensor.

(d) Licensor shall have the right, but not the duty, to take split samples at Licensor's sole cost and expense. Licensee shall provide Licensor with the analytic results of all on-Property sampling, including any report wherein such results are included.

(e) Licensee shall contact Brian Podmenik via phone at (702) 267-1320 or email at Brian.Podmenik@cityofhenderson.com at least one (1) business day (not including Friday) prior to commencing on-Property activities, to coordinate access dates and times.

(f) All investigation-derived waste (including, without limitation, personal protective equipment, used equipment, trash, purge water, etc.) shall be containerized upon generation or creation and shall within five (5) business days be removed from the Property by

Licensee and managed by Licensee in accordance with all applicable federal, state, and municipal laws and regulations.

(g) On the expiration of this License or its sooner termination, or upon seven (7) days prior written notice by Licensor pertaining to all or a portion of the Property, Licensee shall cease use of the Property, or the portion so designated. Licensee shall, in addition, remove any personal property from the Property and restore all surface areas to their original condition as of the Effective Date to the extent reasonably practicable (e.g., excepting vehicle tire marks, minor surface disturbances, etc.).

Section 12. Safety. Licensee shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with its activity upon the Property. Licensee shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to (1) all persons on the Property; (2) all materials and equipment used for the testing and monitoring; and (3) the real property itself.

Section 13. Compliance with Applicable Laws. Licensee shall comply with all applicable laws and regulations of any public body or governmental agency having jurisdiction over any aspects of its activity upon the Property, including, but not limited to, the Nevada Division of Environmental Protection, Clark County, City of Henderson, United States Environmental Protection Agency, and the United States Occupational, Safety and Health Administration.

Section 14. Worker's Compensation. Licensee agrees to comply with all appropriate Nevada laws and regulations respecting worker's compensation insurance requirements for the work to be performed hereunder. Licensee agrees, to the extent permitted by law, to (1) have all such worker's compensation insurance obtained by it for work performed hereunder; and (2) extend its protection and benefit to Licensor.

Section 15. Delivery of Notices. Any notice required or desired to be given to Licensee shall be delivered or sent via tracked and receipt-verified overnight delivery service, to Licensee at: AECOM Technical Services, 1220 Avenida Acaso, Camarillo, CA 93012 Attention: Sara Arav Piper, and, if so given shall be sufficient notice hereunder by Licensor. Any notice required or desired to be given to Licensor shall be delivered or sent via tracked and receipt-verified overnight delivery service to Licensor at: City of Henderson, Public Works, PO Box 95050, MSC 131, Henderson, NV 89009-5050, Attention: Brian Podmenik, and, if so given shall be sufficient notice hereunder by Licensee.

Section 16. Entire Understanding. The making, execution and delivery of this License by Licensee has not been induced by any representations, statements, warranties or agreement other than those herein expressed. This License embodies the entire understanding of the parties and there are no other or further agreements or understandings, written or oral, in effect between the parties relating to the subject matter hereof. This instrument may be amended or modified only by an instrument of equal formality signed by the respective parties.

Section 17. Termination. Either Party may terminate this License (except as specified herein) at any time during the term of this License, by giving written notice to the other

specifying the date of termination, such notice to be given not less than seven (7) days prior to the date therein specified.

IN WITNESS WHEREOF, the parties have executed this License as of the day and year first above written.

CITY OF HENDERSON

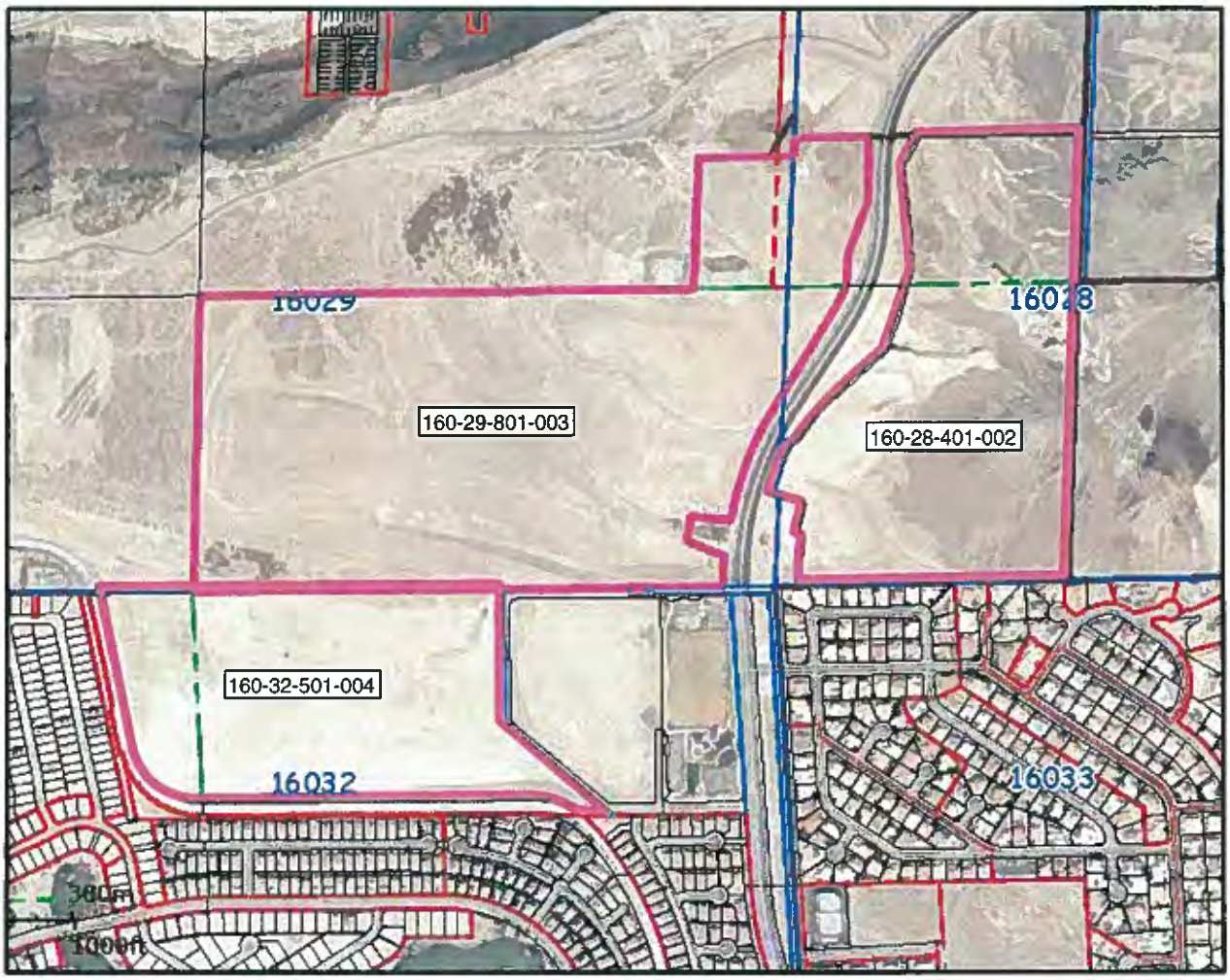
By:_____
Robert Murnane, P.E.
City Manager

AECOM TECHNICAL SERVICES, INC.

By:_____
Printed Name: HARRY VAN DEN BERG
Title: ASSOCIATE VICE PRESIDENT

ATTEST:

By:_____
Sabrina Mercadante, MMC
City Clerk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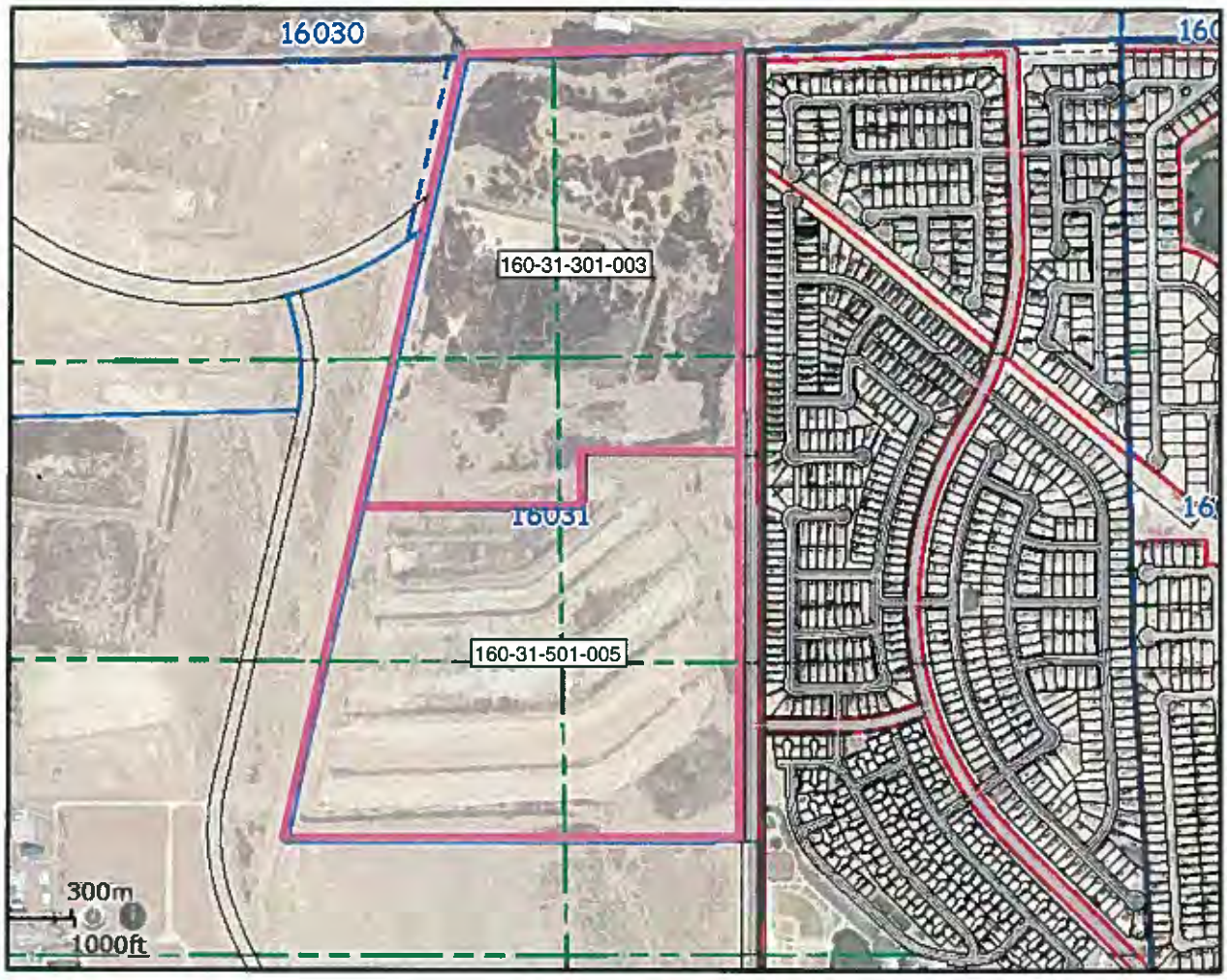
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Appendix C

Preliminary Biological Survey Technical Memorandum

Preliminary Biological Survey Technical Memorandum
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

INTRODUCTION

A preliminary biologic survey was conducted of the Nevada Environmental Response Trust (NERT) downgradient study area by Joseph Beitzer of AECOM (**Figure 1**) The purpose of the survey was to determine if sensitive or protected species were present in the areas that were identified for sampling. Included in this biological survey were 78 well sites, 22 surface water sampling locations, and 4 geophysical pilot test locations (**Figures 1-3**). The survey was also conducted to support the preparation of an Environmental Assessment in case one or more of the property owners required one.

This preliminary biological technical memorandum is based on field work and aerial map observations (where access was limited). Field observations were made February 22 to March 3, 2016, on current conditions of the wildlife, plants and habitat in the areas that were planned for sample collection including the locations in the water, at the existing well locations, and at the Geophysical Pilot Test sites.

SITE SUMMARY[1]

Site Location

The Downgradient Study Area is approximately 1,339 acres and is located 13 miles southeast of Las Vegas in an unincorporated section of Clark County, Nevada. It is surrounded by the incorporated area of the City of Henderson (**Figure 1**). Elevations across the Site range from 1,468 to 1,647 feet above mean sea level. The land surface across the Site slopes from the northwest toward the southeast. The developed portions of the Site have been modified by grading to accommodate housing developments, a landfill, roads, and weirs.

Climate

The climate of the Las Vegas Valley is arid, consisting of mild winters and dry hot summers. Average annual precipitation as measured in Las Vegas from 1971 to 2000 is 4.49 inches. Precipitation generally occurs during two periods, December through March and July through September. The winter storms generally produce low intensity rainfall over a large area. The summer storms generally produce a high intensity rainfall over a smaller area for a short duration. These violent summer thunderstorms account for most of the documented floods in the Las Vegas area. Temperatures can rise to 120 degrees Fahrenheit in the summer and average relative humidity is 20 percent. The mean annual evaporation from lake and reservoir surfaces ranges from 60 to 82 inches per year. Winds frequently blow from the southwest or northwest and are influenced by nearby mountains. Strong winds in excess of 50 miles per hour do occur occasionally.

Geology

The Las Vegas Valley occupies a topographic and structural basin trending northwest-southeast and extending approximately 55 miles from near Indian Springs on the north to Railroad Pass on the south. The valley is bounded by the Las Vegas Range, Sheep Range and Desert Range to the north; by Frenchman and Sunrise Mountains to the east; by the McCullough Range and River Mountains to the

[1] ENSR, 2005 (February). Conceptual Site Model. Prepared for Kerr-McGee Chemical, LLC. Henderson, Nevada. Accessed: http://www.ndep.nv.gov/bmi/docs/conceptual_site_model_report.pdf

south and southeast; and the Spring Mountains to the west. The mountain ranges bounding the east, north and west sides of the valley consist primarily of Paleozoic and Mesozoic sedimentary rocks (limestones, sandstones, and siltstones) The mountains on the south and southeast are made primarily of Tertiary volcanic rocks (basalts, rhyolites, andesites and related rocks) that lie directly on Precambrian metamorphic and granitic rocks.[2]

The downgradient study area is located on Quaternary age alluvial deposits that slope north toward Las Vegas Wash. The alluvium consists of a reddish brown heterogeneous mixture of well-graded sand and gravel with lesser amounts of silt, clay and caliche. Clasts within the alluvium are primarily composed of volcanic material. Boulders and cobbles are common. Due to their mode of deposition, no distinct beds or units are continuous over the area. A major feature of the alluvial deposits is the stream-deposited sands and gravels that were laid down within paleochannels that were eroded into the surface of the Muddy Creek formation during infrequent flood runoff periods.

NATURAL RESOURCES

As of February 2016 three field activities were planned for the downgradient investigations: sampling of groundwater from monitoring wells, sampling surface water in the Las Vegas Wash, and conducting geophysical pilot tests. Representative photos of work sites are provided in **Attachment A**. Summaries of field conditions as well as flora and fauna observed are provided on the tables provided in **Attachment B**.

Special Status Species[3]

Birds

Five species of birds have the potential to occur within or adjacent to the project area.

American Bald Eagle (*Haliaeetus leucocephalus*) was delisted as a federally endangered or threatened species under the Endangered Species Act (ESA), but listed as a State (Nevada) protected species. Their habitat is typically along large lakes or rivers with trees, snags, or cliffs for nest building. There have been no recorded nesting within the project area. The Nevada Natural Heritage Program (NNHP) does not list this species for Clark County. Specimens have been recorded as migrants during winter.

American Peregrine Falcon (*Falco peregrinus*) was delisted as a federally endangered or threatened species under ESA, but is a State protected species. The habitat is steep cliffs, canyons or buildings near water. Peregrin Faclons have not been recorded in Las Vegas Wash; however, specimens have been recorded as migrants in the Las Vegas Valley area.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is federally listed as endangered under the ESA and is State protected. Their habitat consists of varying canopy cover generally dominated by willows. The majority of the project area has marginally suitable habitat with low canopy cover. The water sampling areas of the project have some areas that may be within willow and cottonwood habitat and varying canopy cover. Specimens have been recorded in the Las Vegas Wash during migration.

Western Burrowing Owl (*Athene cunicularia hypugaea*) is a federal species of concern and a state protected species. Habitat is typically open grassland and specimens have been recorded in the Las

[2] Bell, J.W., 1981. Subsidence in Las Vegas Valley: Nevada Bureau of Mines and Geology, Bulletin 95, 84p.
[3] U.S. Department of the Interior, National Park Service, 2001 (July). Lake Mead National Recreational Area, Las Vegas Wash Stabilization Project Environmental Assessment.

Vegas Wash. No open grasslands were observed in the project area and no owls or owl sign were observed in the project area.

Yuma Clapper Rail (*Rallus longirostris yumanensis*) is federally listed as endangered under the ESA and is State protected. Their habitat is typically marshes with predominately dense cattail and bulrush vegetation but they may also inhabit tamarisk marsh thickets. This species has been observed in Las Vegas Wash.

Birds have other protection under the Migratory Bird Treaty Act of 1918 (MBTA), and other protective measures may apply.

Mammels

Two bat species have the potential to occur within or adjacent to the project area. However, impacts to bats are unlikely during project activities.

California leaf-nosed bat (*Macrotus californicus*) is a federal species of concern but has no State protection. Their habitat typically is upland desert scrub. Warm caves or abandoned mines are required for roosting habitat. Sightings have been made near Lake Mead National Recreation Area (NRA).

Spotted bat (*Euderma maculatum*) is a federal species of concern and a State protected species. Habitat requirements for this species are not well documented. Most captures are over waterbodies in open scrub desert. This species has been documented near Lake Mead NRA.

Reptiles

Banded Gila monster (*Heloderma suspectum cinctum*) is a federal species of concern and a State protected species. Habitat is desert scrub, rocky outcrops, and grasslands. Potential habitat is possible at the eastern extreme of the project but this species is not likely to occur.

Chuckwalla (*Sauromalus obesus*) is a federal species of concern but has no State protection. Typically this species inhabits upland desert scrub habitat. It is not likely to occur in project area.

Desert tortoise (*Gopherus agassizii*) is federally threatened and a State protected species.[4] This species does occur within the Creosote/White bur-sage plant community and there is habitat near part of the project area sites that are south of the Las Vegas Wash. This habitat is in areas that have been disturbed in the recent past due to development: road grading, community development, and other infrastructure projects (i.e. sanitary landfills), etc. While observing many of the sites where this species has the potential to occur no desert tortoise or tortoise sign was observed.

Impacts to reptiles, especially the desert tortoise, are unlikely due to the poor habitat that has been recently disturbed and the proximity to extensive urban development, transportation corridors.

Plants

Las Vegas bearpoppy (*Arctomecon Californica*) is a federal species of concern and listed by the State as critically endangered. The species is found in upland desert scrub and grows in gypsum soils. This soil type is not found within the project area and impacts to this species are unlikely.

[4] Nevada Natural Heritage Program. Species Information, *Gopherus gassizii.*Accessed: http://heritage.nv.gov/taxon_detail/14992

No sensitive plant species or plant communities were observed within the project area. The area around the Las Vegas Wash is in the process of restoration after many years of exotic species removal (tamarisk) and replanting with native species. **Attachment C** presents the list of the plants observed during the survey.

DISCUSSION

Groundwater Wells

These areas were generally near existing roads, within urban areas (MW-1 to MW-4), on previously cleared sites, behind locked gates, and in a few instances within restored areas. The exotic, invasive, native, or mixed exotic and native plant habitat is noted in Table 1. Also a determination was made as to whether vegetation clearing was required to gain access to the well. The majority of the vegetation type is a mixture of exotic and native vegetation. Typically this vegetation will not need to be cleared because it is clear of the well. Several well sites could not be directly observed, due to locked gates. When possible observations were made directly at the site, through fences or aerial maps. Several of these sites could not be accessed and the need for vegetation clearing was unknown. One site may need tamarisk trees (an exotic invasive tree) to be removed to access the well (MW-04). Several of the sites were covered with soil and if access is necessary the soil layer will have to be removed (COH-1 and COH-1A). Two sites are located within a restoration area and there is currently no road leading to these sites (PC-74 and PC-76). The coordinates provided for one site are within the Las Vegas Wash, no well was observed at this location (WMW6.55S). No sensitive plants or animals were observed during the survey. There is creosote scrub that is around some of the well sites near East Galleria Road and although no desert tortoise or desert tortoise sign was observed; it may be prudent to train workers to look for desert tortoise activity when driving off of paved roads.

Table 1. Groundwater Wells Identified For Initial Sampling Program

Well ID	Photo Number	Exotic, Invasive, Native or Mixed Plant Habitat	Clearing Vegetation Required
AA-08	3590	mixed	no
AA-20	n/a	mixed	no
AA-22	n/a	mixed	no
AA-23R	n/a	mixed	no
AA-26	n/a	urban location	no
AA-30	n/a	mixed	no
COH-1	3618, 3619	mixed	possibly; due to soil layer
COH-1A	3618, 3619	mixed	possibly; due to soil layer
COH-2A	3623	no plants present	no
COH2B1	3622	no plants present	no
DBMW-1	n/a	mixed	no
DBMW-22	n/a	mixed	no
DBMW-4	n/a	mixed	no
DBMW-5	n/a	native	no
DBMW-6	n/a	mixed	no
DBMW-7	3625	native	no

Well ID	Photo Number	Exotic, Invasive, Native or Mixed Plant Habitat	Clearing Vegetation Required
DBMW-8	3626	native	no
DM5	3605	mixed	no
HM-1	n/a	mixed	no
HM-2	n/a	mixed	no
HM-3	n/a	mixed	no
HSW-1	n/a	mixed	no
HSW-2	n/a	mixed	no
LNDMW1	3608	native	no
LNDMW2	3609	native	no
MCF-05	3632	native	no
MCF-06A-R	3624	native	no
MCF-06B	3624	native	no
MCF-06C	3624	native	no
MCF-08A	3590	mixed	no
MCF-08B-R	3590	mixed	no
MCF-18A	n/a	mixed	no
MCF-19A	n/a	mixed	no
MCF-20A	3606	mixed	no
MCF-31A	3617	invasive	no
MCF-31B	3617	invasive	no
MW-1	n/a	urban location	no
MW-2	n/a	urban location	no
MW-3	n/a	urban location	no
MW-4	n/a	urban location	no
MW-02	n/a	mixed	no
MW-03	n/a	mixed	no
MW-04	3617	invasive	possibly tamarisk
MW-05	n/a	mixed	no
MW-06	n/a	mixed	no
MW-07	n/a	mixed	no
MW-08	n/a	mixed	no
MW-09	n/a	mixed	no
MW-10	n/a	mixed	no
MW-11	n/a	mixed	no
MW-12	n/a	mixed	no
MW-13	3614	native	no
MW-14	3611	native	unknown
MW-K8	3603	n/a	no

Well ID	Photo Number	Exotic, Invasive, Native or Mixed Plant Habitat	Clearing Vegetation Required
PC-74	3600	native	yes, road needed
PC-76	3600	native	yes, road needed
PC-77	3602	native	no
PC-78	3602	native	no
PMW-7	3593	native	no
PMW-8	3594	native	no
RIT-06	3591	mixed	no
RIT-10	3592	invasive	unknown
UZO-17	3586	invasive	no
W02	3630	native	no
WMW3.5N	3607	n/a	no
WMW4.9N	3610	mixed	no
WMW4.9S	3612	native	no
WMW5.58S	n/a	mixed	no
WMW5.5S	n/a	mixed	no
WMW5.7N	n/a	mixed	no
WMW5.85S	n/a	mixed	no
WMW6.0N	n/a	mixed	no
WMW6.0S	n/a	mixed	no
WMW6.15N	3620	mixed	no
WMW6.15S	n/a	mixed	no
WMW6.2N	3621	mixed	no
WMW6.55S	3601	n/a	in water
WMW7.8N	n/a	mixed	no

Surface Water Sampling

These sample areas will require the use of a boat or waders in most of the locations. These locations are noted in Table 2. Several locations have changed as Las Vegas Wash improvements have been made over the last several years and are within the middle of rip rap areas without any water flow (LW3.75, LWC3.7). The location coordinates may have to be modified. One location appears to be in the middle of an island with trees growing on it and may have to be relocated (LWC4.1) No sensitive water plants were observed during the surveys and the impacts to vegetation should be minimal since there is abundant access to the shore of the Las Vegas Wash. No sensitive plants or animals were observed during the survey and no bird nests were observed. There was water fowl present in the area around the wash banks and in the water. It may be prudent to train workers to look for bird activity that could indicate a nest nearby.

Table 2. Surface Water Sampling Sites

Well ID	Photo #	Invasive, Native Or Mixed Plant Habitat	Clearing Vegetation Required
LW3.1	3532	mixed	no
LW3.4	3533	rip rap area	no
LW3.75	3537	native	no
LW3.85	3541	native	no
LW4.1	3544	native	no
LW4.95	3553	appears to be on island	possibly
LW5.3	3556	native	no
LW5.5	3559	native	no
LW5.7	3562	native	no
LW5.9	3568	native	unknown
LW6.05	3571	mixed	unknown
LW6.7	3597	native	no
LW6.85	3595	native	no
LW7.2	3596	native	no
LWC3.7	3535	rip rap area	no
LWC4.1	3547	native	possibly
LWC4.6	3550	mixed	possibly
LWC6.1	3574	mixed	no
LWC6.1_1	3580	native	no
LWC6.1_2	3583	mixed	no
LWC6.3_1	3577	mixed	no

Geophysical Pilot Test Sites

These test sites are located in four different locations and the initial survey areas are linear tracks that will be plotted in four different locations, Table 3. The four sites are listed as GPT1 to GPT4, west to east respectively. GPT1 is in a previously disturbed (bladed) area that has native annual plants growing (flat top buckwheat). GPT2 is within a restored area that has no road access. Depending on the situation a road may need to be cleared of native vegetation (restored vegetation) may need to be cleared to work on this site. GPT3 is located at the northern edge of an urban road and is previously disturbed. There is a tamarisk tree (exotic invasive tree) and urban trash littering the site. GPT4 is located within a fenced landfill area that has been restored. There is creosote brush scattered in the area with existing dirt roads. A key to the locked gate will be required to gain access to the site. There is creosote scrub that is growing around the last site and although no desert tortoise or desert tortoise sign was observed through the fence, it may be prudent to train workers to look for desert tortoise activity when driving off of paved roads.

Table 3. Geophysical Pilot Test Sites

Site ID	Photo #	Invasive, Native Or Mixed Plant Habitat	Clearing Vegetation Required
GPT1	3587	native	annual plants
GPT2	3598, 3599	native	possibly
GPT3	3565	mixed	unlikely
GPT4	3613, 3616	native	possibly

The impacts to special-status species should be minimal since none of these were seen during this preliminary survey. There is a potential to see the Yuma clapper rail during the collection of water samples, but impacts would be minimal due to the short time that it takes to collect these samples. There is also the possibility of interfering with bird nests which are protected under the MBTA. It may be prudent to include a Workers Environmental Awareness Program (WEAP) training session for the site manager or field personnel as it relates to sensitive bird species in the area as well as recognizing bird nests and associated defensive behaviors.

No special-status species, bats or plants were observed. Any vegetation clearing will be minimal since most of the well sites are clear and near existing paved or dirt roads. There is currently one area where a road may need to be constructed to access a Geophysical Pilot Test Site, and this will be within a recently restored area. Part of the WEAP training may be to reinforce that no driving is allowed in areas that do no have roads unless a biologist is present to clear the area.

Upon inspection of aerial photos of the project area and with direct observations of much of the project area; most of the land has been leveled or scraped bare in the recent past. This is especially evident near the urban development and transportation corridors. Many of these areas have regrowth of the creosote brush and Atriplex based plant communities. Although no desert tortoise or desert tortoise sign was observed it may be prudent to add a desert tortoise section to the WEAP training for work done in Creosote plant communities.

Attachments

Figure 1 Groundwater Sampling Locations

Figure 2 Surface Water Sampling Locations

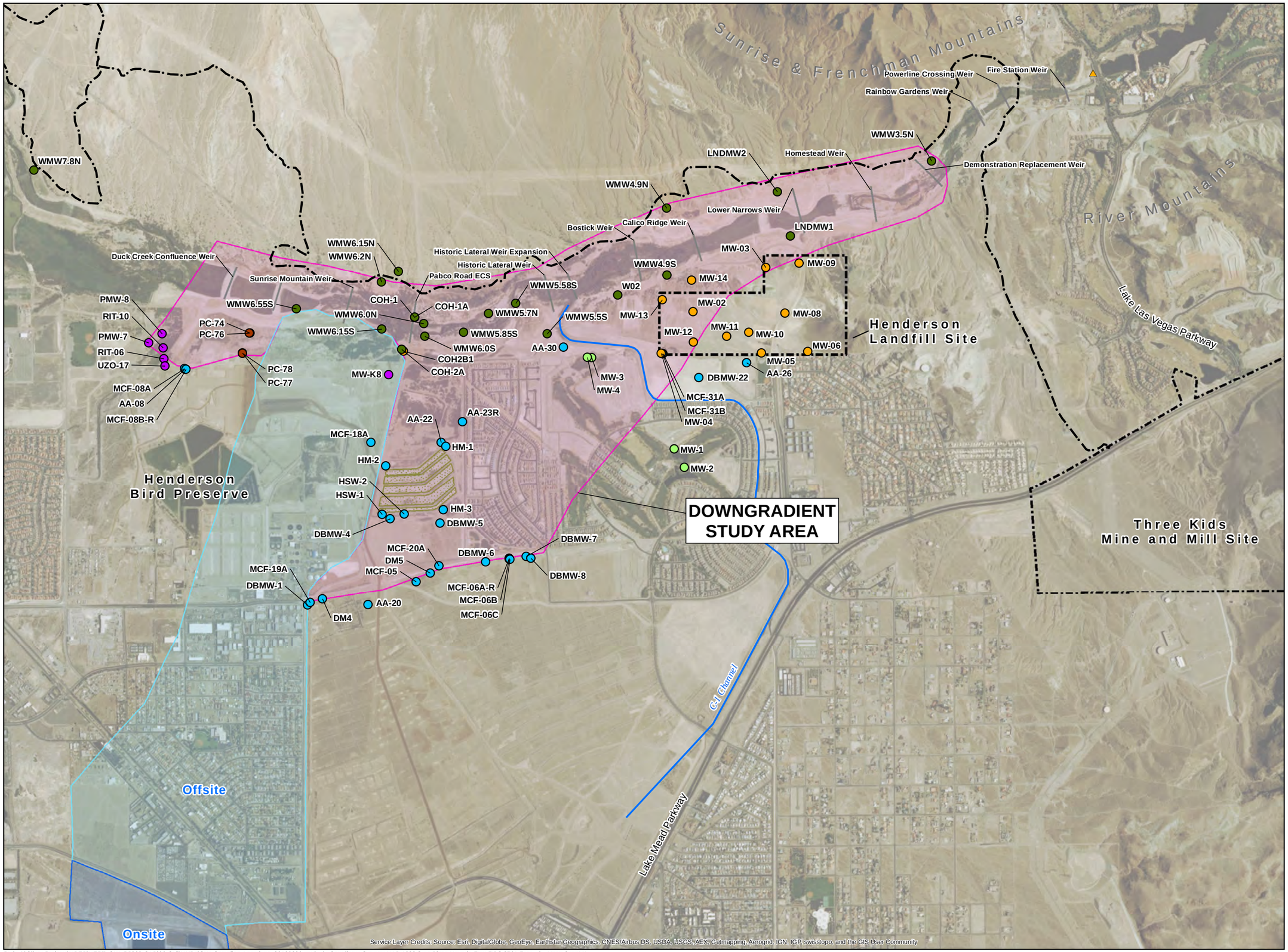
Figure 3 Potential Geophysical Pilot Test Survey Line Locations

Attachment A Site Photographs

Attachment B Field and Air Photo observations of Sampling Sites

Attachment C Plants Observed During the Preliminary Biological Survey

FIGURES



Legend

- American Pacific Well
- Chimera Golf Course Well
- City of Henderson Well
- LandWell Company Well
- NERT Well
- Southern Nevada Water Authority Well
- Lake Las Vegas Intake
- Wetlands Trail
- Channels
- Evaporation Basin
- Weir

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT
Remedial Investigation
Downgradient Study Area

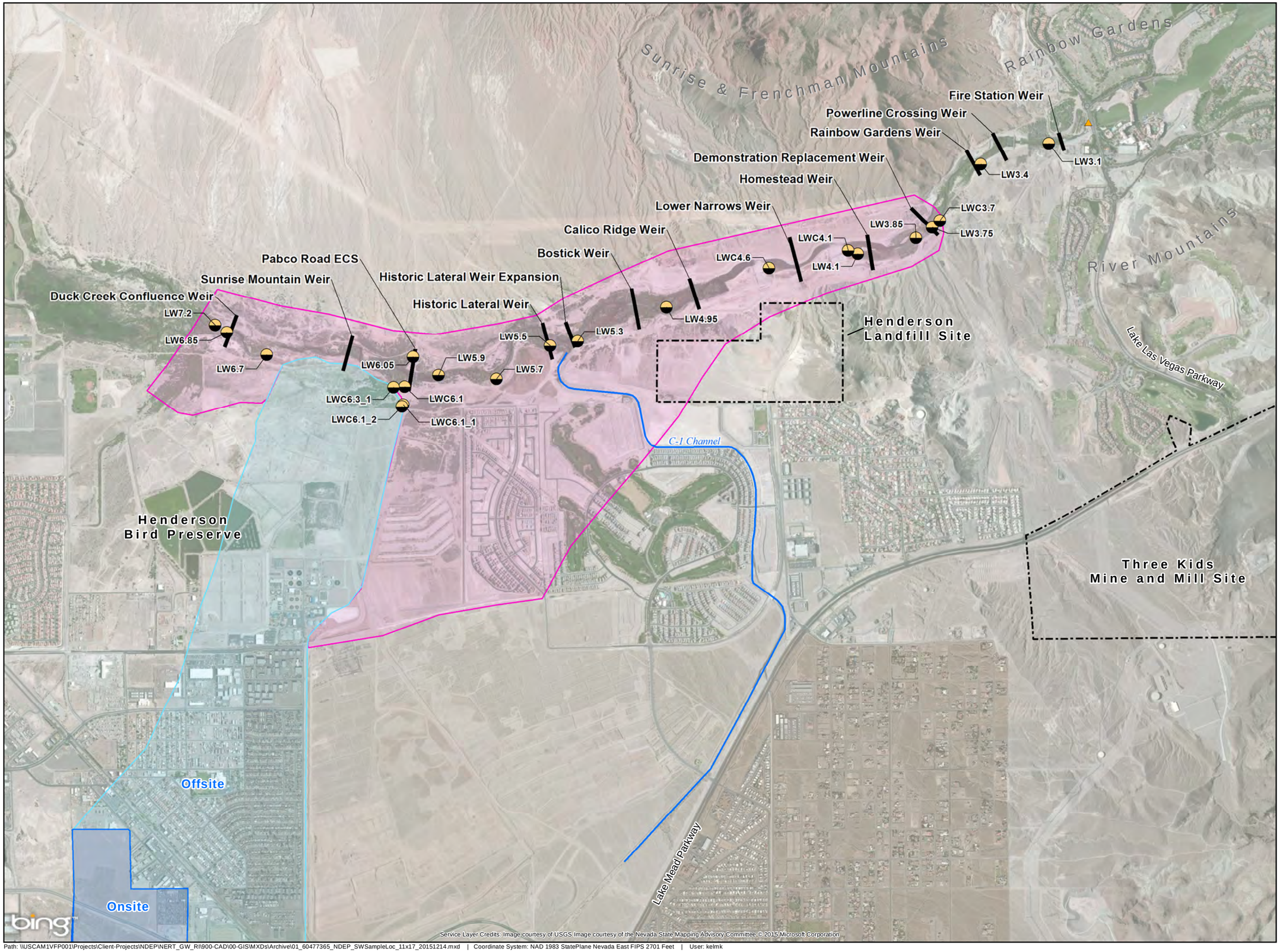
GROUNDWATER SAMPLING LOCATIONS

Date: 2/29/2016 Project: 60477365

AECOM

Figure 1

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\GW_Sampling_Locations_20160229.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1



Legend

- Lake Las Vegas Intake
- Surface Water Sampling Location
- Channels
- Area of Interest
- Weir

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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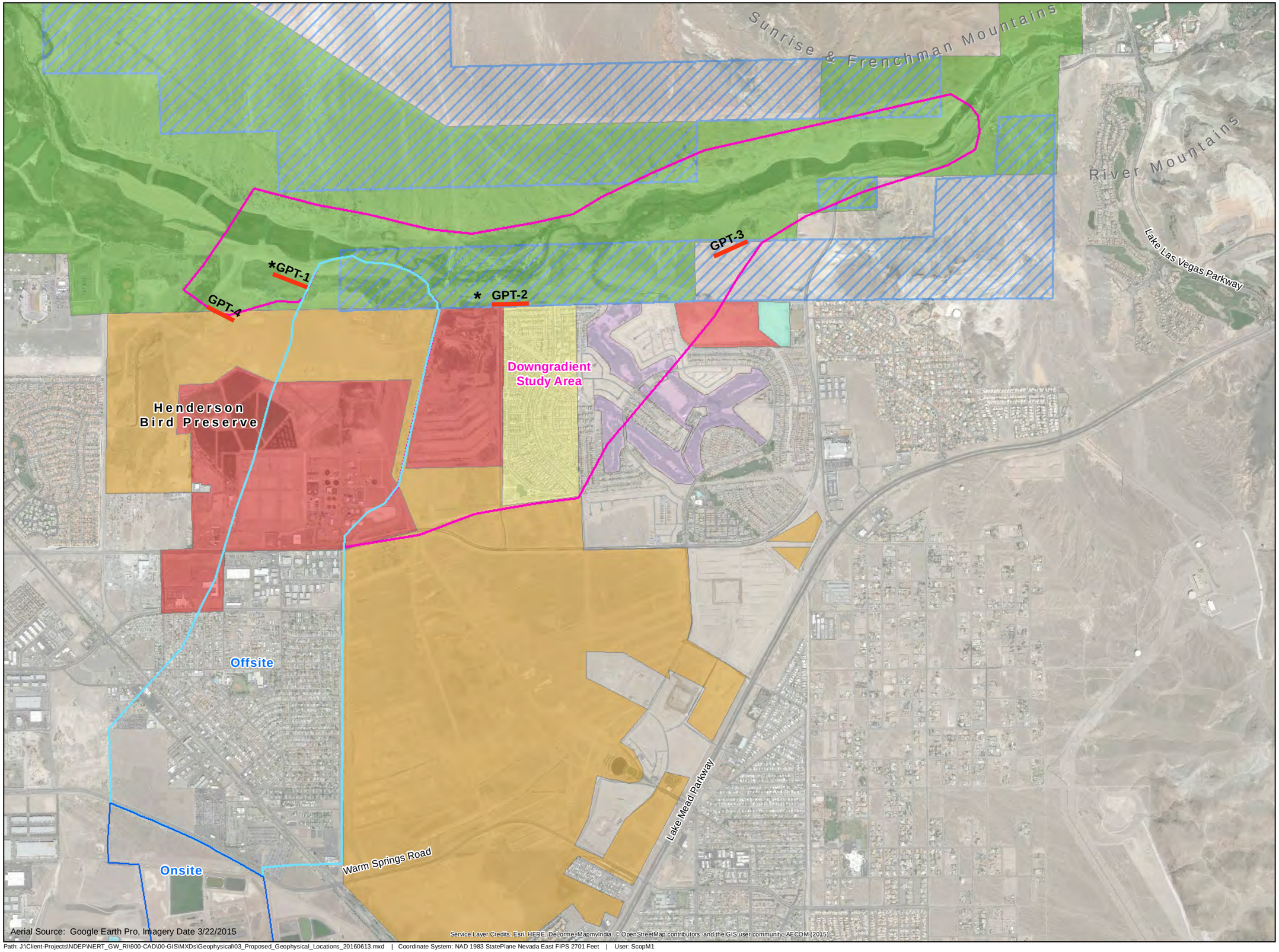
NERT
Regional Groundwater
Remedial Investigation

SURFACE WATER SAMPLING LOCATIONS

Date: 12/14/2015 Project: 60477365

AECOM

Figure 2



OVERVIEW MAP

Legend

- Potential Geophysical Pilot Test (GPT) Survey Line
- * Preferred GPT Survey Line
- NERT Downgradient Study Area
- NERT Off-site Study Area
- NERT On-site Study Area

Land Owner

- Land Well Company
- Clark County Wetlands Park
- City of Henderson
- Bureau of Reclamation
- Private Residences
- Chimera Golf Club
- School Board of Trustees

NORTH

0 2,000
Feet

Scale 1:24,000
1 inch = 2,000 feet

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NERT
Remedial Investigation
Downgradient Study Area

POTENTIAL GEOPHYSICAL PILOT TEST SURVEY LINE LOCATIONS

Date: 6/13/2016 Project: 60477365

AECOM

Figure 3

Path: J:\Client-Projects\NDEP\NERT_GW_RI\900-CAD\00-GIS\MXDs\Geophysical\03_Proposed_Geophysical_Locations_20160613.mxd | Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet | User: ScopM1

ATTACHMENT A

Site Photographs

Attachment A

Photos of Work Areas
Preliminary Biological Survey
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada
Photos taken by Joseph Betzler, AECOM, February 22 to March 3, 2016

Figure 1. AA-08, MCF-08A, MCF-08B-R (Photo 3590)

Figure 2. COH-1, COH-1A east view, backpack marks the approximate location per GPS readings (Photo 3619)

Figure 3. COH-1, COH-1A south view, backpack marks the approximate location per GPS readings (Photo 3618)

Figure 4. COH-2A (Photo 3623)

Figure 5. COH2B1 (Photo 3622)

Figure 6. DBMW-7 (Photo 3625)

Figure 7. DBMW-8 (Photo 3626)

Figure 8. DM5 (Photo 3605)

Figure 9. GPT1 (Photo 3587)

Figure 10. GPT2 east view (Photo 3598)

Figure 11. GPT2 west view (Photo 3599)

Figure 12. GPT3 (Photo 3565)

Figure 13. GPT4 (Photo 3613)

Figure 14. GPT4 (Photo 3616)

Figure 15. LNDMW1 (Photo 3608)

Figure 16. LNDMW2 (Photo 3609)

Figure 17. LW3.1 (Photo 3532)

Figure 18. LW3.4 (Photo 3533)

Figure 19. LW3.75 (Photo 3537)

Figure 20. LW3.85 (Photo 3541)

Figure 21. LW4.1 (Photo 3544)

Figure 22. LW4.95 (Photo 3553)

Figure 23. LW5.3 (Photo 3556)

Figure 24. LW5.5 (Photo 3559)

Figure 25. LW5.7 (Photo 3562)

Figure 26. LW5.9 (Photo 3568)

Figure 27. LW6.05 (Photo 3571)

Figure 28. LW6.7 (Photo 3597)

Figure 29. LW6.85 (Photo 3595)

Figure 30. LW7.2 (Photo 3596)

Figure 31. LWC3.7 (Photo 3535)

Figure 32. LWC4.1 (Photo 3547)

Figure 33. LWC4.6 (Photo 3550)

Figure 34. LWC6.1 (Photo 3574)

Figure 35. LWC6.1_1 (Photo 3580)

Figure 36. LWC6.1_2 (Photo 3583)

Figure 37. LWC6.3_1 (Photo 3577)

Figure 38. MCF-05 (Photo 3632)

Figure 39. MCF-06A-R, MCF-06B, MCF-06C (Photo 3624)

Figure 40. MCF-20A (Photo 3606)

Figure 41. MCF-31A, MCF-31B (Photo 3629)

Figure 42. MCF-31A, MCF-31B, MW-04 (Photo 3617)

Figure 43. MW-13 (Photo 3614)

Figure 44. MW-13 (Photo 3614)

Figure 45. MW-14 (Photo 3611)

Figure 46. MW-K8 (Photo 3604)

Figure 47. PC-74, PC-76 (Photo 3600)

Figure 48. PC-77, PC-78 (Photo 3602)

Figure 49. PMW-7 (Photo 3593)

Figure 50. PMW-8 (Photo 3594)

Figure 51. RIT-06 (Photo 3591)

Figure 52. RIT-10 (Photo 3592)

Figure 53. UZO-17 (Photo 3586)

Figure 54. WMW3.5N (Photo 3607)

Figure 55. WMW4.9N (Photo 3610)

Figure 56. WMW4.9S (Photo 3612)

Figure 57. WMW6.2N (Photo 3621)

Figure 58. WMW6.15N (Photo 3620)

Figure 59. WMW6.55S (Photo 3601)

Figure 60. WO2 (Photo 3630)

ATTACHMENT B

Field and Air Photo observations of Sampling Sites

Attachment B
Field and Air Photo Observations of Well Sites
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

Well ID	Photo #	Invasive, Native or mixed plant habitat	Clearing vegetation required	Access	Comments	Sites with Larrea tridentata (Creosote brush) near wells
AA-08	3590	mixed	no	Dirt access road up to site some atriplex and salsola in the area	This area has a cluster of risers.	
AA-20	n/a	mixed	no	Did not directly observe this site	This site is adjacent to East Galeria Road with urban trash spread around the vacinnity of the paved road.	
AA-22	n/a	mixed	no	Did not directly observe this site	This site is within a previously graded area.	
AA-23R	n/a	mixed	no	Did not directly observe this site	This site is adjacent to Weston Ridge St. within the graded shoulder of the paved road.	
AA-26	n/a	mixed	no	Urban Location	This site is within the boundry of Tuscany Park.	
AA-30	n/a	mixed	no	Did not directly observe this site	This site is directly north of an urban development near a dentention basin.	
COH-1	3618, 3619	mixed	possibly	Access to site on foot is possible, driving with a vehicle may not be possible because of steep sides of concrete structure.	The well heads are not visable and may be under a layer of washed soil. Some soil removal may be required; any plants growing in the soil are not not sensitive: invasive weeds, bacharris and atriplex.	
COH-1A	3618, 3619	mixed	possibly	Access to site on foot is possible, driving with a vehicle may not be possible because of steep sides of concrete structure.	The well heads are not visable and may be under a layer of washed soil. Some soil removal may be required; any plants growing in the soil are not not sensitive: invasive weeds, bacharris and atriplex.	
COH-2A	3623	no plants present	no	Dirt access to area via a road clearing.	Disturbed clearing with little vegetation in area.	
COH2B1	3622	no plants present	no	Dirt access to area via a road clearing.	Disturbed clearing with little vegetation in area.	
DBMW-1	n/a	mixed	no	Did not directly observe this site	This site is adjacent to East Galleria Drive.	
DBMW-22	n/a	mixed	no	Did not directly observe this site	This site is within a large dentention basin.	
DBMW-4	n/a	mixed	no	Did not directly observe this site	This site is within a previously graded area and a key may be required.	Creosote brush inferred via aerial photoss
DBMW-5	n/a	native	no	Did not directly observe this site	Sparse cresote around this site.	Creosote brush inferred via aerial photoss
DBMW-6	n/a	mixed	no	Did not directly observe this site	Sparse cresote around this site.	Creosote brush inferred via aerial photoss
DBMW-7	3625	native	no	Dirt access to area; native vegetation easily avoided	Well head area is cleared.	Creosote brush inferred via aerial photoss
DBMW-8	3626	native	no	Dirt access to area; native vegetation easily avoided	Well head area is cleared.	Creosote brush inferred via aerial photoss
DM5	3605	mixed	no	Sparse growth of cresote around area; easily avoided on foot.	Site near East Galeria Drive near dirt access road.	Sparse growth of creosote brush
HM-1	n/a	mixed	no	Did not directly observe this site	This site is within a highly disturbed area.	
HM-2	n/a	mixed	no	Did not directly observe this site	This site is within some ungraded vegetation adjacent to Pabco Rd. (unpaved)	
HM-3	n/a	mixed	no	Did not directly observe this site	This site is near to Weston Ridge St. within an ungraded area.	Creosote brush inferred via aerial photoss
HSW-1	n/a	mixed	no	Did not directly observe this site	This site is near the edge of graded vegetation adjacent to Pabco Rd. (unpaved).	Creosote brush inferred via aerial photoss

Attachment B
Field and Air Photo Observations of Well Sites
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

Well ID	Photo #	Invasive, Native or mixed plant habitat	Clearing vegetation required	Access	Comments	Sites with Larrea tridentata (Creosote brush) near wells
HSW-2	n/a	mixed	no	Did not directly observe this site	This site is near the edge of graded vegetation adjacent to Pabco Rd. (unpaved).	Creosote brush inferred via aerial photoss
LNDMW1	3608	native	no	Dirt access road up to site	Disturbed area with clear dirt road access.	
LNDMW2	3609	native	no	Dirt access road up to site	Disturbed area with clear dirt road access.	
MCF-05	3632	native	no	Dirt access to area; native vegetation easily avoided	This site is adjacent to East Galeria Road with urban trash spread around the vacinnity of the paved road.	Creosote brush present
MCF-06A-R	3624	native	no	Access via dirt road; may need to unlock gate for access.	Sparse cresote and white bur sage.	Sparse growth of creosote brush
MCF-06B	3624	native	no	Access via dirt road; may need to unlock gate for access.	Sparse cresote and white bur sage.	Sparse growth of creosote brush
MCF-06C	3624	native	no	Access via dirt road; may need to unlock gate for access.	Sparse cresote and white bur sage.	Sparse growth of creosote brush
MCF-08A	3590	mixed	no	dirt access road up to site some atriplex and salsola in the area	This area has a cluster of risers.	
MCF-08B-R	3590	mixed	no	dirt access road up to site some atriplex and salsola in the area	This area has a cluster of risers.	
MCF-18A	n/a	mixed	no	Did not directly observe this site	This site is near the edge of graded vegetation adjacent to Pabco Rd. (unpaved).	Creosote brush inferred via aerial photoss
MCF-19A	n/a	mixed	no	Did not directly observe this site	This site is adjacent to East Galeria Road.	
MCF-20A	3606	mixed	no	Sparse growth of creosote around area; easily avoided with a vehicle.	Site near East Galleria Drive near dirt access road.	Sparse growth of creosote brush
MCF-31A	3617	invasive	unknown	Access via road within landfill area; this site is in the bottom of a detention basin.	Did not have access directly to site but easily visible through fenced area; this area has a large number to tamarisk trees which may block access.	
MCF-31B	3617	invasive	unknown	Access via road within landfill area; this site is in the bottom of a detention basin.	Did not have access directly to site but easily visible through fenced area; this area has a large number to tamarisk trees which may block access.	
MW-1	n/a	mixed	no	Urban Location		
MW-2	n/a	mixed	no	Urban Location		
MW-3	n/a	mixed	no	Urban Location		
MW-4	n/a	mixed	no	Urban Location		
MW-02	n/a	mixed	no	Did not directly observe this site	This landfill has been disturbed in the recent past; a key will be required for access.	Creosote brush inferred via aerial photoss
MW-03	n/a	mixed	no	Did not directly observe this site	This landfill has been disturbed in the recent past; a key will be required for access.	Creosote brush inferred via aerial photoss
MW-04	3617	invasive	unknown	Access via road within landfill area; this site is in the bottom of a detention basin.	Did not have access directly to site but easily visible through fenced area; this area has a large number to tamarisk trees which may block access.	
MW-05	n/a	mixed	no	Did not directly observe this site	This landfill has been disturbed in the recent past; a key will be required for access.	
MW-06	n/a	mixed	no	Did not directly observe this site	Graded site diirectly east of urban deevelopemnt.	
MW-07	n/a	mixed	no	Did not directly observe this site	Adjacent to East Galleria Dr. in graded area.	
MW-08	n/a	mixed	no	Did not directly observe this site	Adjacent to East Galleria Dr. in graded area.	
MW-09	n/a	mixed	no	Did not directly observe this site	Adjacent to East Galleria Dr. in graded area.	

Attachment B
Field and Air Photo Observations of Well Sites
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

Well ID	Photo #	Invasive, Native or mixed plant habitat	Clearing vegetation required	Access	Comments	Sites with Larrea tridentata (Creosote brush) near wells
MW-10	n/a	mixed	no	Did not directly observe this site	This site is directly north of an urban development within a dentention basin (a key will be required).	Creosote brush inferred via aerial photoss
MW-11	n/a	mixed	no	Did not directly observe this site	This site is directly north of an urban development within a dentention basin (a key will be required).	Creosote brush inferred via aerial photoss
MW-12	n/a	mixed	no	Did not directly observe this site	This site is directly north of an urban development within a dentention basin (a key will be required).	Creosote brush inferred via aerial photoss
MW-13	3614	native	no	Access via road within landfill area.	Did not have access directly to site but easily visible through fenced area (a key will be required).	Sparse growth of creosote brush
MW-14	3611	native	unknown	dirt road access in area that is being actively restored.	Did not directly locate wellhead in this restored site.	
MW-K8	3603	n/a	no	dirt road up to site and highly disturbed.	Cleared area.	
PC-74	3600	native	see Access	No current access route within restored area.	The well heads are clear but need access road to site or drive across restored area.	
PC-76	3600	native	see Access	No current access route within restored area.	The well heads are cleared but need access road to site or drive across restored area.	
PC-77	3602	native	no	Good road access	Adjacent to mesquite and atriplex	
PC-78	3602	native	no	Good road access	Adjacent to mesquite and atriplex	
PMW-7	3593	native	no	Drive up to site with atriplex around site.	Highly disturbed area with trash around area.	
PMW-8	3594	native	no	Drive up to site with atriplex around site.	Highly disturbed area with trash around area.	
RIT-06	3591	mixed	no	Small dirt road to site.	Tamarisk habitat with some artiplex on what appears to be a levy like structure	
RIT-10	3592	invasive	unknown	Narrow dirt road to site.	Did not directly observe site due to growth or erosion.	
UZO-17	3586	invasive	no	Dirt access road up to site.	Highly disturbed, no clearing required. Brass plate on the riser indicates that this is UZO-16.	
W02	3630	native	no	Dirt access to area; native vegetation easily avoided	Well head area is cleared.	
WMW3.5N	3607	n/a	no	Access via boat or waders.	Site is in water near rip rap.	
WMW4.9N	3610	mixed	no	Multiple dirt roads in area leading to site.	Old tamarisk stand that is dead.	
WMW4.9S	3612	native	no	Near paved trail and dirt road.	Easy access via existing trails.	
WMW5.58S	n/a	mixed	no	Did not directly observe this site	Disturbed area near the LV Wash.	
WMW5.5S	n/a	mixed	no	Did not directly observe this site	This site is directly north of an urban development within a dentention basin.	
WMW5.7N	n/a	mixed	no	Did not directly observe this site	North of LV Wash within floodplain.	
WMW5.85S	n/a	mixed	no	Did not directly observe this site	South of LV Wash within floodplain.	
WMW6.0N	n/a	mixed	no	Did not directly observe this site	North of LV Wash within floodplain.	
WMW6.0S	n/a	mixed	no	Did not directly observe this site	South of LV Wash within floodplain.	
WMW6.15N	3620	mixed	no	Access via dirt road.	Disturbed area with cresote, cheesebush dominated by tamarisk.	
WMW6.15S	n/a	mixed	no	Did not directly observe this site	Near dirt road access south of LV Wash floodplain.	
WMW6.2N	3621	mixed	no	Access via a dirt road.	Disturbed habitat with atriplex and salsola.	
WMW6.55S	3601	n/a	in water	Access via boat or waders.	This site appears to be in the water.	
WMW7.8N	n/a	mixed	no	Did not directly observe this site	Near graded site north of LV Wash floodplain.	
Field work conducted by Joseph Betzler, AECOM, February 22 to March 3, 2016						

Attachment B
Field and Air Photo Observations of Surface Water Sampling Sites
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

Well ID	Photo #	Invasive, Native or mixed plant habitat	Clearing vegetation required	Access	Comments
LW3.1	3532	mixed	no	Access difficult because of thick shore growth; use of a water craft may be best from up or down stream.	Some tamarisk near area; access to the water will be above of below this location.
LW3.4	3533	mixed	no	Access to water via a dirt road thorugh a locked chain gate.	Highly disturbed with rip rap bank.
LW3.75	3537	native	no	Access via rip rap covered area.	The layout may have changed due to construction of rip rap structures. No surface water during survey due to water running under rip rap.
LW3.85	3541	native	no	Access via a dirt road.	Newly planted stream bank easily avoided at present.
LW4.1	3544	native	no	Access via a dirt road.	Highly disturbed area with native plants that are easily avoided.
LW4.95	3553	native	possibly	Access difficult because of thick shore growth; use of a water craft may be best from up or down stream.	The coordinate appears to be on an island in the middle of the wash. The island may be newly formed as the wahs braids through this broad area.
LW5.3	3556	native	no	Access difficult because of thick shore growth; use of a water craft may be best from up or down stream.	Growth along the shore is thick.
LW5.5	3559	native	no	Access via a dirt road.	Growth along shore is thin near the road.
LW5.7	3562	native	no	Access to the water is problematic close to the map point due to irrigation pipe across access road near the edge of the water.	Plant restoration is in progress at this access location.
LW5.9	3568	native	unknown	Did not directly observe this site, downstream of weir.	The coordinate appears to be in the water at the edge of a densly vegetated shore.
LW6.05	3571	mixed	unknown	Access on foot over weir.	This site had no water during the survey; and unlikely to have water unless flooded.
LW6.7	3597	native	no	Good access through restoration area.	This area is being actively restored.
LW6.85	3595	native	no	Access via dirt road.	The coordinate appears to be near the rip rap interface with the water in the wash.
LW7.2	3596	native	no	Access difficult because of thick shore growth; use of a water craft may be best from up or down stream.	Thick growth may block access to the site from the shore.
LWC3.7	3535	native	no	Access over rip rap covered bank.	The layout may have changed due to construction of rip rap structures.
LWC4.1	3547	native	possibly	Access difficult because of thick shore growth; use of a water craft may be best from up or down stream.	The coordinate appears to be in the vegetated area, not in the water due to plant growth.
LWC4.6	3550	mixed	possibly	Access via dirt road.	The coordinate appears to be near the shore of a rip rap covered bank.
LWC6.1	3574	mixed	no	Access via dirt road.	This area stream bank plants, willows, atriplex, and some tamarisk.
LWC6.1_1	3580	native	no	Access by dirt road.	This area stream bank plants, willows, and atriplex.
LWC6.1_2	3583	mixed	no	Access by dirt road.	This area stream bank plants, willows, atriplex, and some tamarisk.
LWC6.3_1	3577	mixed	no	Access by dirt road.	This area stream bank plants, willows and some tamarisk.
Field work conducted by Joseph Betzler, AECOM, February 22 to March 3, 2016					

Attachment B
Field and Air Photo Observations of Geophysical Pilot Test Sites
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

Site ID	Photo #	Invasive, Native or mixed plant habitat	Clearing vegetation required	Access	Comments
Geophysical Pilot Tests numbered west to east GPT 1 to GPT 4, respectively					
GPT1	3587	native	annual plants	Easy access; this area is mostly denuded with some native annual plant growth.	This area is highly disturbed with some annual plant growth.
GPT2	3598, 3599	native	possibly	No dirt road access currently in this restored area.	This active restoration area has mesquite and atriplex with tamarisk being actively removed.
GPT3	3565	mixed	unlikely	Disturbed urban road edge - Russel Road	Disturbed soil, and urban trash in this area.
GPT4	3613, 3616	native	possibly	Some dirt road access, some clearing may be required depending on geophysical survey.	Some of the naive vegetation has grown back and disturbance may be required.
Field work conducted by Joseph Betzler, AECOM, February 22 to March 3, 2016					

ATTACHMENT C

Plants Observed During the Preliminary Biological Survey

Attachment C

Plants Observed During the Preliminary Biological Survey
Preliminary Biological Survey
NERT Regional Investigation - Downgradient Study Area
Henderson, Nevada

	Taxon (Synonym)	Common Name	Location
	Dicots		
	Asteraceae	**Sunflower Family**	
	Ambrosia dumosa	Burrobush /White Bur-Sage	Infrequent in upland areas
	Baccharis emoryi	Emory waterweed	Areas near wash and restoration areas
	Baccharis salicifolia	Seep willow	Areas near wash and restoration areas
	Conyza canadensis	Horseweed	Areas near wash and restoration areas
	Hymenoclea salsola	Cheesebush	Infrequent in upland areas
E	*Sonchis asper*	Spiny sow thistle	Areas near wash and restoration areas
	Bignoniaceae	**Bigonia Family**	
	Chilopsis linearis ssp. *arcuata*	Desert-willow	Infrequent in upland areas and restoration areas
	Boraginaceae	**Borage Family**	
	Amsinckia tessellata var. *glorisa*	Devil's lettuce	Infrequent in upland areas
	Brassicaceae	**Mustard Family**	
E	*Sisymbrium irio*	London Rocket	Areas near wash and restoration areas
	Chenopodiaceae	**Goosefoot Family**	
	Atriplex confertifolia	Shadscale	Areas near wash and restoration areas
	Atriplex cf. *lentiformis* ssp. *lentiformis*	Quailbush, Big saltbush	Areas near wash and restoration areas
E	*Salsola tragus*	Tumbleweed	Occasionally: restoration and upland areas
	Fabaceae	**Legume Family**	
	Acacia greggii	Catclaw	Areas near wash and restoration areas
	Prosopis glandulosa var. torreyana	Honey mesquite	Areas near wash and restoration areas

	Prosopis pubescens	Screw bean mesquite	Areas near wash and restoration areas
	Geraniaceae	**GERANIUM FAMILY**	
E	*Erodium cicutarium*	Redstem Filaree	Occasionally: restoration and upland areas
	Malvaceae	**MALLOW FAMILY**	
	Sphaeralcea ambigua	Desert Mallow	Infrequent in upland areas
	Polygonaceae	**BUCKWHEAT FAMILY**	
	Eriogonum deflexum	Flat topped buckwheat	Infrequent in upland areas
E	*Rumex* sp.	Dock	Areas near wash and rip rap
	Salicaceae	**WILLOW FAMILY**	
	Populus fremontii	Fremont cottonwood	Restoration areas near wash and rip rap
	Salix exigua	Narrow-leaved willow	Restoration areas near wash and rip rap
	Salix gooddingii	Goodding's willow	Restoration areas near wash and rip rap
	Solanaceae	**NIGHTSHADE FAMILY**	
	Datura cf. *wrightii*	Western Jimsonveed	Occasionally: restoration and upland areas
	Lycium cf. *andersonii*	Anderson Box Thorn	Occasionally: restoration and upland areas
	Tamaricaceae	**TAMARISK FAMILY**	
EI	*Tamarix ramosissima*	Salt Cedar	Throughout area with active removal (noxious weed)
	Zygophyllaceae	**CALTROP FAMILY**	
	Larrea tridentata	Creosote bush	Upland areas, some regrowth in cleared areas.

Monocots

	Cyperaceae	**SEDGE FAMILY**	
	Schoenoplectus californicus	California tule	Restoration areas near wash and rip rap
	Schoenoplectus maritimus	Bulrush	Restoration areas near wash and rip rap
	Poaceae	**GRASS FAMILY**	
E	*Cynodon dactylon*	Bermuda grass	Restoration areas near wash and rip rap

	Distichlis spicata	Salt grass	Restoration areas near wash and rip rap
	Phragmites australis	Common reed	Restoration areas near wash and rip rap and edges of wash
E	*Schismus* sp.	Schismus	Infrequent in upland areas
	Sporobolus airoides	Alkali sacaton	Occasionally: restoration and upland areas

Typhaceae

CATTAIL FAMILY

Typha cf. latifiloa	Broad-leaved cattail	Restoration areas in wash and edges of wash

Key to list

bold typeface	represents taxa that are protected and listed by the: local, state, or federal government
cf.	Indicates species with unsure identification, though they are likely the indicated taxa.
E	Exotic species - non-native to southern Nevada, typically from other countries, and established as part of our flora.
EI	Exotic invasive species - non-native, problematic species, causing biological and agricultural damage.
fr.	forma
sp.	Genus known species is unknown.
ssp.	subspecies
var.	variety

References:

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Appendix D

Licensed Survey Report

Stanley Consultants INC.

CELEBRATING 100 Years ENGINEERING A BETTER WORLD

April 14, 2016

AECOM
1220 Avenida Acasco
Camarillo, CA. 93012

Reference: WELL LOCATION SURVEY / LAS VEGAS WASH STUDY / FINAL REPORT

Attention: Carmen Caceres-Schnell

The Well Location Survey for the Las Vegas Wash Project was completed on April 12, 2016. The attached spreadsheet has the final horizontal and vertical measurements for the recovered wells. The measurements made were to the top of the inner well casing along with a ground surface measurement immediately adjacent to the well. The horizontal coordinates are derived from the Nevada State Plane Coordinate System East Zone, North American Datum of 1983 (NAD83). The vertical elevations are based off of the North American Vertical Datum of 1988 (NAVD88). A copy of the daily field notes is also attached with this report.

If you should have any questions, please feel free to call me at (702) 534-2133.

Sincerely,
STANLEY CONSULTANTS, INC.

By: _____
Mark S. Cormier, P.L.S.
Senior Land Surveyor

5820 South Eastern Avenue, Suite 200 • Las Vegas, NV 89119 • phone 702.369.9396 • fax 702.369.9793
www.stanleyconsultants.com

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
51003	26729901.48	832297.35	1603.49	DBMW4 NG
51005	26729903.39	832295.68	1605.83	DBMW4 TOP PVC CASING
51006	26731586.10	833425.59	1581.46	AA22 TOP PVC CASING
51009	26731587.32	833427.04	1579.85	AA22 NG
51010	26731447.15	833668.24	1585.21	HM1 TOP PVC CASING
51011	26731446.80	833668.53	1584.10	HM1 NG
51016	26729808.71	833399.96	1606.65	DBMW5 NG
51017	26729807.30	833399.07	1609.61	DBMW5 TOP PVC CASING
51018	26730013.44	832690.59	1600.21	HSW2 NG
51019	26730013.56	832690.34	1601.67	HSW2 TOP PVC CASING
51020	26731037.68	832227.03	1587.05	HM2 TOP OF PVC CASING
51021	26731038.10	832226.84	1586.02	HM2 NG
51022	26731585.95	831877.31	1577.53	MCF18A TOP PVC CASING
51023	26731584.10	831876.06	1574.20	MCF18A TOP CONC PAD NG
51027	26727999.08	830469.80	1626.60	DBMW1 TOP PVC CASING
51028	26728000.87	830469.06	1624.13	DBMW1 TOP CONC PAD NG
51032	26737275.90	844697.76	1483.54	WMW3.5S TOP PVC CASING
51033	26737276.51	844697.69	1483.71	WMW3.5S NG
51034	26736145.45	841145.67	1511.19	LNDMW1 TOP PVC CASING
51039	26736147.03	841145.49	1510.68	LNDMW1 NG
51040	26735290.15	838411.85	1518.84	WMW4.9S TOP OF PVC CASING
51045	26735291.73	838411.46	1517.99	WMW4.9S NG
51046	26733971.74	835768.11	1528.22	WMW5.5S TOP PVC CASING
51051	26733973.45	835769.19	1529.06	WMW5.5S NG
51052	26734647.03	835070.11	1526.08	WMW5.58S TOP PVC CASING
51053	26734647.02	835070.84	1524.17	WMW5.58S NG
51054	26733593.69	832598.59	1546.95	COH2B1 TOP PVC CASING
51055	26733594.35	832599.08	1544.63	COH2B1 NG
51056	26733927.75	833075.47	1533.74	WMW6.0S NG AT PVC FILLED IN
51057	26734098.93	832119.74	1545.08	WMW6.15S TOP PVC CASING
51058	26734099.21	832120.03	1542.90	WMW6.15S NG
51059	26734351.02	830218.73	1559.25	WMW6.55S TOP PVC CASING
51060	26734352.24	830218.31	1557.15	WMW6.55S NG
51061	26734539.19	828430.55	1570.60	WMW6.9S TOP PVC CASING
51062	26734539.67	828430.23	1568.11	WMW6.9S NG
51063	26737603.43	824429.00	1606.56	WMW7.8N TOP PVC CASING
51068	26737604.78	824430.78	1605.51	WMW7.8N NG
51069	26735560.65	828913.10	1573.16	WMW6.9N TOP PVC CASING
51070	26735560.99	828912.31	1570.01	WMW6.9N NG
51071	26735142.86	832116.78	1552.68	WMW6.2N TOP PVC CASING
51076	26735148.34	832119.25	1551.10	WMW6.2N NG
51077	26735359.77	832493.06	1552.55	WMW6.15N TOP PVC
51078	26735360.68	832493.80	1549.78	WMW6.15N NG
51079	26734425.52	834471.76	1528.50	WMW5.7N TOP PVC
51080	26734424.35	834471.21	1525.87	WMW5.7N NG
51081	26736756.98	838408.40	1523.37	WMW4.9N TOP PVC

51082	26736758.03	838408.62	1520.74	WMW4.9N NG
51083	26737125.16	840864.28	1501.98	LNDMW2 TOP PVC
51084	26737126.83	840865.62	1502.02	LNDMW2 NG
51089	26737791.35	843836.97	1482.54	WMW3.5N TOP PVC
51090	26737792.22	843836.83	1482.81	WMW3.5N NG
51091	26729995.16	833318.23	1603.37	HM3 NG AT BROKEN PVC
51093	26734019.86	840223.23	1546.44	MW10 TOP PVC
51094	26734020.64	840223.95	1543.40	MW10 NG
51095	26734740.22	838306.91	1529.84	MW13 TOP PVC
51096	26734740.70	838307.01	1528.43	MW13 NG
51097	26733800.85	838999.98	1547.26	MW12 TOP PVC
51098	26733801.48	839000.35	1546.09	MW12 NG
51099	26733551.66	838288.65	1530.64	MW04 TOP PVC
51100	26733552.59	838313.65	1527.42	MCF31B TOP PVC
51101	26733552.67	838288.46	1527.85	MW04 NG
51106	26733554.45	838313.36	1523.41	MCF31B NG
51107	26733551.93	838328.07	1523.33	MCF31A NG
51112	26733550.41	838327.14	1526.66	MCF31A TOP PVC
51113	26734478.11	838994.12	1533.13	MW02 TOP PVC
51114	26734479.62	838996.36	1531.33	MW02 NG
51115	26734834.10	839862.75	1531.65	MW25 TOP PVC
51116	26734835.02	839862.16	1528.84	MW25 NG
51117	26734674.06	840946.07	1582.48	MW18 TOP PVC
51118	26734674.66	840947.19	1581.77	MW18 NG
51119	26733930.02	839738.37	1543.35	MW11 TOP PVC WLY SIDE
51120	26733931.47	839740.25	1539.53	MW11 NG
51121	26733596.69	841529.98	1610.75	MW06 TOP PVC SLY SIDE
51122	26733597.76	841530.52	1608.67	MW06 NG
51123	26731476.23	838593.43	1563.29	MW1 TOP PVC
51124	26731044.43	838816.81	1579.96	MW2 TOP PVC
51125	26731044.93	838816.88	1580.35	MW2 NG
51126	26731476.59	838593.43	1563.81	MW1 NG
51127	26733434.90	836835.36	1523.29	MW3 TOP PVC
51128	26733435.51	836835.74	1523.50	MW3 NG
51129	26733447.42	836667.06	1526.70	MW4 NG
51130	26733446.64	836666.49	1526.35	MW4 TOP PVC
51131	26732035.85	833924.30	1561.68	AA23R TOP PVC
51132	26732036.63	833924.13	1562.32	AA23R AC
51133	26733691.92	836125.80	1532.35	AA30 TOP PVC
51138	26733694.07	836126.33	1529.14	AA30 NG
51139	26735460.67	840590.41	1512.54	MW20 TOP PVC
51140	26735461.25	840590.95	1511.14	MW20 NG
51141	26733030.27	839141.01	1535.03	DBMW22 TOP PVC
51146	26733032.12	839141.48	1532.08	DBMW22 NG
51147	26733563.04	840501.38	1569.13	MW05 TOP PVC
51148	26733563.56	840501.09	1567.75	MW05 NG
51149	26729026.85	835406.66	1632.03	DBMW8 TOP PVC

51154	26729029.06	835406.46	1628.99	DBMW8 NG
51155	26729071.66	835304.81	1628.66	DBMW7 NG
51160	26729069.98	835304.94	1631.61	DBMW7 TOP PVC
51161	26729004.80	834945.70	1632.95	MCF06C TOP PVC
51162	26729012.56	834930.85	1633.01	MCF06B TOP PVC
51163	26729028.09	834929.39	1632.77	MCF06AR TOP PVC
51168	26729029.78	834929.35	1630.00	MCF06AR NG
51173	26729014.51	834930.59	1630.27	MCF06B NG
51178	26729007.11	834945.67	1630.28	MCF06C NG
51179	26728947.30	834409.71	1632.43	DBMW6 TOP PVC
51184	26728949.49	834409.35	1629.55	DBMW6 NG
51185	26728860.07	833381.19	1626.23	MCF20A TOP PVC
51190	26728862.29	833381.02	1622.99	MCF20A NG
51191	26728698.85	833187.31	1625.40	DM5 TOP PVC
51196	26728699.76	833186.38	1623.51	DM5 NG
51197	26728512.87	832871.14	1627.26	MCF05 TOP PVC
51202	26728514.69	832872.04	1625.00	MCF05 NG
51203	26728007.77	831811.79	1628.46	AA20 TOP PVC
51208	26728009.84	831811.96	1625.98	AA20 NG
51209	26733210.65	827756.14	1578.02	AA08 NG
51214	26733208.28	827756.55	1581.08	AA08 TOP PVC
51215	26733202.26	827786.62	1580.39	MCF 08BR TOP PVC
51220	26733204.06	827786.52	1577.55	MCF 08BR NG
51225	26733223.77	827755.00	1578.75	MCF08A NG
51226	26733221.82	827753.95	1580.33	MCF08A TOP PVC
51227	26734003.83	829203.19	1565.32	PC 74 TOP PVC
51232	26734007.58	829204.14	1564.62	PC 74 NG
51233	26734007.08	829183.48	1565.05	PC 76 TOP PVC
51238	26734011.97	829186.71	1564.37	PC 76 NG
51239	26733568.45	829031.31	1566.86	PC 77 TOP PVC
51244	26733570.80	829030.53	1566.82	PC 77 NG
51245	26733560.47	829032.90	1566.77	PC78 TOP PVC
51246	26733561.63	829032.75	1566.95	PC78 NG
51247	26733433.87	827297.20	1580.05	RIT 06 TOP PVC
51252	26733435.06	827297.57	1580.14	RIT 06 NG
51253	26733788.69	826962.08	1579.81	PMW7 TOP PVC
51258	26733789.71	826961.61	1579.85	PMW7 NG
51263	26733989.45	827252.71	1576.37	PMW8 NG
51264	26733988.93	827253.76	1576.37	PMW8 TOP PVC
51265	26733679.41	827280.16	1576.44	RIT10 TOP PVC
51270	26733682.01	827280.13	1577.22	RIT10 NG
51271	26734354.61	832838.89	1531.60	COH1A NOT FOUND
51272	26734349.92	832839.03	1531.42	COH 1 NOT FOUND
51273	26734212.99	833041.48	1532.96	WMW 6.0N TOP PVC
51274	26734214.30	833041.58	1533.28	WMW 6.0N NG

AECOM WETLAND WELL LOCATIONS

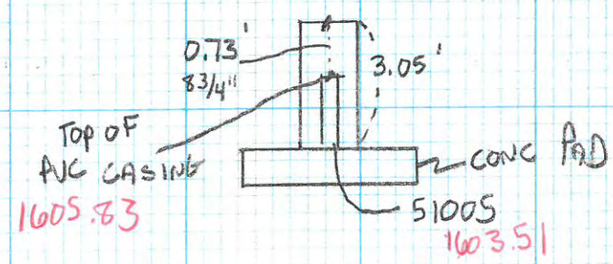
4/4/16
M. CORMIER
±75°

TRIMBLE 5800 – # 6914 – NTrip – VRS

ALL SHOTS ON NORTHLY FACE OF PVC UNLESS NOTED

ALL ROD HT's 6.562 UNLESS NOTED

PT.	DESC.
1023	HSW-1 NOT FND
1024	HSW-2 NOT FND
51000 ↓ 51003	COT CONC PAD DBMW4 (1013)
51005	N'LY FACE 0.72" STEEL CASING



28-1-41

PT	DESC
51006	TOP PVC CASING N'LY FACE AA-22
51004 ↓ 51009	AA-22 TOP CONC PAD
51010	HM1 TOP PVC CASING
51011	NG HM1
51017	DBMW5 TOP PVC CASING USED SMALL ROD CHANGE HEIGHT TO 1.33'
51019	HSW2 TOP PVC CASING
51020	HM2 TOP PVC CASING
51022	MCF18A TOP PVC CASING
1055	MW-K8 NOT FND
1008	COH-2A NOT FND

AECOM WETLANDS WELL LOCATIONS

TRIMBLE 5800 - # 6914 - NTRIP - VRS

PT	DESC
51027	DBMW-1 TOP PVC CASING ROD HT 1.33'
1010 } 1034 }	DBMW2 NOT FND IN ROAD MCF-19A
51032	WMW3.5S TOP PVC CASING
51034	LNDMW1 (1025) TOP PVC CASING
51040	WMW4.9S (1069) TOP PVC CASING
1065 NOT FND W02	
51046	WMW5.5S (1071) TOP PVC CASING
51052	WMW5.58S (1070) TOP PVC CASING

28-1-42 4-5-16

M. CORMIER

±800'

PT	DESC
51054	COH281 TOP PVC CASING ROD HT. 1.33'
51056	WMW6.0S PVC FILLED IN
51057	WMW6.15S TOP PVC CASING (1077) ROD HT 1.33'
51059	WMW6.55S TOP PVC CASING (1079) ROD HT 1.33'
51061	WMW6.9S TOP PVC CASING ROD HT 1.33'
51063	WMW7.8N TOP PVC CASING
51069	WMW6.9N TOP PVC CASING ROD HT. 1.33'
51071	WMW6.2N TOP PVC CASING (1078)

AECOM WETLANDS WELL LOCATION

28-1-43 4-5-16
M. CORMIER
±82

PT.	DESC
51077	WMW6.15N Top PVC (1076) ROD HT. 1.33
51079	WMW5.7N Top PVC (1072) ROD HT. 1.33
51081	WMW4.9N Top PVC (1068) ROD HT. 1.33
51083	LNOMW2 Top PVC (1026)
51089	WMW3.5N Top PVC (1066)

AECOM WETLANDS WELL LOCATION
TRIMBLE 5800-6914-NTRIP-VRS

PT.	DESC
51091	HM3 NG AT BROKEN PVC PIPE (1022)
1003	AA-23R NOT FND
51092	COH BM 632 (482.948M) 1584.47'
51093	MW10 Top PVC (1050) ROD HT. 1.33'
51095	MW13 Top PVC (1053) ROD HT. 1.33'
51097	MW12 Top PVC (1052) ROD HT ~~1.33~~ 6.562'
51099	MW04 Top PVC (1041) ROD HT 1.33
51100	MCF-31B Top PVC (1037) ROD HT 1.33

28-1-44 4-6-16
M. CORMIER
±70°

PT	DESC
51112	MCF-31A Top PVC (1036) ROD HT 1.33'
51113	MW-02 Top PVC (1042)
51115	MW25 Top PVC ROD HT 1.33'
51117	MW18 Top PVC
51119	MW-11 Top PVC (1051) ROD HT 1.33 PVC UNEVEN SHOT MARK ON W'LY SIDE
51121	MW-06 Top PVC (1046) ROD HT 1.33 SHOT MARK S'LY SIDE
51123	MW-1 Top PVC
51124	MW-2 Top PVC
51127	MW-3 Top PVC
51130	MW-4 Top PVC

AECOM WETLANDS WELL LOCATION

TRIMBLE 5800 - #6914 - NTRIP - VRS

CHECK PT 51092 COH BM 632

N 0.01
E 0.04
V -0.10

PT	DESC
51131	AA-23R TOP PVC IN ROAD WESTON RIDGE ST
51133	AA-30 Top PVC (1005) ROD HT 1.33' (±2.6' DOWN TO PAD)
1054	MW14 NOT FND FND LATH WITH MW14 COVERED WITH CONCRETE
1043	MW-03 NOT FND
51139	MW20 Top PVC (±1' DOWN TO NG)
1049	MW-09 NOT FND } IN GALLERIA DRIVE
1048	MW-08 NOT FND } IN GALLERIA DRIVE
51141	DBMW-22 Top PVC (1011) ROD HT 1.33' (2.5'± TO CONC PAD) DOWN

28-1-45

4-7-16
M. CORMIER
±70°

PT	DESC
51147	MW-05 Top PVC (1045) (1.3'± DOWN TO NG)
51149	DBMW-8 Top PVC (1017) ROD HT 1.33' (DOWN 2.6'± TO Top CONC)
51160	DBMW-7 Top PVC (1016) ROD HT 1.33' (DOWN 2.5'± TO Top CONC)
51161	MCF-06C Top PVC (1030) ROD HT 1.33' (DOWN 2.1'± TO Top CONC)
51162	MCF-06B Top PVC (1029) ROD HT 1.33' (DOWN 2.2'± TO Top CONC)
51163	MCF-06AR Top PVC (1028) ROD HT 1.33' (DOWN 2.3'± TO Top CONC)
51179	DBMW6 Top PVC (1015) ROD HT 1.33' (DOWN 2.5'± TO Top CONC)

AECOM WETLANDS WELL LOCATION

PT	DESC
51185	MCF-20A Top PVC (1035) ROD HT 1.33' (DOWN 2.6'± TO CONC PAD)
51191	DM5 TOP PVC (1019) ROD HT 1.33' (DOWN 1.6'± TO CONC PAD)
51197	MCF-05 TOP PVC (1027) ROD HT 1.33' (DOWN 1.7' ± TO CONC PAD)
51203	AA-20 TOP PVC (1001) ROD HT 1.33' (DOWN 2.0' ± TO CONC PAD)
1018	DM4 NOT FND IN GALLERIA DRIVE
1073	MWM5.855 NOT FND

28-1-46 4-7-16

M. CORMIER

± 800

PT.	DESC
51214	AA-08A Top PVC (1000) ROD HT 1.33' (DOWN 2.2'± TO CONC PAD)
51226	MCF-08A TOP PVC (1031) ROD HT 1.33' (DOWN 1.2'± TO CONC PAD)
51215	MCF-08BR Top PVC (1032) ROD HT. 1.33' (DOWN 2.4'± TO CONC PAD)

AECOM WETLANDS WELL LOCATION

28-1-47

4/8/16
M. CORMIER
B. BENNETT
±70°

PT.	DESC
51227	PC-74 TOP PVC (1056) (UP 0.3'± TOP TO PAD)
51233	PC-76 TOP PVC (1057) (UP 0.3'± TO TOP PAD)
51239	PC-77 TOP PVC (1058) (UP 0.5'± TO TOP PAD)
51245	PC-78 TOP PVC (1059) (UP 0.2'± TO NG)
51247	RIT-06 TOP PVC (1062) (UP 0.5'± TO CONC PAD)
51253	PMW-7 TOP PVC (1060) (UP 0.4'± TO CONC PAD)
51264	PMW-8 TOP PVC (1061) (UP 0.3'± TO CONC PAD

PT	DESC
51265	RIT-10 TOP PVC (1063) (UP 0.3'± TO CONC PAD)
51271	COH1A NOT FOUND
51272	COH1 NOT FOUND
51273	WMW 6.0 N TOP PVC (1076) (UP 0.6'± TO FIBERGLASS BOX)

AECOM WETLANDS WELL LOCATIONS

Trimble 5800 - # 6914 - NTRIP - VRS

PT	DESC
50100	CCBM 8C1222 5SE6
50101	COH BM 406 2013
50102	COH BM 228
50103	COH BM 35

28-1-48

4/11/16
M. CORMIER
±70°

Appendix E

Field Data Sheets

AECOM

Well ID: AA-20

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/19/16 Time: Start 0845 am/pm
Project No: 60477365-2015-140B Finish 0945 am/pm
Site Location: Henderson, NV
Weather Conds: ~ 80°F Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 32.85 c. Length of Water Column 1.33 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 31.52 d. Calculated System Volume (see back) 3.11(L)

2. WELL PURGE DATA

a. Purge Method: disposable bailer

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0901	1	24.7	7.27	7270	7.11	53.5	15.97		31.61	clear/none
0906	2	24.8	7.16	7278	6.58	52.0	17.70		31.63	same
0909	4	24.8	7.17	7289	6.73	31.2	23.30		31.63	same
0914	6	24.8	7.18	7262	6.62	42.8	43.10		~~43.10~~	same
0919	8	24.7	7.21	7293	6.42	44.6	66.6		31.63	same
0922	10	24.8	7.22	7294	6.33	41.9	51.9		31.57	lt cloudy

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below. Turbidity readings not within range

3. SAMPLE COLLECTION: Method: disposable bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
AA-20-20160419	125mL HDPE Amber	1	EDA	chlorate	0935
	250mL HDPE	1	HNO3	dis chromium	
	500mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	
	40mL VOA	2	ICE	dis Hex Chromium	

Comments Sample collected @ 0935 DTW @ 31.53

Signature Date 4/19/16

AECOM

Well ID: AA-22

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area | Date: 4/19/16 | Time: Start 1200 am/pm Finish 1325 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: | Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 33.90 c. Length of Water Column 0.85 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 32.05 d. Calculated System Volume (see back) ~~0.55 (gal)~~ 1.21 (Gal) ~~2.05 (L)~~ 4.51 (L)

2. WELL PURGE DATA

a. Purge Method: disposable bailer

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100427
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1233	2	23.8	7.30	7149	7.01	-11.8	226		32.97	tan/no odor
1242	4	23.1	7.22	7072	6.19	19.7	192		32.91	tan, no odor
1248	6	23.1	7.23	7069	5.88	31.9	474		33.05	same
1251	8	23.1	7.24	7092	6.09	34.3	413		33.11	same
1304	10	23.4	7.32	7171	5.53	43.0	258		33.18	same
1312	12	23.2	7.31	7121	5.50	52.4	123		33.22	same
1317	13.5	23.3	7.26	7132	5.13	43.3	181		33.00	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below. turbidity readings not within range

3. SAMPLE COLLECTION: Method: disposable bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
AA-22-20160419	125 mL HDPE Amber	1	EDA	Chlorate	
↓	250 mL HDPE	1	HNO3	Dis Chromium	
	500 mL HDPE	1	ICE	chloride bromide, perchlorate TDS	
↓	40 mL VOA Glass	2	ICE	Dis Hexchromium	

Comments well purged to 3 volumes 4/19, no sample recovered @ 1317 - insufficient quantity
Dedicated tubing removed, bagged, and placed back in well

Signature [signature] Date 4/19/16

AECOM

Well ID: AA-22

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/20/16 Time: Start 0700 am/pm
Project No: 60477365-2015-140B Finish _____ am/pm
Site Location: Henderson, NV
Weather Conds: _____ Collector(s): S. Shockley | D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length _____ c. Length of Water Column _____ (a-b) Casing Diameter/Material _____

b. Water Table Depth _____ d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: _____

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make _____ Model _____ Serial Number _____

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor

d. Acceptance criteria pass/fail Yes No N/A

Have parameters stabilized ☐ ☐ ☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: disposable bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
AA-~~22~~-20160420	125 mL	1	EDA	chlorate	0705
	250 mL	1	HNO3	Dis Chromium	
	500 mL	1	ICE	Dis Hex Chromium	
	40 mL	2	ICE	chloride, bromide perchlorate, TDS	

Comments DTW @ sample collection = 32.15
removed & bagged existing tubing prior to sample. Placed back in well after sample collection

Signature _____ Date 4/20/16

AECOM

Well ID: AA-23R

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/18/16 Time: Start 0845 am/pm
Project No: 60477365-2015-140B Finish 1030 am/pm
Site Location: Henderson, NV
Weather Conds: Sunny clear Collector(s): J. Shockley, D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 45.10 c. Length of Water Column 13.88 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 31.22 d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: low-flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0940	2	23.5	7.12	7215	2.81	175.5	6.57	250	31.23	CLEAR/NONE
0942	2.5	23.5	7.18	7199	2.70	170.8	6.91	250	31.25	same
0945	3	23.4	7.21	7189	4.03	167.4	5.35	250	31.25	same
0948	3.5	23.5	7.23	7188	4.56	165.0	5.06	250	31.25	same
0950	4	23.5	7.23	7147	5.24	163.8	3.72	250	31.25	same
0952	4.5	23.5	7.23	7174	5.71	163.3	3.29	250	31.25	same
0955	5	23.5	7.23	7186	5.72	163.5	3.35	250	31.25	same
0957	5.5	23.6	7.22	7194	5.58	163.8	3.16	250	31.25	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method:

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
AA-23R-20160418	125mL HDPE	1	EDA	Chlorate	1000
"	250mL HDPE	1	HNO3	Metals	1000
"	500mL HDPE	1	ICE	Chloride, bromide, Perchlorate, TDS	1000
"	40mL VOA	2	ICE	Dissolved Hexchrom	1000

Comments pump set @ 40' bls

Signature Date 4/18/16

AECOM

Well ID: AA-30

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-22-16
Time: Start 0700 am/pm
Finish 0830 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: ~75°F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 34.05' c. Length of Water Column 15.05' (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 19.45' d. Calculated System Volume (see back) 9.78 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0745	1.5	23.10	7.15	8971	0.70	189.4	0.38	200	19.47	CLEAR/NONE
0747	2.0	23.27	7.09	9000	0.70	190.9	0.21	200	19.45	
0749	2.5	23.35	7.08	9020	0.59	190.5	0.35	200	19.46	
0751	3.0	23.44	7.07	9033	0.62	189.7	0.17	200	19.46	
0753	3.5	23.57	7.06	9049	0.57	188.1	0.35	200	19.46	
0755	4.0	23.65	7.06	9062	0.57	186.1	0.15	200	19.46	
0757	4.5	23.86	7.05	9105	0.58	182.7	0.36	200	19.46	
0759	5.0	23.89	7.05	9115	0.54	181.7	0.45	200	19.46	

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUM

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
AA-30-20160422	250ml poly	1	HNO_3	Diss. Cr	0810
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Pere., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 11.7-31.7 pump set @ 27'

Signature [signature] Date 4/22/16

AECOM

Well ID: COH2B1

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/21/16 Time: Start 0720 am/pm
Project No: 60477365-2015-140B Finish 0930 am/pm
Site Location: Henderson, NV
Weather Conds: Sunny, warm, dry Collector(s): J. Shockley | D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 67.00 c. Length of Water Column 50.89 (a-b)

Casing Diameter/Material 2" PVC

b. Water Table Depth 16.11 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0810	Ø	—	—	—	—	—	—	250	—	—
0821	2	21.8	7.26	7372	1.50	10.3	860	175	16.14	lt. tan/no odor
0824	3	21.9	7.25	7060	1.23	10.3	759	175	16.14	same
0829	4	22.0	7.22	5993	0.73	8.3	506	175	16.12	same
0833	5	22.1	7.24	5924	0.56	6.9	436	175	16.12	same
0841	6	22.2	7.23	6275	0.47	4.7	304	120	16.12	same
0849	7	22.4	7.25	6249	0.49	3.0	178	120	16.12	same
0855	8	22.4	7.23	6237	0.41	1.5	125	120	16.12	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☑ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
COH2B1-20160421	125 mL HDPE Amber	1	EDA	chlorate	0920
	250 mL HDPE	1	HNO3	Dis chromium	
	40 mL VOA Glass	2	ICE	Dis Hex chromium	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	

Comments Initial pump rate @ 250 mL/min. H2O turbid. lowered pump rate to ~~180~~ mL/min 0840 lower pump rate to 120 mL/min due to high turbidity. Pump set @ 62" below TOC 175
Assume well screen from 57'-67'

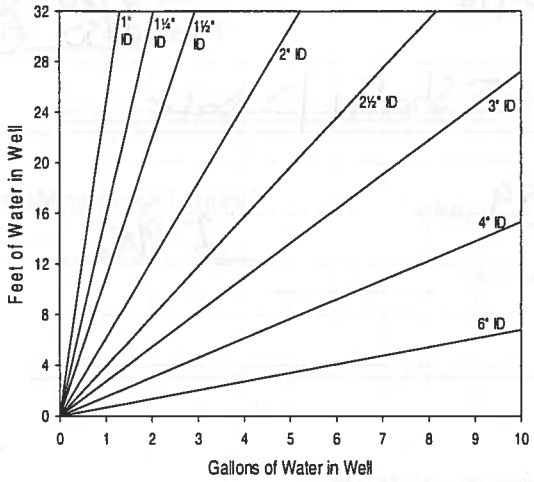
Signature _____ Date 4/21/16

- over -

COH2B1

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0901	9	22.5	7.26	6188	0.40	0.8	101	120	16.13	clear / none
0906	10	22.6	7.24	6209	0.38	0.6	101	120	16.13	same
0913	11	22.7	7.25	6228	0.41	0.2	100	120	16.13	same

AECOM

Well ID: DBMW-1

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/19/16 Time: Start 0955 am/pm
Project No: 60477365-2015-140B Finish 1130 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): S. Shackley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 51.30 c. Length of Water Column 14.21 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 37.09 d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1018	2	25.2	7.10	7794	5.55	4.7	2.68	240	37.57	clear no odor
1024	2.5	25.7	7.11	7832	5.18	7.4	1.04	140	37.60	same
1029	3.0	25.5	7.12	7811	5.10	9.0	0.48	140	37.62	same
1036	4.0	26.2	7.13	7914	4.71	10.8	0.42	125	37.58	same
1043	5.0	25.6	7.13	7852	4.69	12.1	0.56	125	37.63	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: bladder pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
DBMW-1-20160419	125mL HDPE Asc	3	EDA	Chlorate	1050
	250mL HDPE	3	HNO3	D.S Chromium	
	500mL HDPE	3	ICE	chloride, bromide, perchlorate TDS	
	40mL VOA Glass	6	ICE	D.S Hex Chromium	

Comments pump set @ 45', 1021 lowered pump rate to 140 mL/min 1031 lowered pump rate to 125 mL/m
MS/MSD samples collected also

Signature Date 4/19/16

AECOM

Well ID: DBMW-22

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-22-16 Time: Start 1400 am/pm
Project No: 60477365-2015-140B Finish 1540 am/pm
Site Location: Henderson, NV
Weather Conds: ~90°F Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 59.00' c. Length of Water Column 29.84' (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 29.16' d. Calculated System Volume (see back) 19.40 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1415	0							160	29.46	
1418	0.500							100	29.51	
1432	0.500							0	29.20	
1434	0.600							50	29.40	
1440	0.600							0	29.21	
1442	0.660	28.89	7.73	5121	0.86	120.3	0.87	35	29.43	clear/none
1444	0.740	29.14	7.73	5145	0.79	119.7	0.88	35	29.51	|
1446	0.810	29.66	7.73	5192	0.78	119.1	0.76	35	29.58	|

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below.
unable to keep well from drawing down.

3. SAMPLE COLLECTION: Method: QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
DBMW-22-20160422	250 ml poly	1	HNO_3	Diss Cr	1510
↓	125 ml poly	1	EDA	Chlorate	↓
↓	500 ml poly	1	NONE	Br, Cl, Perc, TDS	↓
↓	40 ml VOA	2	NONE	Diss Hex Cr	↓

Comments SI: 35-55 Pump set at 45'

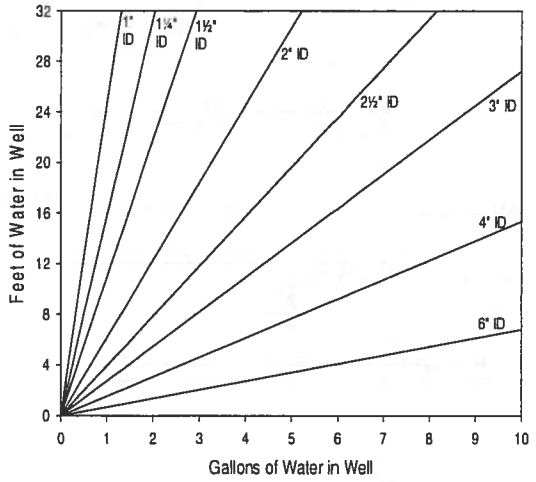
Signature Zoe Diermier Date 4-22-16

-over-

DBMW-22

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1448	0.880	30.07	7.72	5242	0.76	118.1	0.76	35	29.61	CLEAR/NONE
1450	0.950	30.13	7.72	5252	0.76	117.6	0.82	35	29.67	↓
1452	1.02	30.13	7.72	5258	0.73	117.1	0.74	35	29.69	↓
1454	1.09	30.08	7.72	5260	0.70	116.7	0.63	35	29.71	↓
1456	1.16	29.92	7.72	5251	0.69	116.4	0.77	35	29.72	↓
1458	1.23	29.92	7.72	5254	0.67	116.2	0.74	35	29.76	↓

AECOM

Well ID: DBMW-4

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-19-16 Time: Start 1020 am/pm
Project No: 60477365-2015-140B Finish 1145 am/pm
Site Location: Henderson, NV
Weather Conds: ~80°F Collector(s): Zoe Diermier, ERIC WANG

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 43.70' c. Length of Water Column 17.59' (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 26.11' d. Calculated System Volume (see back) 11.43 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	Oakton	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1042	0.5	25.80	7.31	7430	5.06	166.0	3.96	210	26.23	clear/none
1044	1.0	25.68	7.30	7411	4.99	164.6	1.31	210	26.24	
1046	1.5	25.55	7.30	7382	5.02	161.6	0.55	210	26.23	
1048	2.0	25.45	7.30	7371	4.82	159.1	0.33	210	26.23	
1050	2.5	25.40	7.30	7363	4.81	157.1	0.74	210	26.23	
1052	3.0	25.38	7.30	7356	4.72	156.2	1.05	210	26.22	
1054	3.5	25.37	7.30	7353	4.74	155.3	0.25	210	26.22	
1056	4.0	25.33	7.30	7355	4.53	154.1	0.37	210	26.23	↓

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
DBMW-4-20160419	250ml poly	1	HNO_3	Diss Cr	1100
	125ml poly	1	EDA	~~Br, Cl, Perc, TDS~~ Chlorate	1100
	500ml poly	1	NONE	Br, Cl, Perc, TDS	1100
	40ml voa	2	NONE	Diss Hex Cr	1100
DBMW-4-20160419-EB - SAME ANALYSIS AS ABOVE					1130

Comments PUMP SET @ 29' ST: 10-30

Signature Zoe Diermier Date 4-19-16

AECOM

Well ID: DBMW-5

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-19-16 Time: Start 0830 am/pm
Project No: 60477365-2015-140B Finish 1000 am/pm
Site Location: Henderson, NV
Weather Conds: ~ 75°F Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 37.95' c. Length of Water Column 9.74' (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 28.21' d. Calculated System Volume (see back) 6.33 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	Oakton	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0904	1	—	—	—	—	—	—	225	—	clear / none
0906	1.5	23.85	7.28	6901	5.19	190.5	55.1	225	28.35	
0908	2.0	23.84	7.29	6916	5.45	187.6	46.3	225	28.35	
0910	2.5	23.92	7.30	6947	5.40	185.0	44.5	225	28.35	
0912	3.0	23.95	7.31	6977	5.20	182.1	41.4	225	28.35	
0914	3.5	23.91	7.31	6986	5.23	181.0	38.7	225	28.35	
0916	4.0	23.97	7.31	6994	5.26	179.0	35.6	225	28.34	
0918	4.5	23.96	7.32	6996	5.21	177.6	34.3	225	28.33	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
DBMW-5-20160419	250ml Poly	1	HNO_3	Diss. Cr	0930
	125ml Poly	1	EDA	Chlorate	0930
	500ml Poly	1	NONE	Br, Cl, Perc., TDS	0930
	40ml Voa	2	NONE	Diss. Hex Cr	0930

Comments Pump was set at 32.0 ft. SI: 15-35

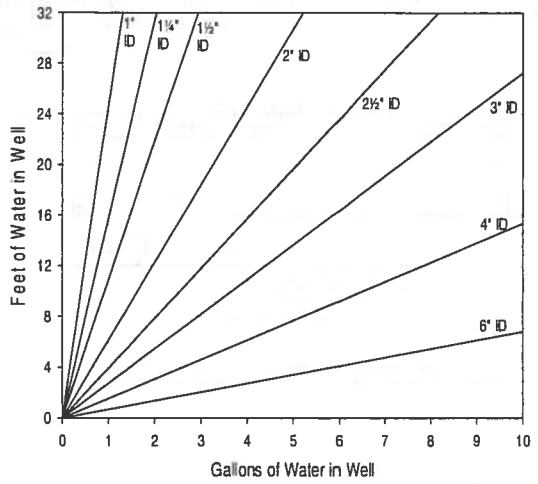
Signature Zoe Diermier Date 4-19-16

- over -

DBMW-5

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0920	5.0	23.99	7.32	7008	5.23	176.0	30.8	225	28.34	clear / none
0922	5.5	24.01	7.32	7016	5.22	174.9	31.2	225	28.34	↓
0924	6.0	24.04	7.32	7021	5.21	173.7	30.6	225	28.31	

AECOM

Well ID: DBMW-7

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-18-16 Time: Start 1330 am/pm
Project No: 60477365-2015-140B Finish 1530 am/pm
Site Location: Henderson, NV
Weather Conds: ~85°F Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 73.30' c. Length of Water Column 14.85' (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 58.45' d. Calculated System Volume (see back) 9.65 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1430	0	—	—	—	—	—	—	—	58.42	CLEAR/NONE
1435	0.875	28.03	7.37	7546	6.33	199.6	0.29	175	58.50	↓
1437	1.225	27.15	7.34	7811	6.25	195.4	0.35	175	58.52	↓
1439	1.575	26.43	7.33	8004	6.10	193.7	0.43	175	58.54	↓
1441	1.925	25.73	7.32	8126	6.17	190.7	0.67	175	58.55	↓
1443	2.275	25.24	7.34	8157	6.00	188.7	0.12	175	58.55	↓
1445	2.625	25.31	7.34	8168	6.12	185.2	0.11	175	58.55	↓

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump/Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
DBMW-7-20160418	250 ml poly	1	HNO_3	Diss Cr.	1450
	125 ml poly	1	EDA	Chlorate	"
	500 ml poly	1	NONE	Br, Cl, TDS, Perchlorate	"
	VOAS	2	NONE	Diss. Hex Cr	"
DBMW-7-20160418-FD:	SAME AS ABOVE				"

Comments Pump set @ 65'. SI: 50-70'

Signature Zoe Diermier Date 4-18-16

AECOM

Well ID: DBMW-08

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/18/16 Time: Start 1105 am/pm
Project No: 60477365-2015-140B Finish 1230 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): S. Shackley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 69.20 c. Length of Water Column 11.47 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 57.73 d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: low-flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1145	0							200		clear/none
1153	1	26.1	7.17	8417	6.47	53.2	1.39	200	57.91	same
1157	1.5	26.9	7.18	8517	6.11	51.0	2.57	75	57.88	same
1203	2.0	26.9	7.18	8576	6.38	48.3	1.37	125	57.88	same
1208	2.25	27.0	7.19	8595	6.20	46.8	1.36	125	57.88	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method:

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
DBMW-08 20160418	125mL	1	EDA	chlorate	1215
	250mL	1	HNO3	chromium	1215
	500mL	1	ICE	chloride, bromid, perchlorate, TDS	1215
	40mL	2	ICE	dissolved Hex chromium	1215

Comments pump set @ 65'

Signature Date 4/18/16

AECOM

Well ID: HM-2

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/28/16
Time: Start 0715 am/pm
Finish 0950 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: cool, cloudy, rainy
Collector(s): J. Shalby / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 36.00
c. Length of Water Column 8.46 (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 27.54
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	~~Oakton~~	~~T-100~~	

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0758	0							200	27.72	—
0808	2	14.2	7.82	6.92	1.56	162	134	100	27.73	clear/no odor
0818	3	14.2	7.86	7.11	1.26	155	155	100	27.73	same
0823	3.5	14.5	7.87	7.15	1.13	154	166	100	27.71	same
0828	4	14.7	7.87	7.14	1.10	152	135	100	27.71	same
0833	4.5	14.6	7.89	7.14	1.03	150	125	100	27.70	same
0838	5	14.6	7.90	7.16	0.99	149	86.7	100	27.72	same
0843	6	14.8	7.90	7.17	0.99	149	84.2	100	27.71	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
HM-2-20160428	125 mL HDPE Amber	1	EDA	chlorate	0930
	250 mL HDPE	1	HNO3	Dis Cr.	↓
	40 mL Glass VOA	2	ICE	Dis Hex Cr	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	

Comments No screen interval listed. Assuming 10' screen from 26'-36'. Set pump @ 31'

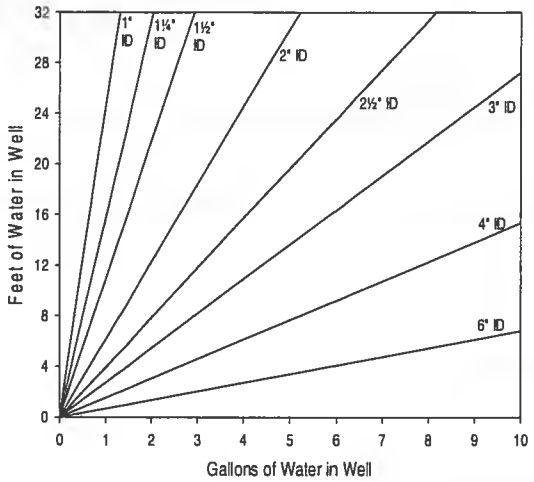
Signature
Date 4/28/16

- over -

HM-2

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0848	6.25	14.9	7.89	7.17	1.08	145	53.0	100	27.72	clear/no odor
0853	7	15.2	7.89	7.15	0.98	146	46.7	100	27.71	Same
0858	7.5	15.7	7.89	7.14	0.96	146	40.2	100	27.70	Same
0903	8	16.1	7.88	7.15	0.95	147	39.6	100	27.71	Same
0908	8.5	16.3	7.89	7.15	0.88	148	32.8	100	27.71	Same
0913	9	16.3	7.90	7.10	0.88	148	28.0	100	27.71	Same
0918	9.5	16.6	7.88	7.16	0.95	139	24.2	100	27.71	Same
0923	10	16.6	7.90	7.09	0.85	145	24.6	100	27.72	Same
0928	10.5	16.6	7.91	7.06	0.83	147	22.3	100	27.72	

AECOM

Well ID: LNDMW1

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4-22-16
Time: Start 1230 am/pm
Finish 1350 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: ~85°F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 61.56
b. Water Table Depth ~~36.99~~ 36.55
c. Length of Water Column 27.57 (a-b)
d. Calculated System Volume (see back) 4.4 gal
Casing Diameter/Material 2" PVC

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1300	0.5	29.32	7.10	6295	2.23	155.1	1.73	75	36.59	Clear/None
1302	0.75	29.25	7.10	6281	2.01	152.9	1.49	75	36.65	
1304	1.0	29.24	7.11	6282	1.92	151.4	2.24	75	36.65	
1306	1.25	28.94	7.10	6260	1.98	149.7	2.72	75	36.68	
1308	1.5	28.86	7.11	6256	1.97	149.2	4.41	75	36.68	
1310	1.75	28.75	7.11	6250	2.00	148.5	4.84	75	36.68	
1312	2.0	28.82	7.11	6255	2.04	148.2	4.88	75	36.68	
1314	2.25	28.72	7.12	6254	2.11	147.8	5.04	75	36.68	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
~~[illegible]~~	250ml poly	1	HNO_3	Diss. Cr	1320
LNDMW1-20160422	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments Assume well screened from 51.56 to 61.56. Pump set at 56.5'

Signature [signature] Date 4-22-16

AECOM

Well ID: LNDMW-2

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry

Date: 4/27/16
Time: Start 1040 am/pm
Finish 1200 am/pm
Collector(s): S. Shockley / D. Decker ~~Zoe Diermier~~

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 55.05
b. Water Table Depth 34.40
c. Length of Water Column 20.65 (a-b)
d. Calculated System Volume (see back)

Casing Diameter/Material 2" PVC

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1059	0							210	34.39	light tan / none
1109	2	19.3	6.96	4.24	1.05	184	14.23	210	34.40	same
1113	3	18.9	6.94	4.24	1.01	182	8.64	210	34.41	same
1118	4	18.8	6.92	4.24	0.96	183	4.40	210	34.41	same
1122	5	18.8	6.91	4.24	1.18	176	2.19	210	34.41	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
LNDMW2-20160427	125mL HDPE Amber	1	EDA	chlorate	1130
	250mL HDPE	1	HNO3	Dis Cr	
	40mL VOA Glass	2	ICE	Dis Hex Cr	
	500mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	
LNDMW2-20160427-FB	same as above				

Comments No screen interval listed. Assuming 10' screen from 45'-55'. Set pump @ 50'

Signature

Date 4/27/16

AECOM

Well ID: MCF-05

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-25-16 Time: Start 1100 am/pm
Project No: 60477365-2015-140B Finish 1540 am/pm
Site Location: Henderson, NV
Weather Conds: showers, 25 mph wind Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 233.05 c. Length of Water Column 189.20 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 43.85 d. Calculated System Volume (see back) 122.98

2. WELL PURGE DATA

a. Purge Method: stainless steel bailer

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l	Drawdown < 4 inches
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs	
- Sp. Cond.	±3%	ORP	± 10 milivolts	

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed ~~(Liters)~~ gal	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
MPLE 1345	6gal	24.28	9.34	73970	1.95	123.5	423	—	54.17	CLOUDY/NONE

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: stainless steel bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-05-20160425	250 ml poly	1	HNO_3	Diss Cr	1345
	125 ml poly	1	EDA	Chlorate	
	500 ml poly	1	NONE	Br, Cl, Perc, TDS	
	40 ml VOA	2	NONE	Diss Hex Cr	

*ms/msD collected

Comments SI: 221-231 Sample collected at 226' prior to surging + bailing

Signature Zoe Diermier Date 4-25-16

AECOM

Well ID: MCF-05

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-26-16 Time: Start 1245 am/pm
Project No: 60477365-2015-140B Finish 1320 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 233.05 c. Length of Water Column _____ (a-b)
4/25/16 @ 1115
b. Water Table Depth 43.85 d. Calculated System Volume (see back) _____

Casing Diameter/Material 4" PVC

2. WELL PURGE DATA

a. Purge Method: _____

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0630									85.71	
1305	—	25.39	8.68	126226	0.96	59.1	166	—	76.10	CLOUDY / NONE

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: _____

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-05-20160426	250 mly poly	1	HNO_3	Diss Cr	1305
	125 ml poly	1	EDA	Chlorate	
	500 ml poly	1	NONE	Br, Cl, Perc, TDS	
	40 voa	2	NONE	Diss Hex Cr	

Comments SI: 221-231. Sample collected at 226'

Signature Zoe Diermier Date 4-26-16

AECOM

Well ID: MCF-06A-R

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-21-16
Time: Start 0830 am/pm
Finish 0945 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: Sunny ~ 79°F
Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 373'
c. Length of Water Column 269.83' (a-b)
Casing Diameter/Material 4" PVC
b. Water Table Depth 103.17'
d. Calculated System Volume (see back) 176.15 gal

2. WELL PURGE DATA Dedicated

a. Purge Method: QED MICRO PURGE BLADDER PUMP.

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☐	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method:

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
	250ml poly	1	HNO_3	Diss. Cr	
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments ~~Pump set at~~ SI ~333'-373', Dedicated pump w/ QED well cap. Pumped at 90 psi 0845-0855. 120 psi 0855-0905. 150 psi 0900-0905 170 psi 0905-0910. ~~[illegible]~~ Unable to pump well w/ dedicated equipment.

Signature [signature]
Date 4-21-16

AECOM

Well ID: MCF-06A-R

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-28-16 Time: Start 0640 am/pm
Project No: 60477365-2015-140B Finish 0830 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 376.65' c. Length of Water Column 268.8 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 107.85 d. Calculated System Volume (see back) 175.47

2. WELL PURGE DATA

a. Purge Method: PANACEA P200 BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0717								200	105.20	clear/none
0738	2.5	22.01	6.57	155159	4.84	-9.8	4.13	160	105.86	
0740	3.0	22.18	6.62	156805	1.19	-21.2	2.94	160	106.32	
~~0742~~	~~3.5~~									

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below.
Unable to control drawdown.

3. SAMPLE COLLECTION: Method: PANACEA P200 & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-06A-R-20160428	500mL	1	cool	Chloride, Bromide, Perchlorate + TDS	0750
	250mL	1	HNO3	Dissolved Chromium	
	125mL	1	EDA	Chlorate	
	40mL VOA	2	cool	Dissolved Hex Chrome	

Comments SI: 333-373. Pump set at 353'

Signature Eric R Wang Date 4-28-16

AECOM

Well ID: MCF-06B

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-21-16 Time: Start 0700 am/pm
Project No: 60477365-2015-140B Finish 0835 am/pm
Site Location: Henderson, NV
Weather Conds: ~75°F Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 85.15' c. Length of Water Column 27.27' (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 57.88' d. Calculated System Volume (see back) 17.73 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP - Dedicated

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0735								200	58.42	
0737								150	59.20	
0747								80	59.25	
0750								50	59.30	
0753	4	22.64	8.22	37891	1.72	261.2	1.00	50	59.32	CLEAR/NONE
0755	4.10	22.79	8.22	37926	1.81	252.1	1.00	50	59.44	
0757	4.20	22.95	8.21	38072	1.81	247.0	0.40	50	59.48	
0759	4.30	23.03	8.21	38117	1.89	243.0	0.27	50	59.51	

d. Acceptance criteria pass/fail Yes ☐ No ☒ N/A ☐ (continued on back)

Have parameters stabilized

If no or N/A - Explain below.
Unable to control drawdown

3. SAMPLE COLLECTION: Method: Dedicated Bladder pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-06B-20160421	250ml poly	1	HNO_3	Diss. Cr	0825
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Pere., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments Dedicated pump w/ QED cap. SI = 67-82. 1 gal pumped to clear stagnant water tubing + pump. Unable to control drawdown

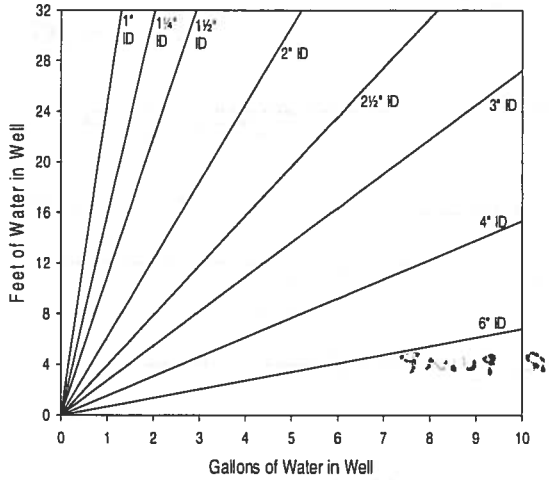
Signature [signature] Date 4-21-16

- over -

MCF-06B

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0801	4.40	23.12	8.21	38184	1.90	238.8	0.64	50	59.55	Clear / None
0803	4.50	23.20	8.20	38236	1.91	235.6	1.27	50	59.58	↓
0805	4.60	23.31	8.20	38305	1.87	231.9	1.28	50	59.62	↓
0807	4.70	23.36	8.20	38373	1.87	229.0	0.41	50	59.67	↓

AECOM

Well ID: MCF06C

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/18/16 Time: Start 1335 am/pm
Project No: 60477365-2015-140B Finish 1540 am/pm
Site Location: Henderson, NV
Weather Conds: ~85°F Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 62.30 c. Length of Water Column 5.69 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 56.61 d. Calculated System Volume (see back) 3.71

2. WELL PURGE DATA

a. Purge Method: disposable bailer

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1350	2	24.5	7.06	9006	5.85	19.0	21.5		59.01	light brown
1355	6.5	24.5	7.03	9054	5.71	~~44~~ 423	79.5		59.78	same
1400	9.5	24.5	7.06	9176	5.59	37.4	85.5		60.03	same
1404	11.5	24.4	7.09	9236	5.70	44.0	12.1		60.48	same
1410	13	24.3	7.10	9267	4.80	36.5	50.2		61.25	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below. Turbidity reading not within range

3. SAMPLE COLLECTION: Method: bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-06C	125 mL HDPE Amber	1	EDA	chlorate	0810
	250 mL HDPE	1	HNO3	Dis Chromium	
	~~250~~ 40mL Glass	2	ICE	Dis Hex Chromium	
	500 ml HDPE	1	ICE	chloride bromide perchlorate, TDS	

Comments 145L - changed buckets. Well dry @ 17.5 liters. As of 15:29 well has only recharged to 58.94. H2O @ sample collection 57.63 (4/19 0805)

Signature Date 4/18/16

AECOM

Well ID: MCF-08A

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-27-16 Time: Start 0750 am/pm
Project No: 60477365-2015-140B Finish 0920 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 373.1 c. Length of Water Column 371.54 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 1.56 a.g.s. d. Calculated System Volume (see back) 241.50

2. WELL PURGE DATA

a. Purge Method: QED ~~MICRO PURGE~~ BLADDER PUMP – Dedicated

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0812								300	1.90	CLEAR/NONE
0814								175	2.19	↓
0816								200	2.20	↓
0819	2							200	2.58	CLEAR/NONE
0834	5							200	3.87	CLEAR/NONE
0854	9							200	6.82	CLEAR/NONE
0857	10	23.51	7.21	139588	0.31	16.7	23.8	100	6.15	CLEAR/NONE
0859	10.2	23.53	7.22	135540	0.32	17.5	23.6	100	6.25	CLEAR/NONE

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below.
Unable to control draw down

3. SAMPLE COLLECTION: Method: ~~QED~~ Dedicated pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-08A-20160427	250ml poly	1	HNO_3	Diss. Cr	0910
↓	125ml poly	1	EDA	Chlorate	↓
	500ml poly	1	NONE	Br, Cl, Pere., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 350-370. Assume pump at 360', pump @ 40 psi
Clear 2.5 gal ~~st~~ stagnant water from tubing & pump before collecting parameters

Signature Zoe Diermier Date 4/27/16

1.66

AECOM

Well ID: MCF-08B-R

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-27-16 Time: Start 0920 am/pm
Project No: 60477365-2015-140B Finish 1630 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 139.94' c. Length of Water Column 138.75' (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 1.19' a.g.s d. Calculated System Volume (see back) 90.19 gal

2. WELL PURGE DATA

a. Purge Method: Dedicated QED pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0928								250	1.60	CLEAR/NONE
0931								250	1.78	
0934								250	2.27	
0942								200	3.40	
0946	5	24.21	7.65	41061	2.54	-106.5	2.01	200	3.82	
0950	5.8	24.74	7.63	39224	0.47	-117.2	1.64	200	4.09	
0952	6	24.72	7.63	39221	0.48	-118.3	2.57	200	4.27	
0954	6.5	24.74	7.62	39191	0.44	-117.6	1.81	200	4.40	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☐ Yes ☒ No ☐ N/A

If no or N/A - Explain below.
Unable to control draw down

3. SAMPLE COLLECTION: Method: Dedicated QED pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-08B-R-20160427	250 ml poly	1	HNO_3	Diss Cr	0955
	125 ml poly	1	EDA	Chlorate	
	500 ml poly	1	NONE	Br, Cl, Perc, TDS	
	40 ml VOA	2	NONE	Diss Hex Cr	
MCF-08B-R-20160427-FD	SAME AS ABOVE				0955

Comments SI: 96.5-136.5. Assume pump set at 116.5. Unable to pump any slower. Water still trickles out of water discharge line in between cycles. ~~Running~~ Clear 1 gal stagnant water from tubing before collecting parameters

Signature Zoe Diermier Date 4-27-16

AECOM

Well ID: MCF-18A

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-26-16 Time: Start 0650 am/pm
Project No: 60477365-2015-140B Finish 1150 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 403.85' c. Length of Water Column 380.85' (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 23.00' d. Calculated System Volume (see back) 247.55 gal

2. WELL PURGE DATA

a. Purge Method:

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0800	6 gal	22.42	6.53	203288	1.27	42.8	23.2	—	38.17	CLEAR/STRONG BIO ODOR

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method:

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
CF-18A-20160426-0800	250ml poly	1	HNO_3	Diss Cr	0800
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 360-400. Assume pump set at 380'

Signature Zoe Diermier Date 4-26-16

AECOM

Well ID: MCF-18A

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-27-16
Time: Start 0630 am/pm
Finish 0745 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds:
Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 403.85' c. Length of Water Column 10.45' (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 393.40' @ 0640 d. Calculated System Volume (see back) 6.79 gal

2. WELL PURGE DATA

a. Purge Method: ~~QED MICRO PURGE BLADDER PUMP~~ stainless steel bailer

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0700										
0800	—	26.37	7.04	244157	0.56	168.7	61.2	—	393.40	CLEAR/NONE

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☐	☐	☒

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: ~~QED MICRO PURGE BLADDER PUMP~~ stainless steel bailer & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-18A-20160427	250ml poly	1	HNO_3	Diss. Cr	0700
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Pere., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 360-400. Sample collected at 397'

Signature Zoe Diermier
Date 4-27-16

AECOM

Well ID: MLF-20A

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-25-16 Time: Start 0650 am/pm
Project No: 60477365-2015-140B Finish 1050 am/pm
Site Location: Henderson, NV
Weather Conds: rain, 25mph wind Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 384.50 c. Length of Water Column 311.44 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 73.06 d. Calculated System Volume (see back) 202.44

2. WELL PURGE DATA

a. Purge Method: stainless steel bailer

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed ~~(Liters)~~	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
MPLE 1025	6 gal	24.8	6.86	160300	0.63	14.1	26.0	—	87.36	CLEAR/NONE

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: stainless steel bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MLF-20A-20160425					1025

Comments SI: 340-380. Assume pump set at 360'

Signature Zoe Diermier Date 4-25-16

AECOM

Well ID: MCF-20A

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-27-16 Time: Start 1050 am/pm
Project No: 60477365-2015-140B Finish 1530 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 384.50' c. Length of Water Column 283.33' (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 101.17' d. Calculated System Volume (see back) 184.16 gal

2. WELL PURGE DATA

a. Purge Method: PANACEA P200 BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	11J102430
OAKTON	T-100	064117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1318	0							0	98.35	
1447	1	25.00	6.83	162616	1.99	-56.4	95.2	100	98.47	CLEAR/NONE
1450	1.3	25.05	6.84	162076	1.90	-53.2	90.7	100	98.91	↓
1453	1.6	25.11	6.77	161949	1.23	-51.7	89.9	100	99.19	↓

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below. Unable to control drawdown

3. SAMPLE COLLECTION: Method: PANACEA P200 & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-20A-20160427	250ml poly	1	HNO_3	Diss Cr	1500
	125 ml poly	1	EDA	Chlorate	↓
	500ml poly	1	NONE	Br Cl Perc TDS	↓
	40ml vial	2	NONE	Diss Hex Cr	↓

Comments SI: 340-380, Pump SET at 360' Difficulty setting pump and purging. Well took 2 nitrogen cylinders.

Signature [signature] Date 4-27-16

AECOM

Well ID: MCF-31A

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-28-16
Time: Start 1015 am/pm
Finish 1050 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds:
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 385.22' c. Length of Water Column 383.68 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 1.54 d. Calculated System Volume (see back) 240.10

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP - Dedicated

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1018								0		Clear/None
1021								75	2.0	
1024	1.00							75	2.0	
1026	1.25	21.00	6.94	175498	1.22	-40.0	21.4	75	2.28	~~31.28~~
1028	1.5	21.00	6.92	175632	1.14	-52.6	31.2	75	2.54	
1030	1.75	20.95	6.91	175827	0.63	-59.3	32.9	75	2.60	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☐	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Dedicated QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-31A-20160428	250ml poly	1	HNO_3	Diss. Cr	1045
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 361-381 Pump set approx. 371'

Signature [signature] Date 4-28-16

AECOM

Well ID: MCF-31B

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-28-16
Time: Start 0930 am/pm
Finish 1010 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds:
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 234.75 c. Length of Water Column _____ (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 20.27 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP - Dedicated

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	11J102430
OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0940	0								20.27	Clear/None
0946	1.0							500	20.82	
0949	1.5							zero	20.85	
0950	2.0							180	21.31	
0952	2.5	23.05	7.11	1527 40	0.44	-63.6	5.28	180	21.82	
0954	3.0	22.96	7.10	151889	0.44	-64.6	3.30	180	22.46	

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Dedicated QED Bladder Pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MCF-31B-20160428	250ml poly	1	HNO_3	Diss. Cr	1000
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 210-230' Assume pump set at 220'

Signature [signature] Date 4-28-16

AECOM

Well ID: MW-02

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/28/16
Time: Start 1230 am/pm
Finish 1330 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: Cool, cloudy, light rain
Collector(s): J. Shockley / D. Decker ~~Zoe Diermier~~

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 44.83
c. Length of Water Column 4.92 (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 39.91
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
Horiba	U-5000	P1MTDYFE

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1245	—							175	39.91	—
1250	1	18.6	7.73	4.46	3.28	164	4.7	175	39.91	clear no odor
1255	2	18.4	7.69	4.49	3.20	171	0.0	175	39.92	same
1300	3	18.4	7.68	4.53	3.09	175	0.0	175	39.93	same
1305	4	18.3	7.66	4.53	2.98	179	0.0	175	39.92	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-02-20160428	125mL HDPE Amber	1	EDA	chlorate	1310
↓	250 mL HDPE	1	HNO3	Dis Cr.	↓
	40 mL Glass VOA	2	ICE	Dis Hex Cr.	
	500mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments

Signature

Date 4/28/16

AECOM

Well ID: MW-04

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4-20-16
Time: Start 1245 am/pm
Finish 1425 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: ~85°F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 40.95'
c. Length of Water Column 17.86' (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 23.09'
d. Calculated System Volume (see back) 2.86 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1308	0.5	25.80	7.66	20554	4.27	150.7	17.70	200	24.60	clear/None
1310	0.9	26.71	7.62	20834	3.61	144.42	13.56	200	24.85	
1324								0	24.25	
1328	1.0	27.16	7.58	21481	2.87	141.2	9.76	75	24.40	
1329								0	23.25	
1334	2.0	28.12	7.56	21717	2.90	140.6	5.73	50	23.48	
1336	2.25	27.52	7.53	21428	2.81	140.8	3.92	50	23.64	
1338	2.50	27.63	7.51	21438	2.44	140.9	2.27	50	23.68	

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☒ ☐

If no or N/A - Explain below.
Unable to control drawdown

3. SAMPLE COLLECTION: Method: QED Bladder Pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-04-20160420	250 ml poly	3	HNO_3	Diss Cr.	1400
	125 ml poly	3	EDA	Chlorate	
	500 ml poly	3	NONE	Br, Cl, Perc, TDS	
	40 ml voa	6	NONE	Diss Hex Cr	
* MS/MSD					

Comments SI: 29-39 Pump set at 34'. Difficulty w/ drawdown. Unable to pump slower than 50 ml/min. Well slow to recover when pump was stopped.

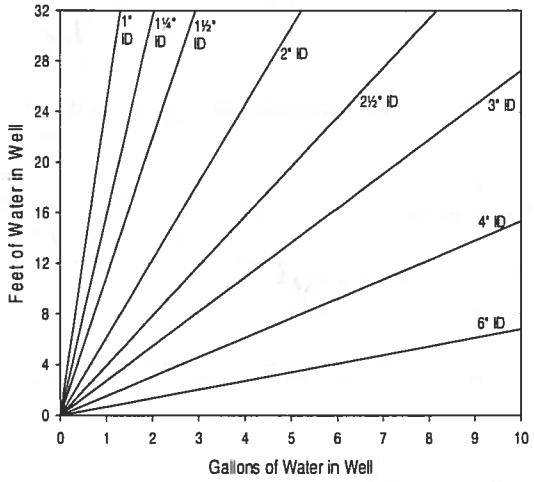
Signature Zoe Diermier
Date 4-20-16

- over -

MW-04

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1340	2.75	27.65	7.50	21450	2.27	140.6	1.80	50	23.71	Clear / None
1342	3.0	27.69	7.50	21475	2.25	140.4	1.96	50	23.73	↓
1344	3.2	27.63	7.50	21457	2.22	140.2	1.63	50	23.74	↓

AECOM

Well ID: MW-05

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4-20-16
Time: Start 0915 am/pm
Finish 1039 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: ~ 75 °F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 66.45'
c. Length of Water Column 21.80' (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 44.65'
d. Calculated System Volume (see back) 3.49 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0946	0.5								44.82	clear/None
0948	1.0	25.22	7.36	5252	4.65	169.8	49.3	200	44.94	clear/None
0950	1.5	24.98	7.35	5230	4.66	171.0	50.5	200	44.91	
0955	2.0							170	44.95	
0958	2.5							140	44.90	
1000	3.0	25.10	7.34	5241	4.61	172.0	19.23	140	44.90	
1002	3.5	25.10	7.34	5247	4.67	171.8	14.07	140	44.90	
1004	4.0	25.12	7.33	5250	4.66	171.8	13.48	140	44.90	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-05-20160420	250ml poly	1	HNO_3	Diss Cr.	1015
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc, TDS	
	40ml vial	2	NONE	Diss Hex Cr.	

Comments SI 44-64. pump set at 54.5'. Small pieces of brown algae/moss observed in purge water. lots of algae/moss on pump when removed from well.

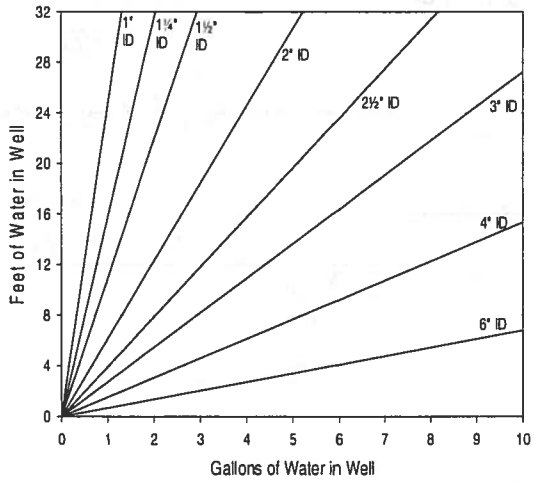
Signature Zoe Diermier
Date 4-20-16

- over -

MW-05

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1006	4.5	25.09	7.33	5252	4.52	171.7	12.74	140	44.90	clear / None
1008	5.0	25.14	7.32	5259	4.56	171.4	11.94	140	44.90	↓
1010	5.5	25.16	7.32	5265	4.48	171.2	9.83	140	44.90	↓
1012	6.0	25.11	7.32	5266	4.28	170.8	8.54	140	44.88	↓
1014	6.5	25.13	7.32	5267	4.28	170.6	8.58	140	44.88	↓

AECOM

Well ID: MW - 06

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/28/16
Time: Start 1335 am/pm
Finish 1500 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: cool, cloudy, light rain
Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 49.72
c. Length of Water Column 17.89 (a-b)
Casing Diameter/Material 4" PVC
b. Water Table Depth 31.83
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Horiba Model U-5000 Serial Number P1MTD1FE

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1350	0							150	31.93	—
1356	1	17.8	8.29	2.05	1.96	-11	9.2	20	32.10	clear / sulfur
1401	1.25	17.6	8.29	2.05	2.10	-8	5.2	20	32.16	same
1411	1.5	17.3	8.29	2.04	2.08	3	3.6	20	32.17	clear / none
1416		17.0	8.30	2.01	3.04	6	4.5	20	32.20	same
1420		16.8	8.31	2.03	2.80	6	3.5	20	32.20	same
1425		16.8	8.30	2.02	2.41	9	4.1	20	32.20	same
1430		16.4	8.31	2.03	2.22	10	4.8	20	32.24	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-06-20160428	125 mL HDPE Amber	1	EDA	Chlorate	1445
↓	250 mL HDPE	1	HNO3	D.S Cr	↓
	40 mL Glass VOA	2	ICE	Dis Hex Cr	
	500 mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments No screen interval listed. Assuming 10' screen from 42'-52' (TD listed @ 52') Set pump @ 47'. Paused flow 1401-1406 due to excess drawdown.

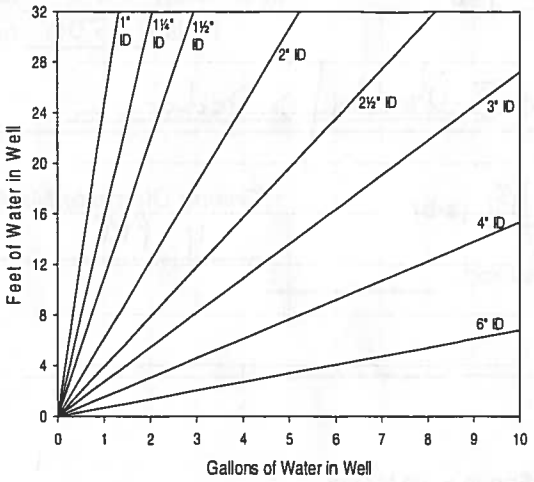
Signature Date 4/28/16

- over -

MW-06

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1435		16.4	8.30	2.03	2.09	19	3.6	20	32.24	clear no odor
1440		16.4	8.30	2.03	2.04	20	2.5	20	32.25	same

AECOM

Well ID: MW-1

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/26/16
Time: Start 0740 am/pm
Finish 1040 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: cool, partly cloudy, dry
Collector(s): J. Shark ~~Zoe Diermier~~ D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 42.75
c. Length of Water Column 36.94 (a-b)
Casing Diameter/Material 4" PVC
b. Water Table Depth 5.81
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0809	0	—	—	—	—	—	—	180	5.82	—
0818	2	14.9	7.69	8.70	5.62	195	129	180	5.96	lt tan, no odor
0834	3	16.7	7.62	8.44	4.30	195	182	30	5.99	Same
0841	4	16.7	7.60	8.35	4.07	195	224	100	6.02	Same
0850	5	16.9	7.62	8.31	3.87	195	262	100	6.02	Same
0906	6	17.1	7.60	8.27	3.70	196	372	100	6.02	Same
0910	7	17.4	7.61	8.28	3.67	196	166	125	6.03	Same
0925	8	18.0	7.59	8.21	3.52	196	151	70	6.02	Same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-1-20160426	125 mL HDPE Amber	1	EDA	chlorate	1030
	250 mL HDPE	1	HNO3	Dis Cr	
	40 mL Glass VOA	2	ICE	Dis Hex Cr	
	500 mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments No screen interval listed. Assuming 10' screen from 33'-43', place pump @ 38' below TOC. Drawdown approaching 3 inches, lowered flow rate to 30 mL/min after 2 liters; 100 mL/min after 5 L.

Signature

Date 4/26/16

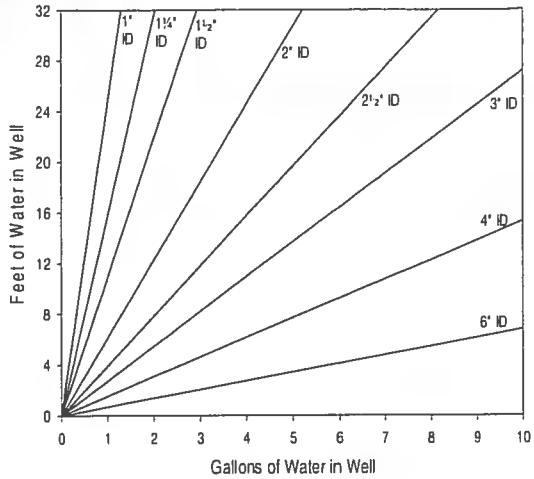
-over-

Existing tubing removed and bagged prior to purging placed back in " after sampling

MW-1

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0938	9	18.0	7.63	8.23	3.49	195	331	70	6.08	light tan / none
0943	10	18.1	7.63	8.22	3.46	196	~~284~~	160	6.06	same
0950	11	18.2	7.62	8.22	3.43	196	298 DP	100	6.06	same
							281		6	
0957	12	18.2	7.63	8.18	3.40	196	216	125	6.05	same
1006	13	18.2	7.61	8.25	3.38	197	188	125	6.05	same
1015	14	18.2	7.63	8.25	3.36	197	180	125	6.05	same
1024	15	18.2	7.63	8.23	3.33	197	162	125	6.05	same

AECOM

Well ID: MW-2

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/26/16 Time: Start 1100 am/pm
Project No: 60477365-2015-140B Finish 1215 am/pm
Site Location: Henderson, NV
Weather Conds: Sunny, cool, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 44.90 c. Length of Water Column 19.86 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 25.04 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	160124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1119	0							50	25.13	—
1128	1	17.9	7.56	7.09	3.61	190	3.02	50	25.16	clear no odor
1133	1.5	18.1	7.57	7.10	3.48	188	1.58	50	25.19	same
1138	2.0	18.0	7.56	7.13	3.42	186	2.12	50	25.21	same
1143	2.25	18.0	7.56	7.14	3.34	184	1.71	50	25.23	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-2-20160426	125mL HDPE Amber	1	EDA	chlorate	1150
↓	250mL HDPE	1	HNO3	Dis Cr.	↓
	40mL Glass VOA	2	ICE	Dis Hex Cr.	
	500mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	

Comments No screen interval listed. Assuming screen @ 35'-45'. Set pump @ 40'. Existing tubing removed and bagged prior to purging, placed back in well after sampling

Signature _____ Date 4/26/16

AECOM

Well ID: MW-3

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/26/16 Time: Start 1230 am/pm
Project No: 60477365-2015-140B Finish 1320 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 13.00 c. Length of Water Column 9.98 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 3.02 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1244	0							185	3.02	clear/none
1246	2	17.5	7.51	5.73	9.35	204	0.69	185	3.02	Same
1253	3	17.4	7.51	5.74	3.93	191	0.00	185	3.03	Same
1259	4	17.4	7.50	5.75	3.68	188	0.00	185	3.03	Same
1304	5	17.3	7.46	5.76	3.61	183	0.00	185	3.03	Same
1307	6	17.4	7.47	5.75	3.47	180	0.00	185	3.03	

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-3-20160426	125 mL HDPE Amber	1	EDA	chlorate	1310
	250 mL HDPE	1	HNO3	Dis Cr	↓
	40 mL Glass VOA	2	ICE	Dis Hex Cr	
	500 mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments No screen interval listed. Assuming 10' screen from 3'-13' set pump @ 8'. Existing tubing removed and bagged prior to purging. Placed back in well after sample.

Signature _____ Date 4/26/16

AECOM

Well ID: MW-4

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/26/16 Time: Start 1325 am/pm
Project No: 60477365-2015-140B Finish 1430 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14.50 c. Length of Water Column 8.30 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 6.20 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1336	0							190	6.20	
1342	2	18.3	7.36	5.59	5.38	212	0.55	190	6.20	clear/none
1347	3	18.0	7.33	5.65	3.72	204	0.00	190	6.20	same
1351	4	18.1	7.32	5.63	3.56	201	0.00	190	6.20	same
1356	5	18.1	7.31	5.61	3.40	198	0.00	190	6.20	same
1400	6	18.2	7.32	5.63	3.32	198	0.00	190	6.20	same

d. Acceptance criteria pass/fail Yes No N/A

Have parameters stabilized ☒ ☐ ☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-4-20160426	125 mL Amber HDPE	1	EDA	chlorate	1405
↓	250 mL HDPE	1	HNO3	Dis Cr	↓
	40 mL Glass VOA	2	ACE	Dis Hex Cr	
	500 mL HDPE	1	ACE	chloride, bromide, perchlorate, TDS	

Comments No screen interval listed. Assuming 10' screen from 5'-15'. Placed pump @ 10'. Existing tubing removed and bagged prior to purging. Placed back in well after sampling

Signature _____ Date 4/26/16

AECOM

Well ID: MW-10

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-28-16 Time: Start 1200 am/pm
Project No: 60477365-2015-140B Finish 1300 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 56.71 c. Length of Water Column 19.51 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 37.20 d. Calculated System Volume (see back) 12.73

2. WELL PURGE DATA

a. Purge Method: PANACEA P200 BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1218	1.50	22.21	7.66	4625	2.51	34.6	7.18	200	37.21	clear / None
1220	2.00	22.09	7.69	4408	1.94	30.7	3.47	200	37.21	
1222	2.50	22.02	7.68	4323	1.87	29.8	2.38	200	37.21	
1224	3.0	21.98	7.68	4300	2.09	30.3	4.15	200	37.21	
1226	3.5	21.91	7.68	4280	1.93	31.1	2.44	200	37.21	
1228	4.0	21.88	7.68	4275	1.92	32.2	4.21	200	37.21	
1230	4.5	21.86	7.67	4279	1.99	32.9	5.10	200	37.22	
1232	5.0	21.90	7.67	4278	1.95	33.5	2.41	200	37.22	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PANACEA P200 BLADDER PUMP / GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
W-10-20160428	250 ml poly	1	HNO_3	Diss Cr	1235
	125 ml poly	1	EDA	Chlorate	↓
	500 ml poly	1	NONE	Br, Cl, Per, TDS	
	40 ml VOA	2	NONE	Diss Hex Cr	

Comments SI: 45-55. Pump set at 50'

Signature Eric N Wang Date 4-28-16

AECOM

Well ID: MW-11

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area | Date: 4-20-16 | Time: Start 0720 am/pm, Finish 0910 am/pm

Project No: 60477365-2015-140B

Site Location: Henderson, NV

Weather Conds: ~70°F | Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 66.05' c. Length of Water Column 18.09' (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 47.96' d. Calculated System Volume (see back) 11.76 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	Oakton	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0817	2.0	23.90	7.51	3993	~~5.42~~ ~~61.5~~	264.2	2.36	200	47.96	clear/none
0819	2.5	23.98	7.50	4000	4.88 ~~59.1~~	260.1	1.19	200	48.00	
0821	2.75	24.01	7.49	4002	4.83	256.5	1.27	200	48.00	
0823	3.0	24.01	7.49	4004	4.87	255.4	1.26	200	48.00	
0825	3.25	24.06	7.49	4009	4.70	252.6	0.99	200	48.00	
0827	3.50	24.02	7.49	4007	4.71	250.6	0.88	200	48.01	
0829	3.75	24.01	7.48	4006	4.64	249.1	0.87	200	48.01	
0831	4.0	24.09	7.48	4012	4.75	247.0	1.03	200	48.00	

d. Acceptance criteria pass/fail — Yes / No / N/A

Have parameters stabilized — ☒ Yes ☐ No ☐ N/A

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: QED Bladder Pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-11-20160420	250 ml poly	1	HNO_3	Diss. Cr	0835
	125 ml poly	1	EDA	Chlorate	
	500 ml poly	1	NONE	Br, Cl, Perc, TDS	
	40 ml voa	2	NONE	Diss Hex Cr	

Comments: Pump set @ 60'. Bottom of screen at 70'. Top of screen unknown.

Signature: Zoe Diermier | Date: 4-20-16

AECOM

Well ID: MW-12

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area Date: 4-21-16 Time: Start 1255 am/pm
Project No: 60477365-2015-140B Finish 1430 am/pm
Site Location: Henderson, NV
Weather Conds: 96°F Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 61.73 c. Length of Water Column 9.84 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 51.89 d. Calculated System Volume (see back) 6.42 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP.

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1317	1	25.55	7.34	5093	5.81	162.1	5.36	160	51.90	CLEAR/NONE
1319	1.5	25.32	7.33	5068	6.24	162.8	6.58	200	51.90	
1321	2.0	24.97	7.33	5033	6.29	163.9	6.90	200	51.90	
1323	2.5	25.00	7.32	5036	6.08	164.9	6.81	200	51.90	
1325	3.0	25.03	7.32	5038	6.52	165.9	6.57	200	51.90	
1327	3.5	25.22	7.32	5028	5.22	171.7	5.98	200	51.88	
1339	3.9	24.81	7.31	5022	5.35	170.9	4.08	200	51.90	
1341	4.1	24.73	7.32	5016	5.37	169.8	2.65	200	51.90	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-12-20160421	250ml poly	1	HNO_3	Diss. Cr	1350
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 51-61 Pump set at 56'
Air hose disconnected @ 1327, Fixed and resumed @ 1337.

Signature Zoe Diermier Date 4-21-16

AECOM

Well ID: MW-13

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4-21
Time: Start 1150 am/pm
Finish 1250 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds:
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 49.40'
b. Water Table Depth 35.27'
c. Length of Water Column 14.13' (a-b)
d. Calculated System Volume (see back) 9.18 gal

Casing Diameter/Material 4" PVC

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	11J102430
OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1210	0.5	24.91	7.11	6093	2.95	172.8	4.06	200	35.30	Clear/None
1212	1.0	24.55	7.09	6093	3.00	173.5	3.14	200	35.30	
1214	1.5	24.24	7.08	6084	2.87	173.5	2.82	200	35.30	
1216	2.0	24.19	7.08	6082	2.80	173.1	4.02	200	35.30	
1218	2.5	24.12	7.07	6077	2.74	172.2	2.64	200	35.30	
1220	3.0	24.02	7.07	6071	2.88	171.6	1.77	200	35.30	
1222	3.5	23.95	7.07	6067	2.79	171.0	1.11	200	35.30	
1224	4.0	23.96	7.07	6066	2.92	170.1	1.12	200	35.30	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-13-20160421	250ml poly	1	HNO_3	Diss. Cr	1228
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 38-48. Pump set at 43'

Signature Eric R Wang
Date 4-21-16

AECOM

Well ID: MW-18

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4-20-16
Time: Start 1050 am/pm
Finish 1240 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: 82°F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 107.00'
c. Length of Water Column 38.23' (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 68.77'
d. Calculated System Volume (see back) 6.12 gal

2. WELL PURGE DATA

a. Purge Method: low flow

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	11J102430
OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1146	0.75	27.50	7.50	5507	4.00	162.2	3.42	80	68.80	Clear/None
1148	1.00	27.47	7.50	5506	3.63	161.4	3.27	80	68.80	
1150	1.25	27.50	7.49	5510	3.61	160.1	2.62	80	68.80	
1152	1.50	27.54	7.49	5514	3.68	159.5	3.19	80	68.78	
1154	1.75	27.59	7.49	5514	3.50	158.8	2.71	80	68.79	
1156	2.00	27.55	7.48	5512	3.51	158.4	2.85	80	68.77	
1158	2.25	27.68	7.48	5525	3.58	157.9	2.53	80	68.77	
1200	2.50	27.56	7.48	5516	3.36	157.2	2.62	80	68.78	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump & Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-18-20160420	250 ml poly	1	HNO_3	Diss Cr.	1210
	125 ml poly	1	EDA	Chlorate	
	500 ml poly	1	NONE	Br, Cl, Perc, TDS	
	40 ml voa	2	NONE	Diss HexCr	

Comments SI: 90.6 - 105.6. Pump set at 99'. Difficulty pulling pump from 99 to 90 when removing it from well.

Signature Zoe Diermier
Date 4-20-16

AECOM

Well ID: MW-20

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4-22-16
Time: Start 1110 am/pm
Finish 1220 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: ~83°F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 67.25'
c. Length of Water Column 34.64' (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 32.61'
d. Calculated System Volume (see back) 22.52 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1130	0.5	23.37	7.36	7172	2.27	137.4	3.57	40	32.72	clear/None
1132	0.75	26.92	7.35	7104	1.28	135.2	3.63	60	32.74	↓
1134	1.0	26.46	7.34	6999	1.03	133.3	2.90	80	32.75	↓
1136	1.25	26.31	7.34	6980	0.90	132.1	2.38	80	32.75	↓
1138	1.5	26.34	7.34	6986	0.90	131.0	2.25	80	32.77	↓
1140	1.75	26.35	7.33	6988	0.88	130.7	2.10	80	32.77	↓
1142	2.0	26.21	7.33	6975	0.79	130.5	1.58	80	32.77	↓
1144	2.25	26.32	7.33	6984	0.84	129.9	2.00	80	32.77	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☑	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-20-20160422	250ml poly	1	HNO_3	Diss. Cr	1150
↓	125ml poly	1	EDA	Chlorate	↓
	500ml poly	1	NONE	Br, Cl, Pere., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments ST: 50-65 Pump set at 58'

Signature [signature]
Date 4-22-16

AECOM

Well ID: MW-25

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-21-16
Time: Start 1015 am/pm
Finish 1145 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: 78°F
Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 54.15'
c. Length of Water Column 14.5' (a-b)
Casing Diameter/Material 4" PVC
b. Water Table Depth 39.65'
d. Calculated System Volume (see back) 9.43 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1048	0.5	26.99	7.29	5000	6.02	196.4	3.72	160	39.67	clear/None
1051	1.0	26.77	7.27	4837	4.30	191.1	5.49	160	39.66	
1053	1.5	26.63	7.26	4724	4.12	187.5	5.39	160	39.66	
1055	2.0	26.43	7.25	4667	3.62	185.0	4.78	160	39.66	
1057	2.5	26.42	7.24	4634	3.78	182.5	4.44	160	39.66	
1059	3.0	26.41	7.24	4624	3.78	182.1	4.28	160	39.66	
1101	3.5	26.44	7.24	4602	3.57	179.9	4.01	160	39.66	
1103	4.0	26.46	7.24	4590	3.73	179.4	3.52	160	39.66	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-25-20160421	250ml poly	1	HNO_3	Diss. Cr	1110
	125ml poly	1	EDA	Chlorate	
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	

Comments SI: 38-53. Pump set at 47'

Signature [signature] Date 4-21-16

AECOM

Well ID: PC-74

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/29/16 Time: Start 1015 am/pm
Project No: 60477365-2015-140B Finish 1110 am/pm
Site Location: Henderson, NV
Weather Conds: cool, sunny, dry Collector(s): J. Shackley Zoe Diermier D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 48.25 c. Length of Water Column 37.29 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 11.00 d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Horiba Model U-5000 Serial Number P1M

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1033	1.5	18.1	7.74	5.36	5.19	169	104	200	11.00	clear/no odor
1036	2	18.1	7.75	5.36	1.93	163	43.0	200	11.00	same
1039	2.3	18.1	7.74	5.37	1.57	161	29.6	200	11.00	same
1042	3.25	18.1	7.75	5.37	1.23	155	36.7	200	11.00	same
1045	4	18.0	7.74	5.37	1.11	153	44.0	200	11.00	same
1048	4.5	18.0	7.75	5.37	1.01	150	53.8	200	11.00	same
1051	5	18.0	7.78	5.38	0.95	150	52.9	200	11.00	same
1054	6	18.0	7.73	5.38	0.90	148	~~46~~ 48.5 DD	200	11.00	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PC-74-20160429	125mL HDPE Amber	1	EDA	chlorate	1100
↓	250mL HDPE	1	HNO3	Dis Cr.	
	40mL Glass VOA	2	ICE	Dis Hex Cr.	
↓	500mL HDPE	1	ICE	chloride bromide perchlorate, TDS	
PC-74-20160429-FD	same as above				

Comments Screen interval listed @ 39.5' - 49.5'. Set pump @ 44.5'

Signature Date 4/29/16

AECOM

Well ID: PC-76

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/28/16 Time: Start 1020 am/pm
Project No: 60477365-2015-140B Finish 1200 am/pm
Site Location: Henderson, NV
Weather Conds: cool, cloudy, light rain Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 22.12 c. Length of Water Column 10.89 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 11.23 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
Horiba	U-5000	P1M

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1101	1.5	16.9	7.69	5.75	1.09	-56	10.9	30	11.48	clear / no odor
1105	1.75	17.2	7.68	5.73	1.02	-36	7.0	30	11.31	same
1109	1.95	17.5	7.67	5.71	1.02	-23	6.6	30	11.25	same
~~1114~~										

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☐ ☐ ☐

If no or N/A - Explain below.

No Sample

3. SAMPLE COLLECTION: Method: QED Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PC-76-20160428	125 mL HDPE Amber	1	EDA	Chlorate	
	250 mL HDPE	1	HNO3	Dis Cr	
	40 mL Glass VOA	2	ICE	Dis Hex Cr	
	500 mL HDPE	1	ICE	Chloride, bromide, perchlorate, TDS	

Comments Screen interval listed @ 18'-20'. Placed ~~well~~ pump @ 17.5'. Well drew down approx 4 inches @ startup. Turned off pump, wait for recharge. WL @ 11.23 @ 1056. Start pump

Signature _____ Date 4/28/16

1113 pump lost pressure. Will not draw water. Try trouble shooting to no avail.

AECOM

Well ID: PC-76

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/29/16
Time: Start 1120 am/pm
Finish 1215 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: cool, sunny, dry
Collector(s): S. Shockley / Zoe Diermier D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 22.12
c. Length of Water Column 11.26 (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 10.86
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
Horiba	U-5000	P1MTDYFE

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1145	0.25	21.5	8.04	5.69	1.37	162	10.4	20	11.02	clear, no odor
1148		21.6	8.04	5.70	1.38	158	10.7	20	11.05	Same
1151		21.6	8.04	5.71	1.36	155	11.4	20	11.05	Same
1154		21.6	8.04	5.72	1.31	152	11.5	20	11.08	Same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PC-76-20160429	125 mL HDPE Amber	1	EDA	chlorate	1200
	250 mL HDPE	1	HNO_3	Dis Cr.	
	40 mL Glass VOA	2	ICE	Dis Hex Cr.	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	
PC-76-20160429-FD	same as above				
PC-76-20160429-EB	same as above				1300

Comments Screen interval listed @ 15'-20'. Set pump @ 17.5'

Signature

Date 4/29/17

AECOM

Well ID: PC-77

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/21/16
Time: Start 1410 am/pm
Finish 1515 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: hot, sunny, dry
Collector(s): S. Shackley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 38.87
c. Length of Water Column 32.25 (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 6.62
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1417	0							190	6.89	—
1424	2	27.2	7.24	6206	2.15	-20.9	28.6	190	6.85	clear/no odor
1428	3	26.9	7.27	6175	1.84	-17.3	28.6	190	6.85	same
1433	4	26.8	7.24	6144	1.48	-14.0	28.5	190	6.85	same
1437	5	26.6	7.27	6111	1.27	-11.5	26.8	190	6.81	same
1441	6	26.8	7.28	6136	1.12	-9.9	22.9	190	6.80	same
1446	7	27.1	7.26	6164	1.01	-8.1	22.8	190	6.85	same
1450	8	27.1	7.27	6151	0.96	-6.9	21.6	190	6.83	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PC-77-20160421	125 mL HDPE Amber	1	EDA	chlorate	1500
↓	250 mL HDPE	1	HNO3	Dis Chromium	↓
	40 mL VOA Glass	2	ICE	Dis Hex chromium	
	500 mL HDPE	1	ICE	chloride, Bromide, perchlorate, TDS	

Comments Screen interval listed @ 29.5' - 39.5', set pump @ 34.5' below TOC
Dedicated tubing inside well removed and bagged prior to sample. Placed back in well after sample

Signature
Date 4/21/16

AECOM

Well ID: PC - 78

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/21/16 Time: Start 1245 am/pm
Project No: 60477365-2015-140B Finish 1410 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): J. Shackley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 21.9 c. Length of Water Column 16.01 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 5.89 d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1259	0	—	—	—	—	—	—	200	5.90	—
1306	2	24.5	7.53	6465	5.50	19.8	38.8	200	5.97	clear/no odor
1310	3	24.0	7.56	6337	5.11	18.5	33.0	200	5.92	same
1315	4	24.2	7.59	6304	5.05	19.0	22.0	200	5.91	same
1319	5	24.2	7.60	6273	4.73	19.3	20.3	200	5.93	same
1323	6	24.3	7.63	6251	5.22	19.5	15.38	200	5.92	same
1326	7	24.2	7.64	6225	5.32	19.5	15.48	200	5.90	same
1331	8	24.0	7.64	6198	5.08	19.1	11.73	200	5.91	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☑ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PC-78-20160421	125mL HDPE Amber	1	EDA	chlorate	1350
↓	250mL HDPE	1	HNO3	Dis Chromium	↓
	40mL VOA Glass	2	ICE	Dis Hex Chromium	
	500mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments Screen interval listed as 11.5' - 21.5'. Set pump @ 16.5' below TOC

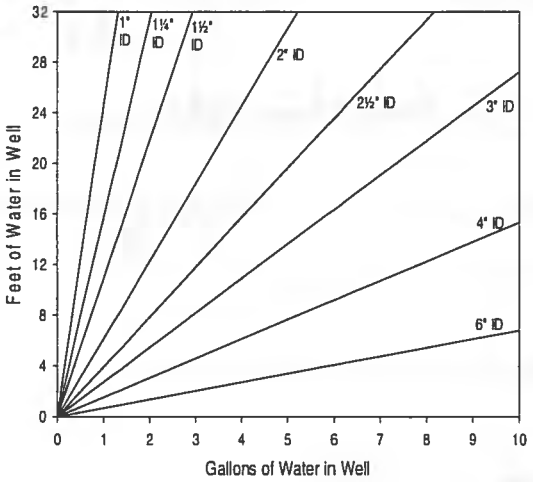
Signature Date 4/21/16

- over -

PC-78

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1336	9	23.9	7.64	6152	5.41	19.0	8.94	200	5.92	Clear/none
1339	10	23.9	7.63	6150	5.52	18.9	9.08	200	5.89	Same
1344	11	23.8	7.64	6127	5.23	18.5	8.74	200	5.90	Same

AECOM

Well ID: PMW-7

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/22/16 Time: Start 0930 am/pm
Project No: 60477365-2015-140B Finish 1020 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): J. Shackley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 39.21 c. Length of Water Column 29.71 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 9.50 d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	160124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0953	0							275	9.50	
0959	2	23.7	7.07	6782	2.82	-30.6	2.95	275	9.50	clear/modor
1002	3	23.6	7.07	6779	2.73	-27.5	2.54	275	9.50	same
1005	4	23.7	7.08	6775	2.56	-25.8	1.81	275	9.50	same
1008	5	23.7	7.06	6784	2.65	-24.3	1.87	275	9.50	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PMW-7-20160422	125mL HDPE Amber	1	EDA	chlorate	1015
	250mL HDPE	1	HNO3	Dig Cr	
	40mL VOA Glass	2	ICE	Dis Hex Cr	
	500mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments Well screen listed @ 20'-40'. Set pump @ 30' below TOC
Existing tubing inside well was removed and bagged prior to sampling. Placed back in well after sample collection

Signature Date 4/22/16

AECOM

Well ID: PMW-8

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/22/16 Time: Start 1040 am/pm
Project No: 60477365-2015-140B Finish 1138 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): S. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 41.05 c. Length of Water Column 33.27 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 7.78 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1109	0	—					—	250	7.63	—
1114	2	24.3	7.15	6805	4.44	-3.0	2.16	250	7.65	clear/no odor
1117	3	24.3	7.14	6804	4.31	-3.5	1.58	250	7.65	same
1120	4	24.4	7.14	6807	4.26	-3.5	1.22	250	7.65	same
1123	5	24.3	7.15	6813	4.40	-2.8	1.08	250	7.64	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
PMW-8 - 20160422	125mL HDPE Amber	1	EDA	chlorate	1130
↓	250mL HDPE	1	HNO3	Dis Cr	↓
	40mL VOA Glass	2	ICE	Dis Hex Cr	
	500mL HDPE	1	ICE	chloride bromide perchlorate, TDS	

Comments Well screen listed @ 21' - 41' Set pump @ 31' below TOC
Water level increased to 7.63 after placing pump in well. Removed and reinserted existing tubing prior to and after sample. Well is missing cap.

Signature _____ Date 4/22/16

AECOM

Well ID: hIT-06

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/22/16 Time: Start 1200 am/pm
Project No: 60477365-2015-140B Finish 1250 am/pm
Site Location: Henderson, NV
Weather Conds: hot, sunny, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 37.70 c. Length of Water Column 27.77 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 9.93 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-200	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1218	0	—	—	—	—	—	—	210	9.93	—
1226	2	23.3	7.22	45.36	4.39	22.6	0.58	210	9.95	clear / no odor
1230	3	23.1	7.24	4522	3.95	20.8	0.38	210	9.95	same
1234	4	23.1	7.23	4521	3.80	20.4	0.12	210	9.95	same
1238	5	23.0	7.22	4513	3.75	20.5	0.02	210	9.95	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
hIT-06-20160422	125mL HDPE Amber	1	EDA	chlorate	1245
	250mL HDPE	1	HNO3	Dis Cr	
	40mL VOA Glass	2	ICE	Dis Hex Cr	
	500mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments Removed and bagged existing tubing prior to sample. Well screen listed @ 32'-42'. Set pump @ 37' below TOC. Placed tubing back in well after sampling

Signature _____ Date 4/22/16

AECOM

Well ID: RIT-10

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/22/16
Time: Start 1310 am/pm
Finish 1420 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: hot, sunny, dry
Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 40.05
c. Length of Water Column 33.20 (a-b)
Casing Diameter/Material 4" PVC
b. Water Table Depth 6.85
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1327	0							250	6.85	—
1333	2	24.8	7.15	5169	3.43	15.4	1.08	250	6.85	clear/no odor
1336	3	24.8	7.13	5179	3.39	16.3	0.40	250	6.85	same
1339	4	24.7	7.13	5168	2.47	16.7	0.53	250	6.85	same
1344	5	24.8	7.13	5179	3.36	17.0	0.54	250	6.85	same
1346	6	24.8	7.13	5184	2.29	15.9	0.02	250	6.85	same
1349	7	24.8	7.13	5177	2.63	17.8	0.79	250	6.85	same
1352	8	24.8	7.13	5191	2.49	18.2	0.00	250	6.85	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
RIT-10-20160422	125mL HDPE Amber	1	EDA	chlorate	1405
↓	250mL HDPE	1	HNO3	Dis Cu	↓
	40mL VOA Glass	2	ICE	Dis Hex Cr	
	500mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	

Comments Existing tubing in well removed and bagged prior to purging. Well screen listed @ 25'-40'. Set pump @ 32.5' below TOC. Placed tubing in well after sampling

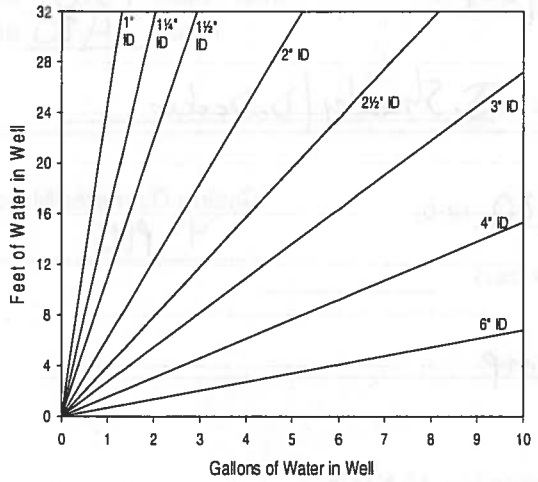
Signature [signature] Date 4/22/16

-over-

RIT-10

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1355	9	24.8	7.13	5192	2.39	20.2	0.0	250	6.85	same

AECOM

Well ID: UZO-17

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: cool, sunny, dry

Date: 4/29/17
Time: Start 0835 am/pm
Finish 0940 am/pm
Collector(s): J. Shockley / D. Decker ~~Zoe Diermier~~

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 49.80
b. Water Table Depth 12.28
c. Length of Water Column 37.52 (a-b)
d. Calculated System Volume (see back)

Casing Diameter/Material 2" PVC

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
Horiba	U-5000	P1MTDYFE

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0859	0							240	12.29	clear no odo
0903	2	17.4	7.82	4.88	2.57	173	0.8	240	12.30	same
0906	2.75	17.4	7.81	4.88	2.40	172	0.0	240	12.30	same
0909	3.5	17.5	7.82	4.89	2.27	169	0.0	240	12.29	same
0912	4.0	17.5	7.81	4.89	2.22	168	0.0	240	12.29	same
0915	5.0	17.5	7.81	4.89	2.18	169	0.0	240	12.29	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
UZO-17-20160429	125 mL HDPE	1	EDA	chlorate	0920
↓	250 mL HDPE	1	HNO3	Dis Cr.	↓
	40 mL Glass VOA	2	ICE	Dis Hex Cr.	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	

Comments Existing tubing removed and bagged prior to purging. Placed back in well after sample collection. Screen interval listed @ 17'-47' Set pump @ 32'

Signature

Date 4/29/16

Well cap missing upon arrival

AECOM

Well ID: WMW-3.5N

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/27/16 Time: Start 0730 am/pm
Project No: 60477365-2015-140B Finish 1010 am/pm
Site Location: Henderson, NV
Weather Conds: cool, cloudy, dry Collector(s): J. Sharkey / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 56.60 c. Length of Water Column 20.95 (a-b)

Casing Diameter/Material 2" PVC

b. Water Table Depth 35.65 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED Micro Purge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0802	Ø							180	35.68	red-brown / none
0808	2	17.3	7.02	7.20	6.49	217	062(?)	180	35.68	same
0813	3	17.5	7.08	7.10	3.78	218	>1000	180	35.70	same
0817	4	17.7	7.10	7.08	3.45	220	>1000	180	35.71	same
0821	5	17.7	7.08	7.09	3.24	221	>1000	90	35.69	same
0834	6	17.7	7.09	7.04	2.89	221	>1000	40	35.67	same
0842	6.1	17.8	7.08	6.93	2.91	215	>1000	40	35.65	same
0848	6.25	17.9	7.06	6.97	2.65	215	>1000	40	35.67	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☐ ☒ ☐

If no or N/A - Explain below.

Turbidity reading over 1000 throughout purge

3. SAMPLE COLLECTION: Method: QED Bladder Pump / Geopump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW3.5N-20160427	125 mL HDPE Amber	1	EDA	chlorate	0900
	250 mL HDPE	1	HNO3	D.S Cr	↓
	40 mL Glass VOA	2	ICE	D.S Hex Cr	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	
WMW3.5N-20160427-FD	same as above				

Comments No screen interval listed. Assuming 10' screen from 47'-57'. Place pump @ 57' below TOC. Water level @ 35.30 after placing pump in well.

Signature _____ Date 4/27/16

AECOM

Well ID: WMW 3.5S

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/29/16
Time: Start 0640 am/pm
Project No: 60477365-2015-140B
Finish 0810 am/pm
Site Location: Henderson, NV
Weather Conds: cool, sunny, dry
Collector(s): J Shackley / D. Decker ~~Zoe Diermier~~

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 59.80
c. Length of Water Column 16.52 (a-b)
Casing Diameter/Material 2" PVC
b. Water Table Depth 43.28
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

Make	Model	Serial Number
Horiba	U-5000	P1MTDYFE

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0711	Q							210	43.28	—
0716	1	16.8	7.62	4.27	1.64	182	49.1	210	43.30	clear/no odor
0721	2	17.1	7.67	4.28	1.33	158	26.9	210	43.30	same
0726	3	17.2	7.70	4.28	1.17	137	17.8	210	43.32	same
0731	4.5	17.5	7.73	4.28	1.07	120	11.5	210	43.32	same
0736	5.25	17.4	7.74	4.27	1.05	110	9.6	200	43.32	same
0741	6.5	17.6	7.74	4.29	1.01	101	6.2	200	43.33	same
0744	7.0	17.6	7.74	4.28	0.97	99	6.2	200	43.33	same

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☑	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump | GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW3.5S-20160429	125 mL HDPE Amber	1	EDA	chlorate	0750
↓	250 mL HDPE	1	HNO3	Dis Cr.	↓
	40 mL Glass VOA	2	ICE	Dis Hex Cr.	
	500 mL HDPE	1	ICE	chloride, bromide perchlorate, TDS	

Comments

Signature

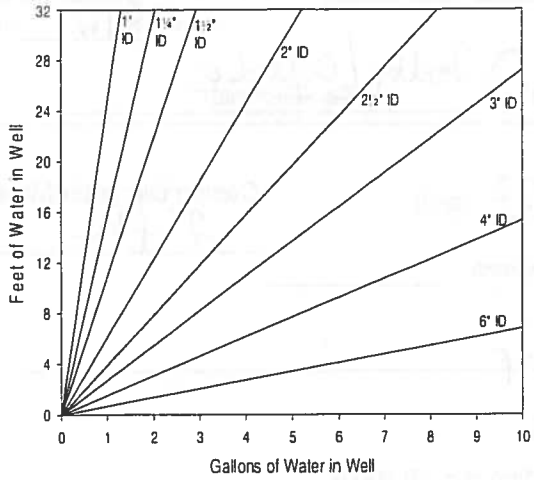
Date 4/29/16

- over -

WMW 3.5S

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0747	7.5	17.6	7.74	4.30	0.97	98	4.8	200	43.33	same

AECOM

Well ID: WMW4.9N

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/27/16 Time: Start 1210 am/pm
Project No: 60477365-2015-140B Finish 1410 am/pm
Site Location: Henderson, NV
Weather Conds: cool, cloudy, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 53.00 c. Length of Water Column 21.21 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 31.79 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	Horiba	U-5000	P1MTDYFE
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. ~~(µS/cm)~~ mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1219	0							250	31.82	—
1225	2	18.9	6.84	3.76	1.02	165	244	160	31.82	lt. tan/no odor
1232	3	18.8	6.87	3.77	0.82	145	158	160	31.81	same
1235	4	18.7	6.88	3.77	0.75	136	80.9	160	31.82	same
1240	5	18.6	6.89	3.78	0.69	128	67.8	160	31.83	same
1245	6	18.6	6.88	3.78	0.66	125	53.9	160	31.83	same
1250	7	18.6	6.88	3.78	0.81	123	45.0	160	31.83	same
1254	8	18.5	6.89	3.79	0.63	119	32.8	160	31.83	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW4.9N-20160427	125mL HDPE Amber	1	EDA	chlorate	1325
	250 mL HDPE	1	HNO3	D.S Cr	
	40 mL Glass VOA	2	ICE	D.S Hex Cr	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	
WMW4.9N-20160427-EB	same as above				

Comments No screen interval listed. Assuming 10' screen from 43'-53'. Set pump @ 48'

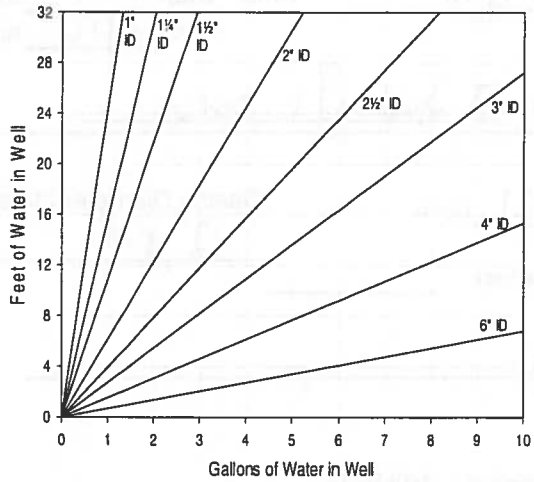
Signature _____ Date 4/27/16

- over -

WMW4.9N

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1259	9	18.4	6.88	3.79	0.61	115	19.8	160	31.83	clear / no odor
1304	10	18.4	6.89	3.79	0.58	109	13.5	160	31.82	same
1309	11	18.5	6.88	3.79	0.57	108	9.49	160	31.82	same
1313	12	18.5	6.88	3.79	0.56	110	6.95	160	31.83	same
1318	13	18.5	6.88	3.79	0.55	109	6.20	160	31.83	same

AECOM

Well ID: WMW4.9S

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area | Date: 4-22-16 | Time: Start 1005 am/pm | Finish 1105 am/pm

Project No: 60477365-2015-140B

Site Location: Henderson, NV

Weather Conds: ~80°F | Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 46.75' c. Length of Water Column 20.31' (a-b) | Casing Diameter/Material 4" PVC

b. Water Table Depth 26.44' d. Calculated System Volume (see back) 13.20 gal

2. WELL PURGE DATA

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1023	0.5	25.61	7.23	2656	1.58	175.5	17.92	160	26.47	clear/None
1025	1.0	25.50	7.23	2647	1.50	174.5	9.62	160	26.46	↓
1027	1.5	25.45	7.23	2640	1.58	172.9	6.99	160	26.46	↓
1029	2.0	25.48	7.23	2637	1.58	169.1	4.79	160	26.46	↓
1031	2.5	25.31	7.23	2628	1.46	167.2	4.90	160	26.46	↓
1033	3.0	25.39	7.23	2630	1.61	165.8	3.73	160	26.46	↓
1035	3.5	25.48	7.23	2632	1.59	164.5	4.08	160	26.46	↓
1037	4.0	25.46	7.23	2647	1.64	163.3	4.98	160	26.46	↓

d. Acceptance criteria pass/fail | Yes | No | N/A

(continued on back)

Have parameters stabilized | ☒ | ☐ | ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW4.9S-20160422	250ml poly	1	HNO_3	Diss. Cr	1042
↓	125ml poly	1	EDA	Chlorate	↓
↓	500ml poly	1	NONE	Br, Cl, Perc., TDS	↓
↓	40ml voa	2	NONE	Diss. Hex Cr	↓

Comments Assume well screened from 36.75-46.75'. Pump set at 42'.

Signature [signature] Date 4/22/16

AECOM

Well ID: WMW5.5S

Low-Flow Ground Water Sample Collection Record

lient: NERT-RI Downdradient Study Area
Date: 4-22-16
Time: Start 0835 am/pm
Finish 1000 am/pm
Project No: 60477365-2015-140B-
Site Location: Henderson, NV
Weather Conds: ~78°F
Collector(s): Zoe Diermier, Eric Wang

1. **WATER LEVEL DATA: (measured from Top of Casing)**

a. Total Well Length 38.30' c. Length of Water Column 23.84 (a-b)

Casing Diameter/Material 4" PVC

b. Water Table Depth 14.46' d. Calculated System Volume (see back) 15.50 gal

2. **WELL PURGE DATA**

a. Purge Method: QED MICRO PURGE BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	11J102430
	OAKTON	T-100	664117

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0857	0	23.50	7.12	4178	3.19	161.9	10.09	180	14.48	Clear/None
0859	0.5	23.44	7.11	4161	3.37	161.0	10.46	180	14.48	
0902	1.0	23.02	7.09	4095	3.14	163.3	12.24	180	14.48	
0904	1.5	22.87	7.08	4074	3.24	164.8	11.28	180	14.47	
0906	2.0	22.85	7.08	4070	3.25	165.0	13.02	180	14.47	
0908	2.5	22.80	7.09	4063	3.21	165.6	11.52	180	14.47	
0910	3.0	22.79	7.09	4057	3.22	166.3	11.90	180	14.47	
0912	3.5	22.78	7.09	4055	3.51	166.6	10.07	180	14.47	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. **SAMPLE COLLECTION:** Method: QED MICRO PURGE BLADDER PUMP & GEOPUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW5.5S-20160422	250ml poly	1	HNO_3	Diss. Cr	0925
	125ml poly	1	EDA	Chlorate	↓
	500ml poly	1	NONE	Br, Cl, Perc., TDS	
	40ml voa	2	NONE	Diss. Hex Cr	
WMW5.5S-20160422-EB	SAME AS ABOVE				0950

Comments Assumed well screened from 28-38'. Set pump at 33'

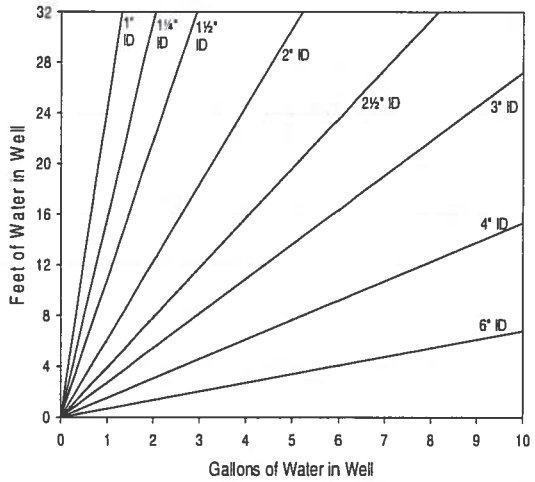
Signature [signature] Date 4/22/16

-over-

WMW5.5S
(cont.)

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
0914	4.0	22.81	7.09	4054	3.36	166.7	11.81	180	14.47	Clear / None
0916	4.5	22.83	7.09	4055	3.55	167.0	9.48	180	14.47	↓
0918	5.0	22.85	7.09	4055	3.56	167.1	9.19	180	14.47	↓
0920	5.5	22.87	7.09	4056	3.56	167.3	9.20	180	14.47	↓

AECOM

Well ID: WMW5.7N

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4-28-16 Time: Start 1340 am/pm
Project No: 60477365-2015-140B Finish 1500 am/pm
Site Location: Henderson, NV
Weather Conds: Collector(s): Zoe Diermier, Eric Wang

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 21.00 c. Length of Water Column 13.20 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 7.80 d. Calculated System Volume (see back) 8.61

2. WELL PURGE DATA

a. Purge Method: PANACEA P200 BLADDER PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1409	0.25	21.51	7.34	2661	1.00	62.0	2.49	100	7.80	clear/none
1411	0.50	21.30	7.28	2629	0.70	53.6	3.26	100	7.80	
1413	0.75	21.24	7.28	2624	0.66	52.9	1.70	100	7.80	
1415	1.00	21.23	7.27	2618	0.59	50.4	2.94	100	7.80	
1417	1.25	21.16	7.26	2616	0.59	49.4	1.22	100	7.80	
1419	1.50	21.14	7.26	2616	0.54	48.7	1.06	100	7.80	
1421	1.75	21.12	7.25	2613	0.53	47.9	1.34	100	7.80	
1423	2.00	21.14	7.23	2613	0.53	47.6	1.67	100	7.80	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PANACEA P200 BLADDER PUMP / GEO PUMP PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW5.7N-20160428	250 ml poly	1	HNO_3	Diss Cr	1440
	125 ml poly	1	EDA	Chlorate	
	500 ml poly	1	NONE	Br, Cl, Per, TDS	
	40 ml VOA	2	NONE	Diss Hex Cr	

Comments Assume SI = 11-21. Set pump @ 16'

Signature Eric N Wang Date 4-28-16

AECOM

Well ID: WMW6.15N

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/20/16 Time: Start 1300 am/pm
Project No: 60477365-2015-140B Finish 1430 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 38.40 c. Length of Water Column 16.12 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 22.28 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED Micropurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1320	0							250	22.32	tan / H2S
1325	2	24.8	7.20	5248	2.98	1.1	269	250	22.33	tan / H2S
1329	3	24.6	7.14	5210	2.46	-0.3	121	250	22.35	clear / H2S
1332	4	24.5	7.13	5199	2.38	-1.3	79.1	250	22.34	same
1335	5	24.5	7.13	5192	2.38	-1.5	49.3	250	22.33	same
1339	6	24.6	7.13	5187	2.33	-2.0	37.2	250	22.35	same
1342	7	24.6	7.12	5168	3.24	-4.0	24.9	250	22.37	same
1345	8	24.4	7.11	5160	3.18	-6.3	20.6	250	22.38	same

d. Acceptance criteria pass/fail Yes No N/A

(continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW6.15N-20160420	125 mL HDPE Amber	1	EDA	chlorate	1410
↓	250 mL HDPE	1	HNO3	Dis chromium	1410
↓	40 mL VOA Glass	2	ICE	Dis Hex chromium	1410
↓	500 mL HDPE	1	ICE	chloride, bromide	1410
				perchlorate, TDS	1410

Comments Assumed 10' well screen from 28.4' - 38.4' set pump @ 33.5' below TOC

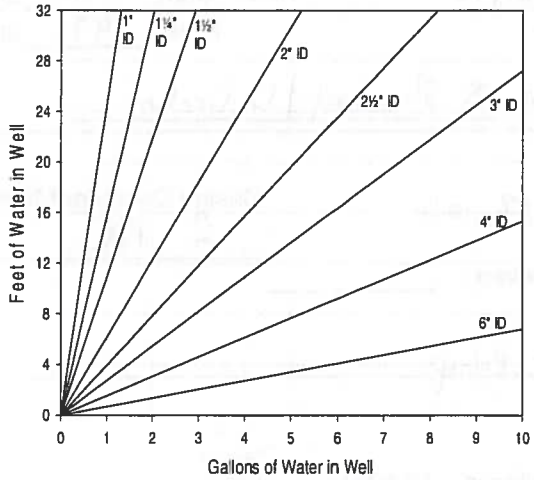
Signature _____ Date 4/20/16

-over-

WMW 6.15N

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1350	9	24.5	7.10	5164	2.90	-8.3	17.78	250	22.36	clear, H_2S odor
1352	10	24.6	7.10	5162	2.89	-8.3	20.7	250	22.38	same
1356	11	24.5	7.11	5143	2.70	-8.9	10.18	250	22.34	same
1400	12	24.4	7.11	5127	2.49	-11.2	8.75	250	22.40	same
1403	13	24.4	7.13	5132	2.14	-11.6	6.53	250	22.38	same
1407	14	24.5	7.11	5142	2.46	-11.0	7.70	250	22.37	same

AECOM

Well ID: WMW6.15S

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area
Date: 4/22/16
Time: Start 0700 am/pm
Finish 0815 am/pm
Project No: 60477365-2015-140B
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry
Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 19.41
c. Length of Water Column 10.36 (a-b)
Casing Diameter/Material 4" PVC
b. Water Table Depth 9.05
d. Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: QED Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0735	0	—					—	240	9.05	—
0743	2	19.1	7.26	3157	4.61	9.3	16.37	200	9.05	clear / none
0746	3	19.1	7.28	3156	5.47	6.6	17.88	200	9.06	same
0750	4	19.2	7.28	3161	6.05	4.5	16.34	200	9.06	same
0754	5	19.2	7.32	3167	6.18	2.7	13.27	200	9.06	same
0757	6	19.3	7.39	3172	6.40	1.5	6.98	200	9.06	same
0801	7	19.3	7.34	3174	6.41	0.5	6.39	200	9.06	same
0804	8	19.4	7.38	3177	6.35	<0.7	6.74	200	9.06	same

d. Acceptance criteria pass/fail — Yes ☑ No ☐ N/A ☐

(continued on back)

Have parameters stabilized ☑ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW6.15S-20160422	125mL HDPE Amber	1	EDA	Chlorate	0810
	250mL HDPE	1	HNO3	Dis Chromium	
	40mL VOA Glass	2	ICE	Dis Hex Chromium	
	500mL HDPE	1	ICE	chloride bromide perchlorate TDS	

Comments Well screen interval not listed. Assume TD is 20' and screened @ 10'-20'. Set pump @ 15' below TOC

Signature

Date 4/22/16

AECOM

Well ID: WMW6.55S

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/21/16 Time: Start 1000 am/pm
Project No: 60477365-2015-140B Finish 1110 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): T. Shackley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 40.67 c. Length of Water Column 24.72 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 15.95 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1016	0	—	—	—	—	—	—	250	15.95	—
1025	2	23.6	7.22	5446	2.17	-20.0	15.85	225	15.95	clear/no odor
1029	3	23.4	7.24	5420	2.12	-16.7	11.90	225	15.96	same
1033	4	23.4	7.23	5420	3.02	-13.6	8.84	225	15.96	Same
1037	5	23.3	7.23	5410	2.35	-11.4	10.34	225	15.95	Same
1040	6	23.2	7.23	5391	3.37	-9.7	8.05	225	15.96	Same
1044	7	23.3	7.24	5410	3.51	-7.3	7.62	225	15.96	Same
1047	8	23.4	7.23	5426	~~3.40~~ 3.87	-6.0	6.13	225	15.95	Same

d. Acceptance criteria pass/fail Yes ☑ No ☐ N/A ☐ (continued on back)

Have parameters stabilized ☑ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED MicroPurge Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW6.55S-20160421	125mL HDPE Amber		EDA	chlorate	1100
↓	250mL HDPE		HNO3	Dis Chromium	↓
	40mL VOA Glass		ICE	Dis Hex Chromium	
	500mL HDPE		ICE	chloride bromide perchlorate TDS	

Comments Assume well screen from 31'-41' set pump @ 36' below TOC

Signature _____ Date 4/21/16

AECOM

Well ID: WMW6.9N

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area | Date: 4/20/16 | Time: Start 1020 am/pm
Project No: 60477365-2015-140B | Finish 1230 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry | Collector(s): J. Shockley | D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 48.55 c. Length of Water Column 30.23 (a-b)

Casing Diameter/Material ~~4"~~ 2" PVC

b. Water Table Depth 18.32 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED Micro Purge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1105	0							225		
1109	1	26.2	7.25	3582	6.91	-0.5	941	140	18.39	tan/no odor
1121	3	26.2	7.19	3635	6.08	5.0	587	140	18.38	tan/no odor
1126	4	25.7	7.17	3596	4.77	4.3	879	140	18.38	same
1135	5	26.3	7.16	3652	4.41	15.9	330	140	18.38	same
1139	6	25.9	7.14	3624	3.00	6.8	243	140	18.38	same
1145	7	25.9	7.13	3618	2.60	5.4	117	140	18.38	same
1150	8	26.2	7.13	3640	2.08	3.6	92.1	140	18.38	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Have parameters stabilized	☒	☐	☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW6.9N-20160420	125mL HDPE Amber	1	EDA	chlorate	1215
↓	250mL HDPE	1	HNO3	Dis Chromium	↓
	40mL VOA Glass	2	ICE	Dis Hexchromium	
↓	500mL HDPE	1	ICE	chloride, bromide	↓
WMW6.9N-20160420-FD (same as above)				perchlorate, TDS	

Comments Assume 10' screen from 38.5'-48.5' below TOC. Set pump @ 43.5'
Reset pump twice. Having issues drawing water likely due to turbidity

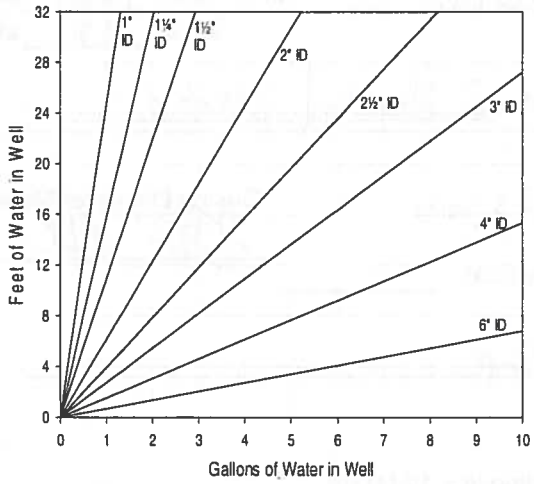
Signature _____ Date 4/20/16

- over -

WMW 6.9 N

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1157	9	26.1	7.14	3625	1.83	2.9	77.8	140	18.36	clear
1201	10	26.3	7.13	3636	1.72	2.7	69.9	140	18.37	same
1207	11	26.4	7.12	3640	1.71	3.0	~~58.8~~ 70.0	140	18.38	same
1213	12	26.6	7.12	3650	1.52	3.5	66.4	140	18.37	same

AECOM

Well ID: WMW6.9S

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area | Date: 4/21/16 | Time: Start 1115 am/pm
Project No: 60477365-2015-140B | Finish 1235 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry | Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 51.55 c. Length of Water Column 40.60 (a-b) Casing Diameter/Material 2" PVC

b. Water Table Depth 10.95 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED MicroPurge Bladder Pump

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
1132	0							200	10.98	—
1140	2	22.6	7.05	6965	0.85	1.4	135	200	10.97	tan/no odor
1146	3	22.3	7.09	6917	0.62	0.1	50.7	200	10.96	same
1150	4	22.6	7.12	6942	0.66	0.3	51.4	200	10.97	Clear/no odor
1154	5	22.4	7.11	6931	0.55	1.7	38.8	200	10.96	same
1158	6	22.1	7.09	6895	0.49	3.1	33.8	200	10.97	same
1203	7	22.2	7.09	6888	0.47	4.1	34.7	200	10.97	same
1207	8	22.4	7.09	6926	0.50	5.2	27.4	200	10.98	same

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Have parameters stabilized ☒ ☐ ☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: QED Bladder Pump / GeoPump Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW6.9S-20160421	125mL HDPE Amber	1	EDA	chlorate	1225
	250mL HDPE	1	HNO3	Dis Chromium	
	40mL VOA Glass	2	ICE	Dis Hex Chromium	
	500mL HDPE	1	ICE	chloride, bromide, perchlorate, TDS	

Comments Assume screen interval 41.5' - 51.5' set pump @ 46.5' below TOC

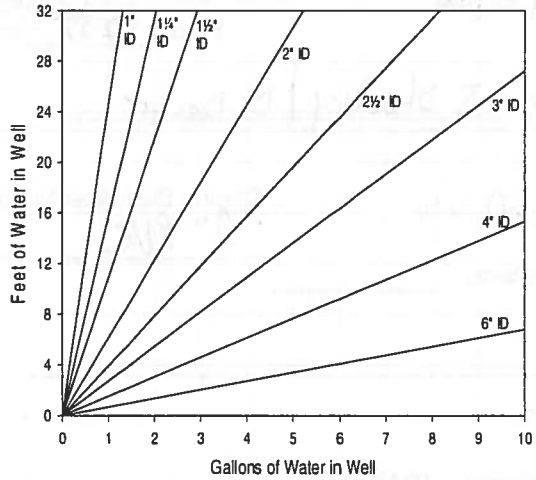
Signature _____ Date 4/21/16

- over -

WMW 6.95

AECOM

Purge Volume Calculation



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (ft)	Color/Odor
1212	9	22.3	7.09	6908	0.48	6.0	26.0	200	10.98	same
1216	10	22.2	7.09	6898	0.43	6.7	26.3	200	10.97	same

AECOM

Well ID: WMW-7.8N

Low-Flow Ground Water Sample Collection Record

Client: NERT-RI Downdradient Study Area Date: 4/20/16 Time: Start 0830 am/pm
Project No: 60477365-2015-140B Finish 1010 am/pm
Site Location: Henderson, NV
Weather Conds: warm, sunny, dry Collector(s): J. Shockley / D. Decker

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 38.00 c. Length of Water Column 26.94 (a-b) Casing Diameter/Material 4" PVC

b. Water Table Depth 11.06 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: QED Micro Purge

b. Acceptance Criteria defined (see workplan)

- Temperature	±2°C	-D.O.	0.3 mg/l
- pH	±0.1 unit	Turbidity	10% if NTU reading is > 10 NTUs
- Sp. Cond.	±3%	ORP	± 10 milivolts

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	09E100417
	Oakton	T-100	660124

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Water Level (feet)	Color/Odor
0925	1	25.1	7.20	2740	1.36	38.1	1.98	300	11.09	clear/no odor
0928	2	25.1	7.18	2747	0.98	24.7	0.57	270	11.08	same
0932	3	25.0	7.21	2650	1.35	14.7	0.10	270	11.09	same
0936	4	25.0	7.23	2578	1.11	12.1	0.53	270	11.09	same
0939	5	25.0	7.26	2480	1.19	8.4	0.21	270	11.09	same
0942	6	25.0	7.29	2393	1.30	6.4	0.30	270	11.09	same
0945	7	25.0	7.30	2364	1.35	4.9	0.17	270	11.09	same
0949	8	25.0	7.32	2304	1.43	-0.1	0.00	270	11.10	same

d. Acceptance criteria pass/fail Yes No N/A

Have parameters stabilized ☒ ☐ ☐

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
WMW7.8N-20160420	125 mL HDPE Amber	1	EDA	chlorate	0955
	250 mL HDPE	1	HNO3	Dis Chromium	
	40 mL VOA Glass	2	ICE	Dis Hex Chromium	
	500 mL HDPE	1	ICE	chloride, bromide, perchlorate TDS	

Comments Assume screen interval from 28' - 38' set pump @ 33' below TOC

Signature _____ Date 4/20/16

S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: Oakton T-100 turbidimeter	Manufacturer: Oakton
Serial Number: 660124	Last Service Date:
Parameter(s): turbidity	Calibration Gas:
Calibration Procedure: 4 known solutions tested - 800, 100, 20.0 and 0.02 NTUs	

Daily Calibration Results	
Date: 4/27/16	Calibration Result: Fail
Name: David Decker	Signature:
Notes: ERR7 - calibration between 0.02 and 20 NTUs failed, measurements of individual stds work within 10% Turbidity measurements called using Horiba instrument	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project:

Date:

Instrument:

Calibration:

Job No.:

Operator:

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S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: Horiba U-5000	Manufacturer: Horiba
Serial Number: P1MTDYFE	Last Service Date: 4/4/16
Parameter(s): pH, ORP, Cond, DO, turbidity	Calibration Gas:
Calibration Procedure: Auto Calibration using AutoCal standard solution	

Daily Calibration Results	
Date: 4/27/16	Calibration Result: Passed
Name: Jeremy Shockley	Signature:
Notes:	
Date: 4/28/16	Calibration Result: Passed
Name: Jeremy Shockley	Signature:
Notes:	
Date: 4/29/16	Calibration Result: Passed
Name: Jeremy Shockley	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: NERT Downgradient Study Area

Date:

Instrument: Horiba U-5000

Calibration: pH, ORP, Cond, DO, Turbidity

Job No.:

Operator: J. Shockley

1 of 1

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S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: 556 Multi-Meter	Manufacturer: YSI
Serial Number: 09E 100417	Last Service Date:
Parameter(s): pH, conductivity, DO	Calibration Gas:
Calibration Procedure: pH: 3-point calibration using 7.00, 4.00, and 10.00 buffer solutions cond: 1-point calibration using 1413 µS/cm standard DO: % saturation calibration using barometric pressure	

Daily Calibration Results	
Date: 4/19/16	Calibration Result: Passed
Name: Jeremy Shockley	Signature:
Notes:	
Date: 4/20/16	Calibration Result: Passed
Name: Jeremy Shockley	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: NERT Downgradient Study Area

Date: 4/19 - 4/20/16

Instrument: YSI 556 Multi-meter

Calibration: pH, DO, conductivity

Job No.:

Operator: J. Shockley

1 of 1

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S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: Turbidimeter T-100	Manufacturer: Oakton
Serial Number:	Last Service Date:
Parameter(s): Turbidity	Calibration Gas:
Calibration Procedure: 4-point calibration using the following standards: 800 NTU, 100 NTU, 20.0 NTU, 0.02 NTU	

Daily Calibration Results	
Date: 4/21/16	Calibration Result: Passed
Name: J. Shockley / D. Decker	Signature:
Notes:	
Date: 4/22/16	Calibration Result: Passed
Name: J. Shockley / D. Decker	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: NERT Dungardt Study Area

Job No.:

Date:

Operator:

Instrument:

Calibration:

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S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: YSI 556	Manufacturer:
Serial Number: 09E100417	Last Service Date:
Parameter(s): pH, cond., DO	Calibration Gas:
Calibration Procedure: pH 3-point calibration 7.00, 10.00, 4.00 Cond. using 1413 µS/cm standard DO % saturation using barometric pressure 757.936 mmHg	

Daily Calibration Results	
Date: 4/21/16	Calibration Result: Passed
Name: Jeremy Shockley/David Decker	Signature:
Notes:	
Date: 4/22/16	Calibration Result: passed
Name: David Decker	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project:

Date:

Instrument:

Calibration:

Job No.:

Operator:

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Jeremy & David

SilverState
Analytical Laboratories

EnviroTech

3626 E. Sunset Road, Suite 100
Las Vegas, NV 89120
Tel.: 702-873-4478 / Fax.: 702-873-7967

CERTIFICATE OF CALIBRATION

INSTRUMENT: Oakton T-100 Turbidimeter **SERIAL NO.:** 660124

Parameter:	Span Value:	Reading:
Turbidity (NTU):	800 / 100 / 20.0 / 0.02	796 / 99.4 / 19.25 / 0.06

Notes: Four point calibration performed. Calibration standards exp. 4/16.

Calibrated by: Stephen West
Print Name

Signature

Date: 2/10/2016

Jeremy & David

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech.

CERTIFICATE OF CALIBRATION

INSTRUMENT: YSI 556 **SERIAL NO.:** 09E100417

Parameter:	Span Value:	Reading:
pH (S.U.):	7.00 / 10.00	7.00 / 10.00
Cond. (mS/cm):	1.413	1.413
D.O. (% Sat):	93.8	93.8

Notes: D.O. saturated air calibration based on local barometric pressure of 713.8 mm/hg.

Calibrated by: Stephen West
Print Name

Signature

Date: 4/15/2016

3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478
1135 Financial Blvd., Reno, NV 89502 - Tel: 775-857-2400
1250 Lamoille Hwy Suite 629, Elko NV 89801- Tel:775-778-9828
ssalabs.com - sem-analytical.com - envirotechonline.com

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Analytical Laboratories

EnviroTech

3626 E. Sunset Road, Suite 100
Las Vegas, NV 89120
Tel.: 702-873-4478 / Fax: 702-873-7967

CERTIFICATE OF CALIBRATION

INSTRUMENT: Horiba U-52 **SERIAL NO:** P1MTDYFE

Parameter:	Span Value:	Reading:
pH: (S.U.)	4.01	4.00
Cond:(mS/cm)	4.49	4.46
DO: (mg/L)	7.3	8.21
Turbidity (NTU)	0.00	0.00

Notes: 1 point auto calibration of all parameters performed using an Auto Calibration Solution with the above listed values.

Auto Cal Solution Manufacturer: Aurical Company, Lot# 12012, exp. JAN 2017

Certificate of analysis available upon request.

Calibrated by: Stephen West
Print Name

Signature

Date: 4/25/2016

AECOM

S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: Turbidimeter T-100	Manufacturer: Oakton
Serial Number: 664117	Last Service Date: 4/16/16
Parameter(s): 800, 100, 20.0 & 0.02	Calibration Gas: None
Calibration Procedure: Enter designated calibration vials into the meter and let meter read each solution in calibration mode. After this step re-insert each vial of solution to give actual calibrated reading per vial.	

Daily Calibration Results	
Date: 4/22/16	Calibration Result: 802, 102, 19.99 & 0.00 NTU
Name: Eric R Wang	Signature: Eric R Wang
Notes:	
Date: 4/22/16	Calibration Result: 802, 100, 19.3 & 0.12 NTU
Name: Eric Wang	Signature: Eric Wang
Notes:	
Date: 4/20/16	Calibration Result: 806, 101, 20.5 & 0.05 NTU
Name: Eric Wang	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Nert

Date: 4/21/16

Instrument: Oakton Turbidimeter

Calibration:

Job No.:

Operator: Eric Wang

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S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: YSI multimeter	Manufacturer: YSI
Serial Number: 11 102 430	Last Service Date: 4/16/16
Parameter(s): DO, pH & conductivity	Calibration Gas: None
Calibration Procedure: DO %/mg/L ~~Relative~~ @ Barometric pressure & 25.4 pH: 3pt 4.0, 7.0 & 10.0 conductivity: 1413 us/cm	

Daily Calibration Results	
Date: 4/21/16	Calibration Result: DO = 9.55 mg/L (99.8%) cond. = 1412 us/cm pH = 4.03, 7.04 & 9.83
Name: Eric Wang	Signature: Eric R Wang
Notes:	
Date: 4/22/16	Calibration Result: DO = 96.9% cond: 1282 us/cm pH = 3.96, 7.09 & 9.88
Name: Eric Wang	Signature: Eric R Wang
Notes:	
Date: 4/20/16	Calibration Result: DO = 98.7% cond: 1413 us/cm pH = 3.92, 7.02 & 9.78
Name: Eric Wang	Signature: Eric R Wang
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: NERT

Date: 4/21/16

Instrument: YSI multimeter

Calibration:

Job No.:

Operator: Eric Wang

1 of 1

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Zoe & Eric

SilverState
Analytical Laboratories

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3626 E. Sunset Road, Suite 100
Las Vegas, NV 89120
Tel.: 702-873-4478 / Fax.: 702-873-7967

CERTIFICATE OF CALIBRATION

INSTRUMENT: Oakton T-100 Turbidimeter **SERIAL NO.:** 664117

Parameter:	Span Value:	Reading:	DATE:	TIME:
Turbidity (NTU):	800 / 100 / 20.0 / 0.02	797 / 99.7 / 20.2 / 0.02	—	—
		803/100/19.87/ 0.01	4-19-16	0715

Notes: Four point calibration performed. Calibration standards exp. 4/16.

Calibrated by: Stephen West
Print Name

Signature

Date: 2/11/2016

Col & Eric

SilverState
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3626 E. Sunset Road, Suite 100
Las Vegas, NV 89120
Tel.: 702-873-4478 / Fax.: 702-873-7967

CERTIFICATE OF CALIBRATION

INSTRUMENT: YSI 556 **SERIAL NO.:** 11J102430

Parameter:	Span Value:	Reading:
pH (S.U.):	7.00 / 10.00	7.00 / 10.00
Cond. (mS/cm):	1.413	1.414
D.O. (% sat.)	93.8	93.8

Notes: D.O. calibration point based on local barometric pressure of 713 mmHg.

pH 7.00 Buffer ID# SS0741

pH 10.00 Buffer ID#: SS0723

Conductivity Standard ID#: SS0710

Certificates of analysis for standards available upon request.

Calibrated by: Stephen West
Print Name

Signature

Date: 4/8/2016

S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: YSI 556	Manufacturer: YSI
Serial Number: 11J 102430	Last Service Date: 4-16-16
Parameter(s):	Calibration Gas: NA
Calibration Procedure:	

Daily Calibration Results	
Date: 4-25-16	Calibration Result:
Name: Eric Wang	Signature:
Notes:	
Date: 4-26-16	Calibration Result: DO: 98.4% COND: 1411 µS/cm pH: 3.98, 7.01, 9.88
Name: Zoe Diermier	Signature: Zoe Diermier
Notes:	
Date: 4-27-16	Calibration Result: DO: 99.2% COND: 1412 µS/cm pH=4.01, 6.99, 9.94
Name: Zoe Diermier	Signature: Zoe Diermier
Notes:	
Date: 4-28-16	Calibration Result: COND: 1410 DO%: 99.3% pH=4.04, 7.01, 9.96
Name: Zoe Diermier	Signature:
Notes:	

Project:

Date:

Instrument:

Calibration:

Job No.:

Operator:

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S3NA-509-FM2 Instrument Calibration Log

Instrument Information	
Instrument Name: T-100	Manufacturer: Oakton
Serial Number: 664117	Last Service Date: 4-16-16
Parameter(s): Turbidity	Calibration Gas: NA
Calibration Procedure:	

Daily Calibration Results	
Date: 4-25-16	Calibration Result:
Name: Eric Wang	Signature:
Notes:	
Date: 4-26-16	Calibration Result: 803, 101, 20.1, 0.10
Name: Zoe Diermier	Signature: Zoe Diermier
Notes:	
Date: 4-27-16	Calibration Result: 804, 100, 20.3, 0.09
Name: Zoe Diermier	Signature: Zoe Diermier
Notes:	
Date: 4-28-16	Calibration Result: 802, 101, 19.9, 0.09
Name: Zoe Diermier	Signature: Zoe Diermier
Notes:	

Project:

Date:

Instrument:

Calibration:

Job No.:

Operator:

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Appendix F

Laboratory Reports and Chain-of-Custody Documentation

ANALYTICAL REPORT

Job Number: 440-144933-1

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/11/2016 3:50 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/11/2016

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-144933-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.3º C, 3.6º C, 3.7º C and 4.1º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

PERCHLORATE (IC)
Samples AA-23R-20160418 (440-144933-1), DBMW-8-20160418 (440-144933-2), DBMW-7-20160418 (440-144933-3) and DBMW-7-20160418-FD (440-144933-4) were analyzed for perchlorate (IC) in accordance with EPA Method 314.0. The samples were analyzed on 04/28/2016.

Perchlorate failed the recovery criteria low for the MS and MSD of sample 440-144937-3 in batch 440-327049. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples AA-23R-20160418 (440-144933-1)[100X], DBMW-8-20160418 (440-144933-2)[100X], DBMW-7-20160418 (440-144933-3)[100X] and DBMW-7-20160418-FD (440-144933-4)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL DISSOLVED SOLIDS
Samples AA-23R-20160418 (440-144933-1), DBMW-8-20160418 (440-144933-2), DBMW-7-20160418 (440-144933-3) and DBMW-7-20160418-FD (440-144933-4) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 04/22/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CHLORATE
Samples AA-23R-20160418 (440-144933-1), DBMW-8-20160418 (440-144933-2), DBMW-7-20160418 (440-144933-3) and DBMW-7-20160418-FD (440-144933-4) were analyzed for chlorate in accordance with EPA Method 300.1B. The samples were analyzed on 04/21/2016 and 04/23/2016.

Samples AA-23R-20160418 (440-144933-1)[500X], DBMW-8-20160418 (440-144933-2)[100X], DBMW-7-20160418 (440-144933-3)[100X] and DBMW-7-20160418-FD (440-144933-4)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS
Samples AA-23R-20160418 (440-144933-1), DBMW-8-20160418 (440-144933-2), DBMW-7-20160418 (440-144933-3) and DBMW-7-20160418-FD (440-144933-4) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/21/2016.

Chloride failed the recovery criteria low for the MS and MSD of sample 440-144995-2 in batch 440-325449.

Samples AA-23R-20160418 (440-144933-1)[10X], AA-23R-20160418 (440-144933-1)[500X], DBMW-8-20160418 (440-144933-2)[20X], DBMW-8-20160418 (440-144933-2)[500X], DBMW-7-20160418 (440-144933-3)[20X], DBMW-7-20160418 (440-144933-3)[500X], DBMW-7-20160418-FD (440-144933-4)[20X] and DBMW-7-20160418-FD (440-144933-4)[500X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Client Sample ID: AA-23R-20160418 — Lab Sample ID: 440-144933-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100		250	130	mg/L	500		300.0	Total/NA
Chlorate	70000		10000	5000	ug/L	500		300.1B	Total/NA
Perchlorate	5500		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	5800		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DBMW-8-20160418 — Lab Sample ID: 440-144933-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400		250	130	mg/L	500		300.0	Total/NA
Chlorate	10000		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	7000		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	6300		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DBMW-7-20160418 — Lab Sample ID: 440-144933-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500		250	130	mg/L	500		300.0	Total/NA
Chlorate	8000		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	4400		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	6300		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DBMW-7-20160418-FD — Lab Sample ID: 440-144933-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400		250	130	mg/L	500		300.0	Total/NA
Chlorate	7600		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	4600		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	6300		100	50	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Client Sample ID: AA-23R-20160418 — Lab Sample ID: 440-144933-1

Date Collected: 04/18/16 10:00 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			04/21/16 08:01	10
Chloride	**1100**		250	130	mg/L			04/21/16 08:16	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**70000**		10000	5000	ug/L			04/23/16 10:55	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/23/16 10:55*	*500*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**5500**		400	95	ug/L			04/28/16 12:57	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5800**		100	50	mg/L			04/22/16 15:57	1

Client Sample ID: DBMW-8-20160418 — Lab Sample ID: 440-144933-2

Date Collected: 04/18/16 12:15 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		10	5.0	mg/L			04/21/16 08:31	20
Chloride	**1400**		250	130	mg/L			04/21/16 08:47	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**10000**		2000	1000	ug/L			04/21/16 21:35	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/21/16 21:35*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**7000**		400	95	ug/L			04/28/16 13:14	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6300**		100	50	mg/L			04/22/16 15:57	1

Client Sample ID: DBMW-7-20160418 — Lab Sample ID: 440-144933-3

Date Collected: 04/18/16 14:50 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		10	5.0	mg/L			04/21/16 09:33	20
Chloride	**1500**		250	130	mg/L			04/21/16 09:48	500

Client Sample ID: DBMW-7-20160418

Lab Sample ID: 440-144933-3

Date Collected: 04/18/16 14:50
Matrix: Water
Date Received: 04/20/16 09:50

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**8000**		2000	1000	ug/L			04/21/16 22:08	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*105*		*90 - 115*		*04/21/16 22:08*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**4400**		400	95	ug/L			04/28/16 13:31	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6300**		100	50	mg/L			04/22/16 15:57	1

Client Sample ID: DBMW-7-20160418-FD

Lab Sample ID: 440-144933-4

Date Collected: 04/18/16 14:50
Matrix: Water
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		10	5.0	mg/L			04/21/16 10:04	20
Chloride	**1400**		250	130	mg/L			04/21/16 10:19	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**7600**		2000	1000	ug/L			04/21/16 22:41	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/21/16 22:41*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**4600**		400	95	ug/L			04/28/16 13:48	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6300**		100	50	mg/L			04/22/16 15:57	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units	Method
Bromide	0.50	0.25	mg/L	300.0
Chloride	0.50	0.25	mg/L	300.0

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	RL	MDL	Units	Method
Chlorate	20	10	ug/L	300.1B

Method: 314.0 - Perchlorate (IC)

Analyte	RL	MDL	Units	Method
Perchlorate	4.0	0.95	ug/L	314.0

General Chemistry

Analyte	RL	MDL	Units	Method
Total Dissolved Solids	10	5.0	mg/L	SM 2540C

Surrogate Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Method: 300.1B - Disinfection By-Products, (IC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		ɔacetic ac							
Lab Sample ID	**Client Sample ID**	**(90-115)**							
440-144899-A-2 MS	Matrix Spike	105							
440-144899-A-2 MSD	Matrix Spike Duplicate	106							
440-144933-1	AA-23R-20160418	104							
440-144933-2	DBMW-8-20160418	104							
440-144933-3	DBMW-7-20160418	105							
440-144933-4	DBMW-7-20160418-FD	104							
440-145185-A-1 MS	Matrix Spike	104							
440-145185-A-1 MSD	Matrix Spike Duplicate	105							
LCS 440-325632/3	Lab Control Sample	105							
LCS 440-326094/4	Lab Control Sample	105							
MB 440-325632/4	Method Blank	103							
MB 440-326094/5	Method Blank	104							
MRL 440-325632/2	Lab Control Sample	103							
MRL 440-326094/3	Lab Control Sample	106							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-325449/45 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/21/16 00:36	1
Chloride	ND		0.50	0.25	mg/L			04/21/16 00:36	1

Lab Sample ID: LCS 440-325449/46 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.87		mg/L		97	90 - 110
Chloride	5.00	4.64		mg/L		93	90 - 110

Lab Sample ID: 440-144995-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		50.0	53.0		mg/L		106	80 - 120
Chloride	63	F1	50.0	99.4	F1	mg/L		72	80 - 120

Lab Sample ID: 440-144995-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND		50.0	53.4		mg/L		107	80 - 120	1	20
Chloride	63	F1	50.0	98.5	F1	mg/L		70	80 - 120	1	20

Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 440-325632/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325632

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/21/16 07:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*103*		*90 - 115*		*04/21/16 07:12*	*1*

Lab Sample ID: LCS 440-325632/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325632

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	100	107		ug/L		107	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Lab Sample ID: MRL 440-325632/2
Matrix: Water
Analysis Batch: 325632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	20.7		ug/L		104	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*103*		*90 - 115*

Lab Sample ID: 440-144899-A-2 MS
Matrix: Water
Analysis Batch: 325632

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	200		200	430		ug/L		114	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-144899-A-2 MSD
Matrix: Water
Analysis Batch: 325632

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	200		200	433		ug/L		116	75 - 125	1	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: MB 440-326094/5
Matrix: Water
Analysis Batch: 326094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/23/16 10:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/23/16 10:22*	*1*

Lab Sample ID: LCS 440-326094/4
Matrix: Water
Analysis Batch: 326094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			100	98.0		ug/L		98	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-326094/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	19.0	J	ug/L		95	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: 440-145185-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	220		200	426		ug/L		101	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Lab Sample ID: 440-145185-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	220		200	424		ug/L		100	75 - 125	0	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-327049/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/28/16 08:33	1

Lab Sample ID: LCS 440-327049/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	24.7		ug/L		99	85 - 115		

Lab Sample ID: MRL 440-327049/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.84	J	ug/L		96	75 - 125		

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 440-144937-C-3 MS
Matrix: Water
Analysis Batch: 327049

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	9000		25.0	8560	4	ug/L		-1647	80 - 120		

Lab Sample ID: 440-144937-C-3 MSD
Matrix: Water
Analysis Batch: 327049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	9000		25.0	8640	4	ug/L		-1332	80 - 120	1	20

Lab Sample ID: INF 440-327049/4
Matrix: Water
Analysis Batch: 327049

Client Sample ID: Lab Control Sample

Analyte			Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	23.1		ug/L		93	80 - 120		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-326016/1
Matrix: Water
Analysis Batch: 326016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/22/16 15:57	1

Lab Sample ID: LCS 440-326016/2
Matrix: Water
Analysis Batch: 326016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	976		mg/L		98	90 - 110		

Lab Sample ID: 440-144933-1 DU
Matrix: Water
Analysis Batch: 326016

Client Sample ID: AA-23R-20160418
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	5800			6010		mg/L				3	5

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

HPLC/IC

Analysis Batch: 325449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144933-1	AA-23R-20160418	Total/NA	Water	300.0	
440-144933-1	AA-23R-20160418	Total/NA	Water	300.0	
440-144933-2	DBMW-8-20160418	Total/NA	Water	300.0	
440-144933-2	DBMW-8-20160418	Total/NA	Water	300.0	
440-144933-3	DBMW-7-20160418	Total/NA	Water	300.0	
440-144933-3	DBMW-7-20160418	Total/NA	Water	300.0	
440-144933-4	DBMW-7-20160418-FD	Total/NA	Water	300.0	
440-144933-4	DBMW-7-20160418-FD	Total/NA	Water	300.0	
440-144995-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-144995-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 440-325449/46	Lab Control Sample	Total/NA	Water	300.0	
MB 440-325449/45	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 325632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144899-A-2 MS	Matrix Spike	Total/NA	Water	300.1B	
440-144899-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
440-144933-2	DBMW-8-20160418	Total/NA	Water	300.1B	
440-144933-3	DBMW-7-20160418	Total/NA	Water	300.1B	
440-144933-4	DBMW-7-20160418-FD	Total/NA	Water	300.1B	
LCS 440-325632/3	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-325632/4	Method Blank	Total/NA	Water	300.1B	
MRL 440-325632/2	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 326094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144933-1	AA-23R-20160418	Total/NA	Water	300.1B	
440-145185-A-1 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145185-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
LCS 440-326094/4	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-326094/5	Method Blank	Total/NA	Water	300.1B	
MRL 440-326094/3	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 327049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144933-1	AA-23R-20160418	Total/NA	Water	314.0	
440-144933-2	DBMW-8-20160418	Total/NA	Water	314.0	
440-144933-3	DBMW-7-20160418	Total/NA	Water	314.0	
440-144933-4	DBMW-7-20160418-FD	Total/NA	Water	314.0	
440-144937-C-3 MS	Matrix Spike	Total/NA	Water	314.0	
440-144937-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
INF 440-327049/4	Lab Control Sample		Water	314.0	
LCS 440-327049/2	Lab Control Sample	Total/NA	Water	314.0	
MB 440-327049/3	Method Blank	Total/NA	Water	314.0	
MRL 440-327049/5	Lab Control Sample	Total/NA	Water	314.0	

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

General Chemistry

Analysis Batch: 326016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144933-1	AA-23R-20160418	Total/NA	Water	SM 2540C	
440-144933-1 DU	AA-23R-20160418	Total/NA	Water	SM 2540C	
440-144933-2	DBMW-8-20160418	Total/NA	Water	SM 2540C	
440-144933-3	DBMW-7-20160418	Total/NA	Water	SM 2540C	
440-144933-4	DBMW-7-20160418-FD	Total/NA	Water	SM 2540C	
LCS 440-326016/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-326016/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Client Sample ID: AA-23R-20160418 — Lab Sample ID: 440-144933-1

Date Collected: 04/18/16 10:00 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	325449	04/21/16 08:01	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325449	04/21/16 08:16	NTN	TAL IRV
Total/NA	Analysis	300.1B		500	326094	04/23/16 10:55	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 12:57	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326016	04/22/16 15:57	XL	TAL IRV

Client Sample ID: DBMW-8-20160418 — Lab Sample ID: 440-144933-2

Date Collected: 04/18/16 12:15 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	325449	04/21/16 08:31	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325449	04/21/16 08:47	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	325632	04/21/16 21:35	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 13:14	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326016	04/22/16 15:57	XL	TAL IRV

Client Sample ID: DBMW-7-20160418 — Lab Sample ID: 440-144933-3

Date Collected: 04/18/16 14:50 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	325449	04/21/16 09:33	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325449	04/21/16 09:48	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	325632	04/21/16 22:08	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 13:31	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326016	04/22/16 15:57	XL	TAL IRV

Client Sample ID: DBMW-7-20160418-FD — Lab Sample ID: 440-144933-4

Date Collected: 04/18/16 14:50 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	325449	04/21/16 10:04	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325449	04/21/16 10:19	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	325632	04/21/16 22:41	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 13:48	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326016	04/22/16 15:57	XL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-144933-1	AA-23R-20160418	Water	04/18/16 10:00	04/20/16 09:50
440-144933-2	DBMW-8-20160418	Water	04/18/16 12:15	04/20/16 09:50
440-144933-3	DBMW-7-20160418	Water	04/18/16 14:50	04/20/16 09:50
440-144933-4	DBMW-7-20160418-FD	Water	04/18/16 14:50	04/20/16 09:50

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-11 Analysis Batch Number: 319603

Lab Sample ID: STD1 440-319603/4 IC Client Sample ID:

Date Analyzed: 03/23/16 11:57 Lab File ID: 20160323A004.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.61	Incomplete Integration	nickloffn	03/23/16 13:15
Sulfate	10.17	Incomplete Integration	nickloffn	03/23/16 13:15

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 308526

Lab Sample ID: ICV 440-308526/8 Client Sample ID:

Date Analyzed: 01/28/16 11:30 Lab File ID: 20160128a0008.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.62	Baseline Smoothing	zakhrabovy	01/28/16 12:06

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 325632

Lab Sample ID: CCV 440-325632/43 Client Sample ID:

Date Analyzed: 04/22/16 02:34 Lab File ID: 201604210001a039.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.34	Baseline Smoothing	zakhrabovy	04/23/16 07:11

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326094

Lab Sample ID: MRL 440-326094/3 Client Sample ID:

Date Analyzed: 04/23/16 09:16 Lab File ID: 201604230001a003.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.47	Incomplete Integration	zakhrabov y	04/23/16 12:23

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-25 Analysis Batch Number: 327049

Lab Sample ID: LCS 440-327049/2 Client Sample ID:

Date Analyzed: 04/28/16 08:16 Lab File ID: 20160428_2.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.07	Incomplete Integration	hoangch	04/28/16 08:51
Perchlorate	12.07	Incomplete Integration	hoangch	04/28/16 08:51

Lab Sample ID: 440-144937-C-3 MS Client Sample ID:

Date Analyzed: 04/28/16 10:26 Lab File ID: 20160428_10.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.03	Incomplete Integration	hoangch	04/28/16 10:48

Lab Sample ID: 440-144937-C-3 MSD Client Sample ID:

Date Analyzed: 04/28/16 10:43 Lab File ID: 20160428_11.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.06	Incomplete Integration	hoangch	04/28/16 11:07

Lab Sample ID: CCV 440-327049/26 Client Sample ID:

Date Analyzed: 04/28/16 14:55 Lab File ID: 20160428_26.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.00	Incomplete Integration	hoangch	04/28/16 15:23

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WC3001ICV_00023	06/30/16	01/28/16	Di Water, Lot 20160128	100 mL	WC2CHLORATE_00003	0.4 mL	Chlorate	4.004 mg/L
.WC2CHLORATE_00003	12/31/16		Ultra Scientific, Lot P01208		(Purchased Reagent)		Chlorate	1001 mg/L
WC3001LCS_00034	07/28/16	01/28/16	Di Water, Lot 20160128	100 mL	WC1BROMATE_00005	0.1 mL	Bromate	1.001 mg/L
					WC1CHLORATE_00006	0.4 mL	Chlorate	4 mg/L
					wcbromide_00008	0.1 mL	Bromide	10 mg/L
.WC1BROMATE_00005	11/26/16		O2Si, Lot 1075653		(Purchased Reagent)		Bromate	1001 mg/L
.WC1CHLORATE_00006	11/26/16		O2Si, Lot 1075652		(Purchased Reagent)		Chlorate	1000 mg/L
.wcbromide_00008	12/23/16		high purity, Lot 1427506		(Purchased Reagent)		Bromide	10000 ug/mL
WCCLO41st-10_00001	06/22/16	03/22/16	Di Water, Lot 03/22/16	100 mg/L	WCCLO4-1st_00001	1 mg/L	Perchlorate	10 mg/L
.WCCLO4-1st_00001	03/30/17		SPEX CERTIPREP, Lot 3-149CLO4-2Y		(Purchased Reagent)		Perchlorate	1000 mg/L
WCCLO4ICV10_00019	05/16/16	02/16/16	Di Water, Lot 02/16/2016	100 mL	WCCLO4ICV_00009	1 mL	Perchlorate	10.0002 mg/L
.WCCLO4ICV_00009	07/29/16	07/29/15	Di Water, Lot 07/29/2015	250 mL	WCCLO4ICVSOLI_00001	0.3078 g	Perchlorate	1000.02 mg/L
..WCCLO4ICVSOLI_00001	03/14/19		SPECTRUM, Lot XK0226		(Purchased Reagent)		Perchlorate	0.81223 g/g
WCDCA_00031	04/11/16	01/11/16	Di Water, Lot 20160111	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCDCA_00032	07/12/16	04/12/16	Di Water, Lot 20160412	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCICVANIONS_00059	04/02/16	03/02/16	Di Water, Lot 03/02/2016	100 mL	WCBROMIDE_00007	10 mL	Bromide	100 mg/L
					WCICNACLICV_00004	10 mL	Chloride	100 mg/L
.WCBROMIDE_00007	07/31/16		ERA, Lot 250714		(Purchased Reagent)		Bromide	1000 mg/L
.WCICNACLICV_00004	07/31/17		ENVIRONMENTAL RESOURCE ASSOCIATES, Lot 280615		(Purchased Reagent)		Chloride	1000 mg/L
WCLCSANIONS_00113	04/20/16	03/21/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
					wcfluoride_00004	10 mL	Fluoride	1000 mg/L
					wcsulfate_00006	10 mL	Sulfate	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
.wcfluoride_00004	01/30/17		ricca, Lot 1507D81		(Purchased Reagent)		Fluoride	10000 ug/mL
.wcsulfate_00006	04/15/17		high purity, Lot 1522216		(Purchased Reagent)		Sulfate	10000 ug/mL
WCLCSANIONS_00114	05/08/16	04/09/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
wctdslcs_00061	08/15/16	02/15/16	Di Water, Lot 20160215	1 L	WCNACLTDSLCS_00001	1 g	Total Dissolved Solids	1000 ppm
.WCNACLTDSLCS_00001	04/04/21		FISHER CHEMICAL, Lot 103358		(Purchased Reagent)		Total Dissolved Solids	1 g/g

Reagent

WC1BROMATE_00005

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062015-01-01
Lot No: 1075653
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Bromate, 100 mL 1,000 mg/L in H_2O

2629062
ID: WC1BROMATE_000(
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Bromate

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Bromate	BrO_3	7789-38-0	7085.48.1P	99.5	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

2030 Savage Road • Charleston, SC 29407
Phone: 866.272.0932 • Fax: 866.509.5146
www.o2si.com

Reagent

WC1CHLORATE_00006

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062014-01-01
Lot No: 1075652
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Chlorate, 100 mL 1,000 mg/L in H_2O

2629060
ID: WC1CHLORATE_00C
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Chlorate

ACCREDITED
ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Chlorate	ClO_3^-	N/A	7120.29.1P	99	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

2030 Savage Road • Charleston, SC 29407
Phone: 866.272.0932 • Fax: 866.509.5146
www.o2si.com

Reagent

WC2CHLORATE_00003

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 17025 • ISO GUIDE 34 • ISO 9001

ULTRAgrade™ Ion Chromatography Solution: 1000 µg/mL Chlorate in water
Catalog Number: ICC-011
Lot Number: P01208
Job Number: J00015342
Lot Issue Date: 11/14/2012
Expiration Date: 12/31/2016

2617385
ID: WC2CHLORATE_00C
Exp:12/31/16 Prpd:YZ Opn:05/28.
300.1 -Standard Chlorate

Starting Material:	Potassium Chlorate
Starting Material Purity:	99.999%
Starting Material Lot No.:	NT00423
Matrix:	low TOC water (< 50 ppb)

Certified Value: 1001 ± 5 µg/mL

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentrations were verified by our ISO 17025 accredited laboratory to be within ± 2.5%, when compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

Confirmation by Ion Chromatography (IC) vs. Second Source (CRM)

Confirmation by Inductively Coupled Plasma Spectroscopy (ICP / ICP-MS) vs. NIST SRM 3141a

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

A2LA ACCREDITED

ISO 17025:2005
Accredited
A2LA
Cert. No. 0851.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004

William J. Leary
Quality Assurance Manager

250 SMITH STREET N. KINGSTOWN, RHODE ISLAND 02852 USA WWW.ULTRASCI.COM

Reagent

WCBROMIDE_00007

Certificate of Analysis

PRODUCT:	1000 mg/L Bromide
CATALOG NUMBER:	046 -125 mL; 987 - 500 mL
LOT NUMBER:	250714
ISSUE DATE:	July 31, 2014
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Bromide (KBr)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9972 ± 0.0005 g/mL at 21.0°C and 766 mm Hg
TRACEABILITY[3]:	101%
NIST/SRM:	3184 Bromide
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2016**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcbromide_00010

Certificate of Analysis

Product Description:

Name:	Bromide	Source Material:	Sodium Bromide
Part Number:	**IC-BR-10M**	Material Purity:	99.5%
Lot Number:	**1521536**	Matrix:	H_2O

Certified Value:

Bromide 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3184 (lot number 020701) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of bromide, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

wcchloride_00001

Certificate of Analysis

Product Description:

Name:	Chloride	Source Material:	Sodium Chloride
Part Number:	**IC-CL-10M**	Material Purity:	99.3%
Lot Number:	**1417005**	Matrix:	H_2O

Certified Value:

Chloride 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3182 (lot number 060925) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of chloride, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

WCCLO4-1st_00001

3255268

ID WCCLO4-1st_00001

Exp 03/30/17 Prpd YZ

PERCHLORATE- 1000 PPM

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-CLO49-2Y **Lot No.** 3-149CLO4-2Y

Description: 1000 µg/mL Perchlorate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 0114A†

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Perchlorate, Lot# F10T022. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1003 µg/mL

Method: Evaporate to dryness. Ignite and weigh as KClO4.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.03	NO_3^-	<0.02
Cl^-	<0.05	PO_4^{-3}	<0.03
F^-	<0.005	SO_4^{-2}	<0.5
NO_2^-	<0.02		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: MAR - - 2016 Certifying Officer:

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Reagent

wcfluoride_00004

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Fluoride Standard, 10,000 ppm F^-

Lot Number: 1507D81 **Product Number:** 3174.10

Manufacture Date: JUL 23, 2015
Expiration Date: JAN 2017

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless to light yellow liquid	Passed
Fluoride (F)	9950-10050 ppm	10000 ppm

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3174.10-32	1 L natural poly	18 months
3174.10-1	4 L natural poly	18 months
3174.10-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

WCICNACLICV_00004

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Chloride
CATALOG NUMBER:	047 -125 mL; 988 - 500 mL
LOT NUMBER:	280615
ISSUE DATE:	July 28, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Chloride (NaCl)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9988 ± 0.0008 g/mL at 19.4°C and 745 mm Hg
TRACEABILITY[3]:	99.2%
NIST/SRM:	3182 Chloride
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009 — ACCREDITED — REFERENCE MATERIAL PRODUCER CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 — ACCREDITED — CHEMICAL TESTING LABORATORY CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcsulfate_00006

Certificate of Analysis

Product Description:

Name:	Sulfate	Source Material:	Sodium Sulfate
Part Number:	**IC-SS-10M**	Material Purity:	99%
Lot Number:	**1522216**	Matrix:	H_2O

Certified Value:

Sulfate 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3181 (lot number 080603) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of sulfate, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160420046.d

Lab ID: LCS 440-325449/46 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	5.00	4.87	97	90-110	
Chloride	5.00	4.64	93	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160420072.d

Lab ID: 440-144995-A-2 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	50.0	ND	53.0	106	80-120	
Chloride	50.0	63	99.4	72	80-120	F1

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160420073.d

Lab ID: 440-144995-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromide	50.0	53.4	107	1	20	80-120	
Chloride	50.0	98.5	70	1	20	80-120	F1

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab File ID: 20160420045.d Lab Sample ID: MB 440-325449/45

Matrix: Water Date Extracted:

Instrument ID: IC-11 Date Analyzed: 04/21/2016 00:36

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 440-325449/43	20160420043.d	04/20/2016 23:52
	LCS 440-325449/46	20160420046.d	04/21/2016 00:51
	CCB 440-325449/55	20160420055.d	04/21/2016 03:09
	CCB 440-325449/67	20160420067.d	04/21/2016 06:13
	440-144995-A-2 MS	20160420072.d	04/21/2016 07:30
	440-144995-A-2 MSD	20160420073.d	04/21/2016 07:45
AA-23R-20160418	440-144933-1	20160420074.d	04/21/2016 08:01
AA-23R-20160418	440-144933-1	20160420075.d	04/21/2016 08:16
DBMW-8-20160418	440-144933-2	20160420076.d	04/21/2016 08:31
DBMW-8-20160418	440-144933-2	20160420077.d	04/21/2016 08:47
	CCB 440-325449/79	20160420079.d	04/21/2016 09:18
DBMW-7-20160418	440-144933-3	20160420080.d	04/21/2016 09:33
DBMW-7-20160418	440-144933-3	20160420081.d	04/21/2016 09:48
DBMW-7-20160418-FD	440-144933-4	20160420082.d	04/21/2016 10:04
DBMW-7-20160418-FD	440-144933-4	20160420083.d	04/21/2016 10:19
	CCB 440-325449/86	20160420086.d	04/21/2016 11:05

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: AA-23R-20160418
Lab Sample ID: 440-144933-1
Matrix: Water
Lab File ID: 20160420074.d
Analysis Method: 300.0
Date Collected: 04/18/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 08:01
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		5.0	2.5

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420074.d				
Lims ID:	440-144933-C-1				
Client ID:	AA-23R-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 08:01:15	ALS Bottle#:	0	Worklist Smp#:	74
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	#: 001A Name: 440-0072081-074				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:37:51	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:37:57		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.810	3.660	0.150	16263008	93.7	E

QC Flag Legend

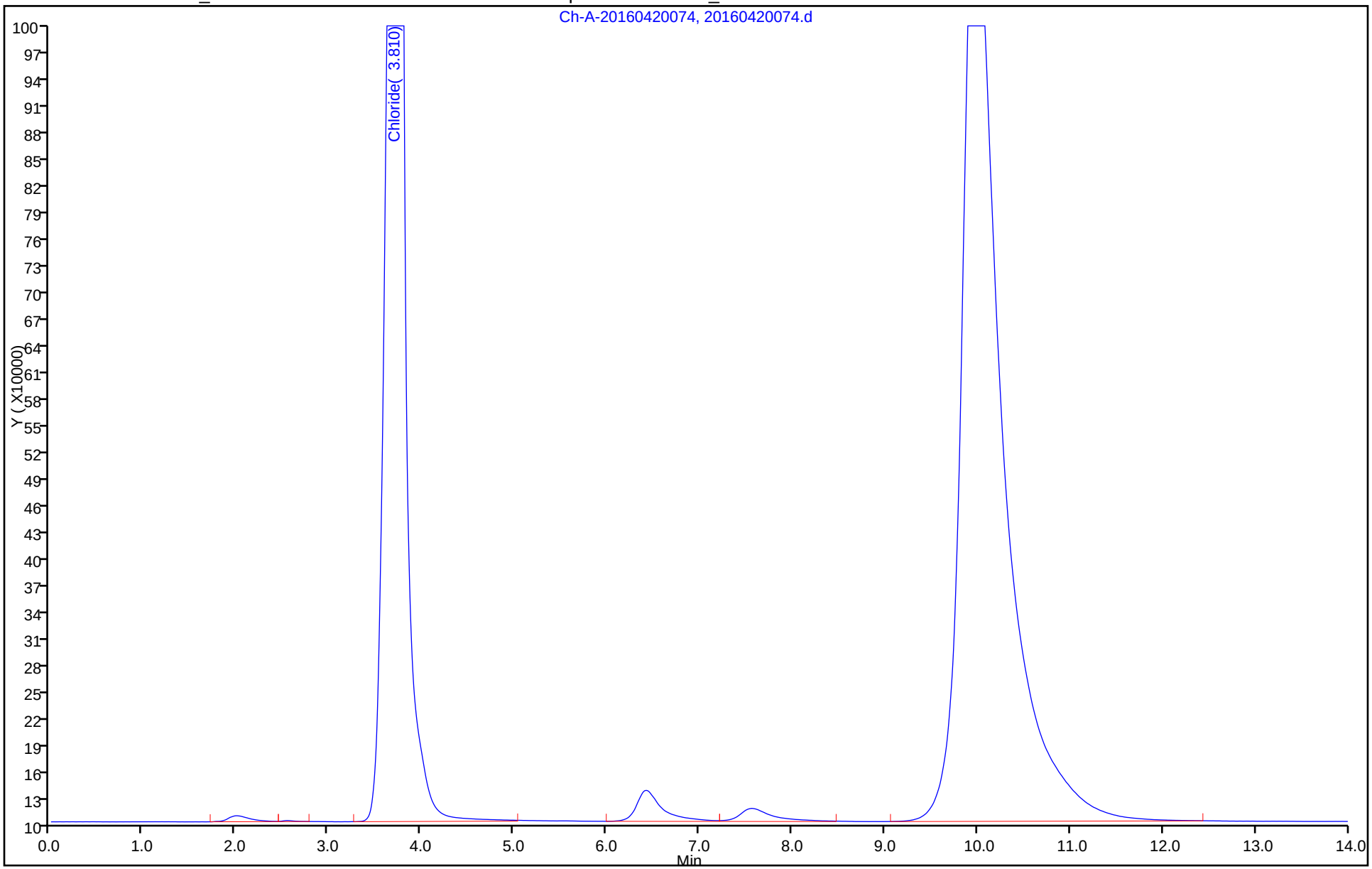
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:37:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420074.d				
Injection Date:	21-Apr-2016 08:01:15	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-1	Lab Sample ID:	440-144933-1	Worklist Smp#:	74
Client ID:	AA-23R-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: AA-23R-20160418
Lab Sample ID: 440-144933-1
Matrix: Water
Lab File ID: 20160420075.d
Analysis Method: 300.0
Date Collected: 04/18/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 08:16
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1100		250	130

TestAmerica Irvine
Target Compound Quantitation Report

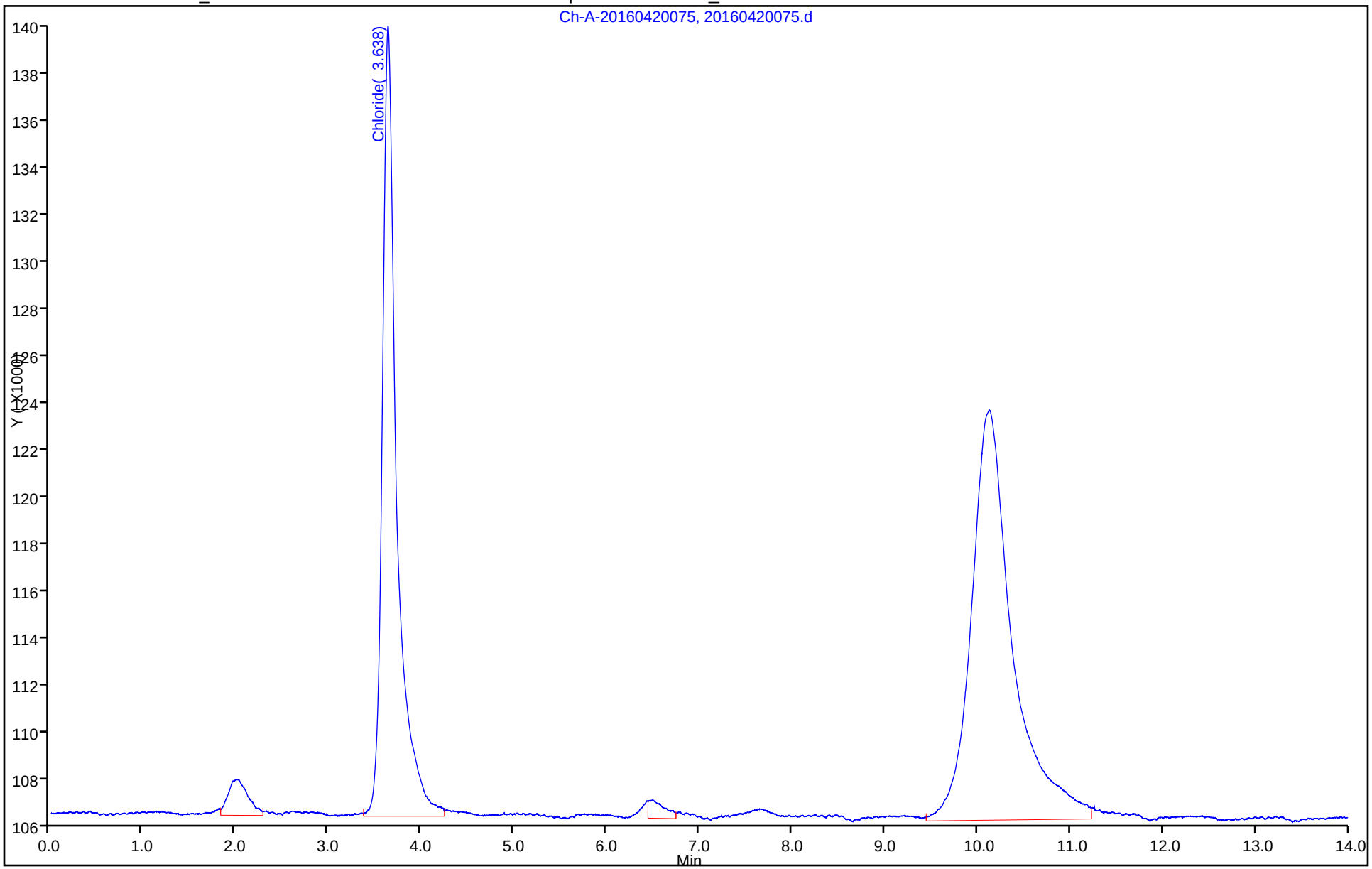
Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420075.d				
Lims ID:	440-144933-C-1				
Client ID:	AA-23R-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 08:16:36	ALS Bottle#:	0	Worklist Smp#:	75
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001A Name: 440-0072081-075				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:37:51	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:38:00		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.638	3.660	-0.022	355552	2.26	

Report Date: 21-Apr-2016 17:38:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420075.d				
Injection Date:	21-Apr-2016 08:16:36	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-1	Lab Sample ID:	440-144933-1	Worklist Smp#:	75
Client ID:	AA-23R-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-8-20160418
Lab Sample ID: 440-144933-2
Matrix: Water
Lab File ID: 20160420076.d
Analysis Method: 300.0
Date Collected: 04/18/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 08:31
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420076.d				
Lims ID:	440-144933-C-2				
Client ID:	DBMW-8-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 08:31:57	ALS Bottle#:	0	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	#: 001A Name: 440-0072081-076				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:37:51	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:38:05		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.759	3.660	0.099	13174453	75.9	E

QC Flag Legend

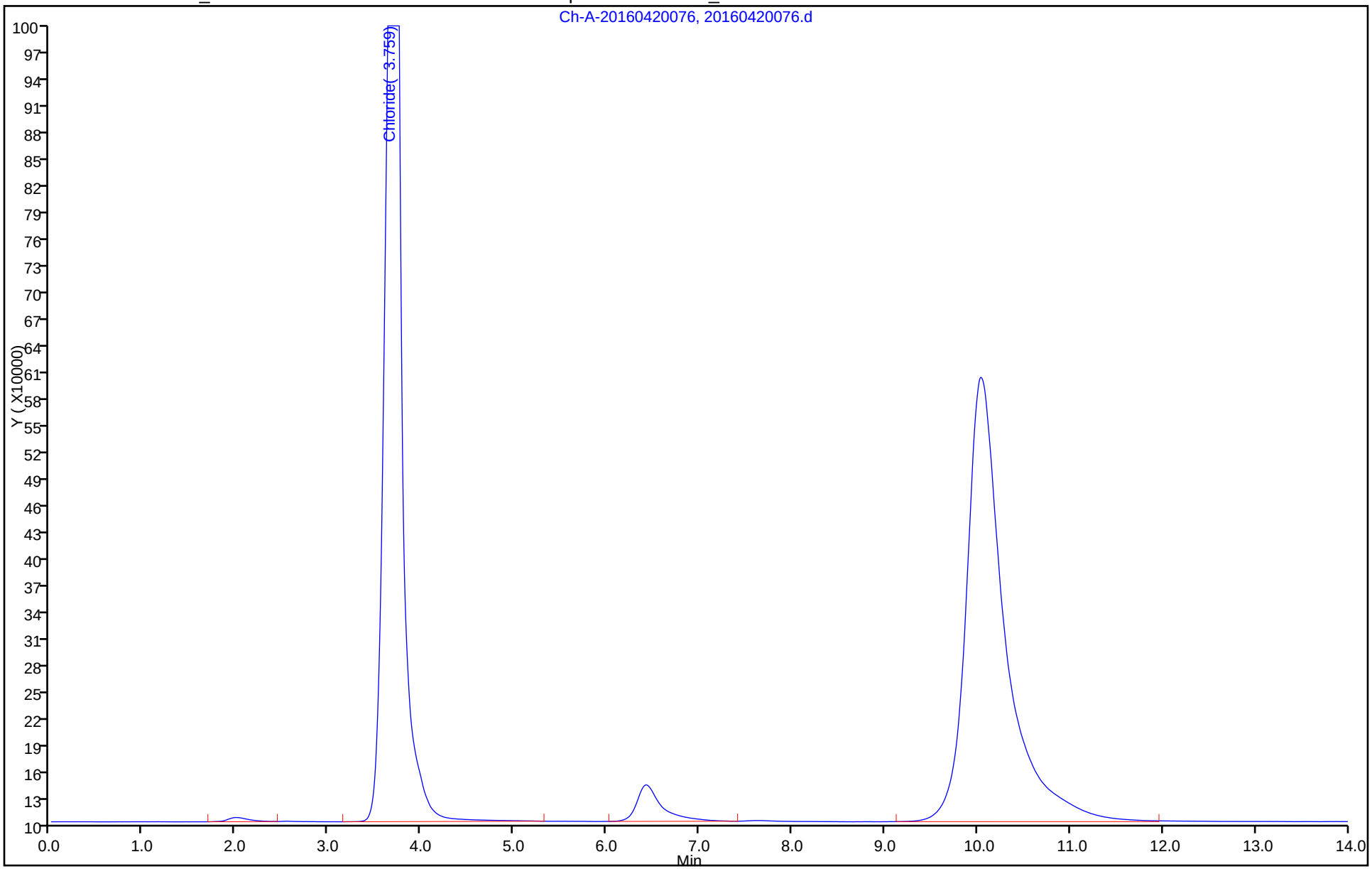
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:38:05 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420076.d				
Injection Date:	21-Apr-2016 08:31:57	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-2	Lab Sample ID:	440-144933-2	Worklist Smp#:	76
Client ID:	DBMW-8-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-8-20160418
Lab Sample ID: 440-144933-2
Matrix: Water
Lab File ID: 20160420077.d
Analysis Method: 300.0
Date Collected: 04/18/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 08:47
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1400		250	130

TestAmerica Irvine
Target Compound Quantitation Report

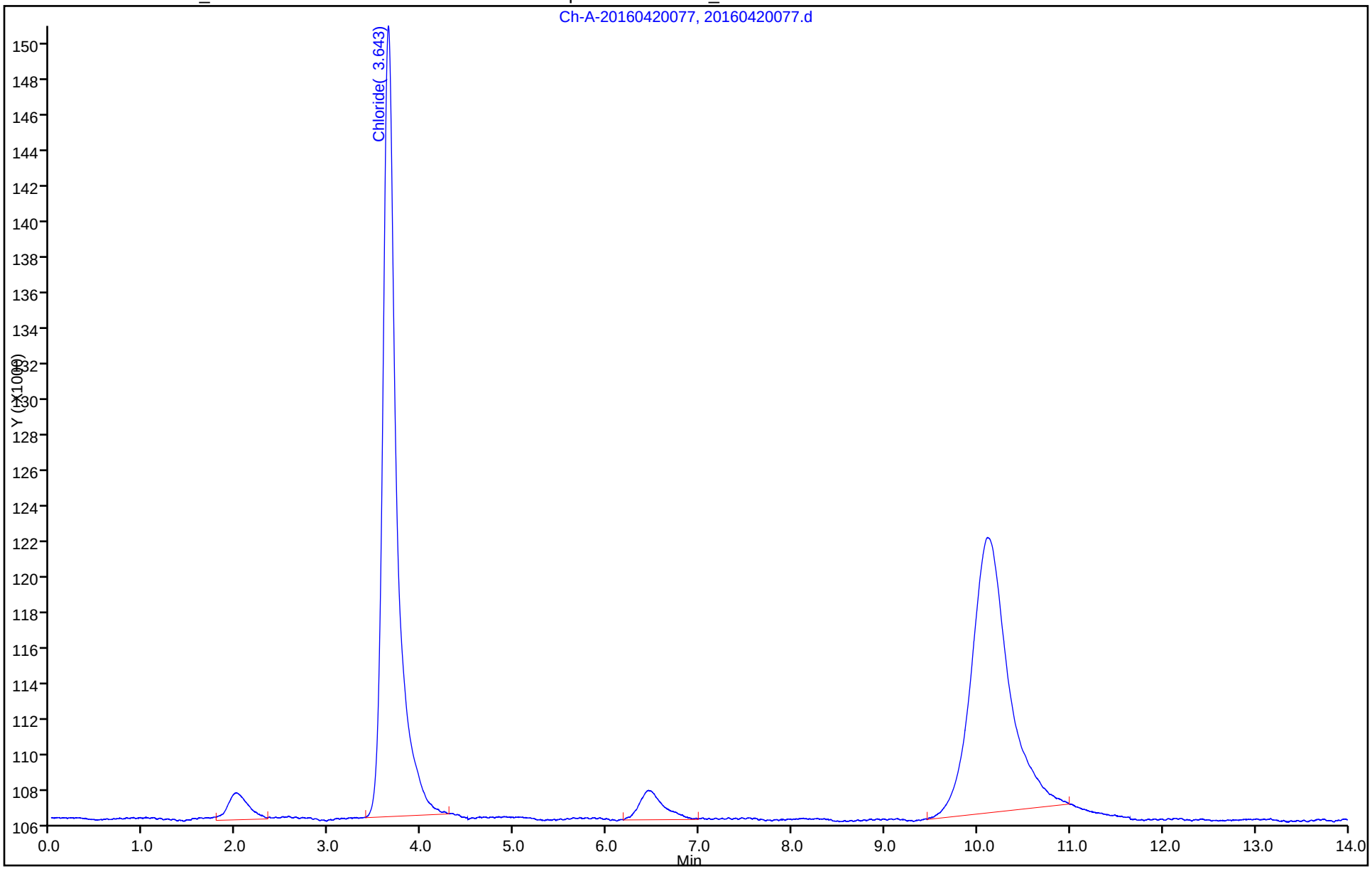
Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420077.d				
Lims ID:	440-144933-C-2				
Client ID:	DBMW-8-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 08:47:18	ALS Bottle#:	0	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001A Name: 440-0072081-077				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:37:51	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:38:07		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.643	3.660	-0.017	460900	2.87	

Report Date: 21-Apr-2016 17:38:07 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420077.d				
Injection Date:	21-Apr-2016 08:47:18	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-2	Lab Sample ID:	440-144933-2	Worklist Smp#:	77
Client ID:	DBMW-8-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418
Lab Sample ID: 440-144933-3
Matrix: Water
Lab File ID: 20160420080.d
Analysis Method: 300.0
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 09:33
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420080.d				
Lims ID:	440-144933-C-3				
Client ID:	DBMW-7-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 09:33:21	ALS Bottle#:	0	Worklist Smp#:	80
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	#: 001A Name: 440-0072081-080				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 12:06:03	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:18:20		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.776	3.635	0.141	12908018	74.4	E

QC Flag Legend

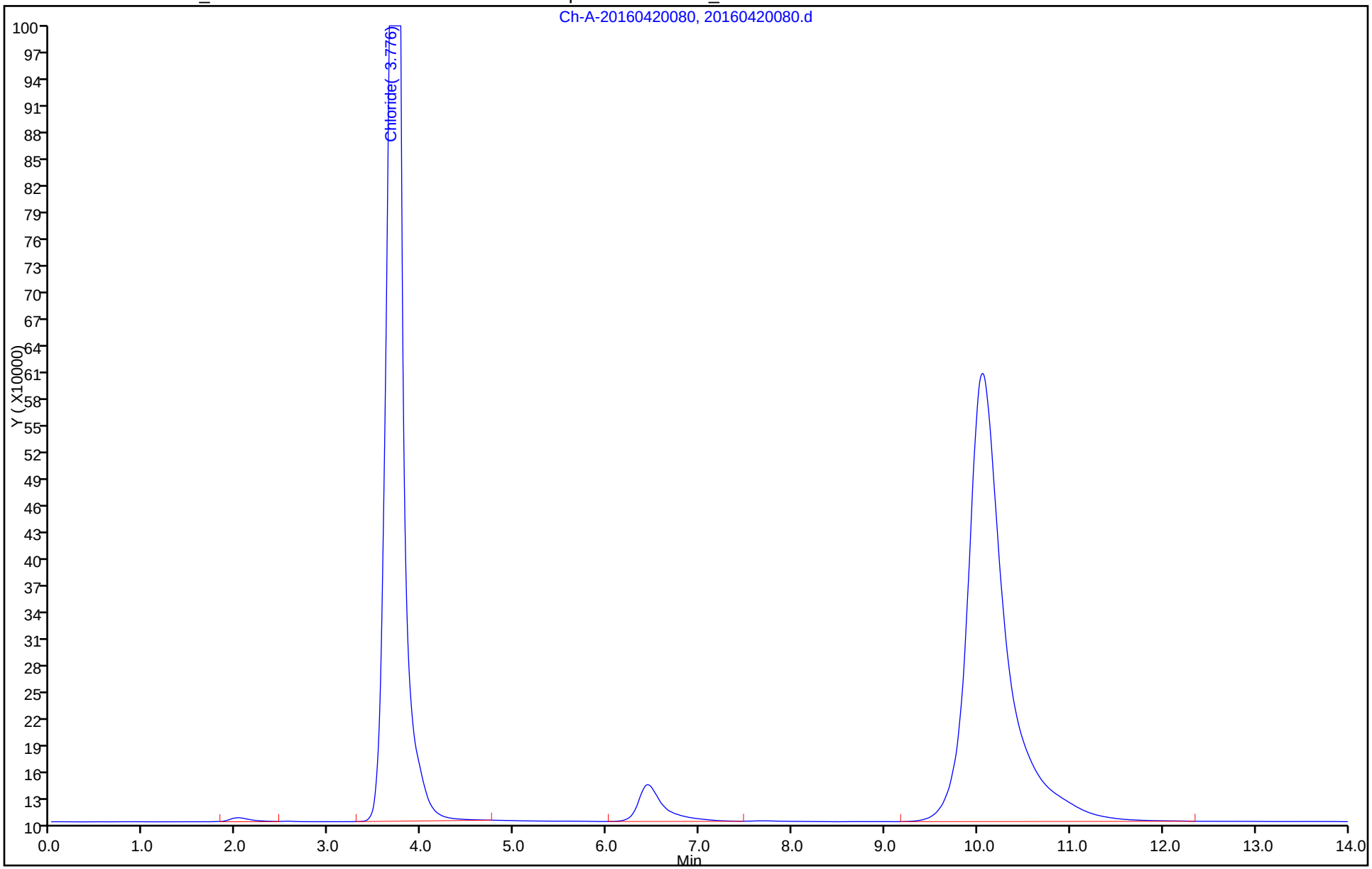
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:18:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420080.d				
Injection Date:	21-Apr-2016 09:33:21	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-3	Lab Sample ID:	440-144933-3	Worklist Smp#:	80
Client ID:	DBMW-7-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418
Lab Sample ID: 440-144933-3
Matrix: Water
Lab File ID: 20160420081.d
Analysis Method: 300.0
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 09:48
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1500		250	130

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420081.d				
Lims ID:	440-144933-C-3				
Client ID:	DBMW-7-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 09:48:42	ALS Bottle#:	0	Worklist Smp#:	81
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001A Name: 440-0072081-081				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		

Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m		
Limit Group:	IC-300_28D		
Method Label:	Anions 300.0		
Last Update:	21-Apr-2016 12:06:03	Calib Date:	23-Mar-2016 14:00:30
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d		

Column 1 :		Det: Ch-A-20110829007
Process Host:	XAWRK050	

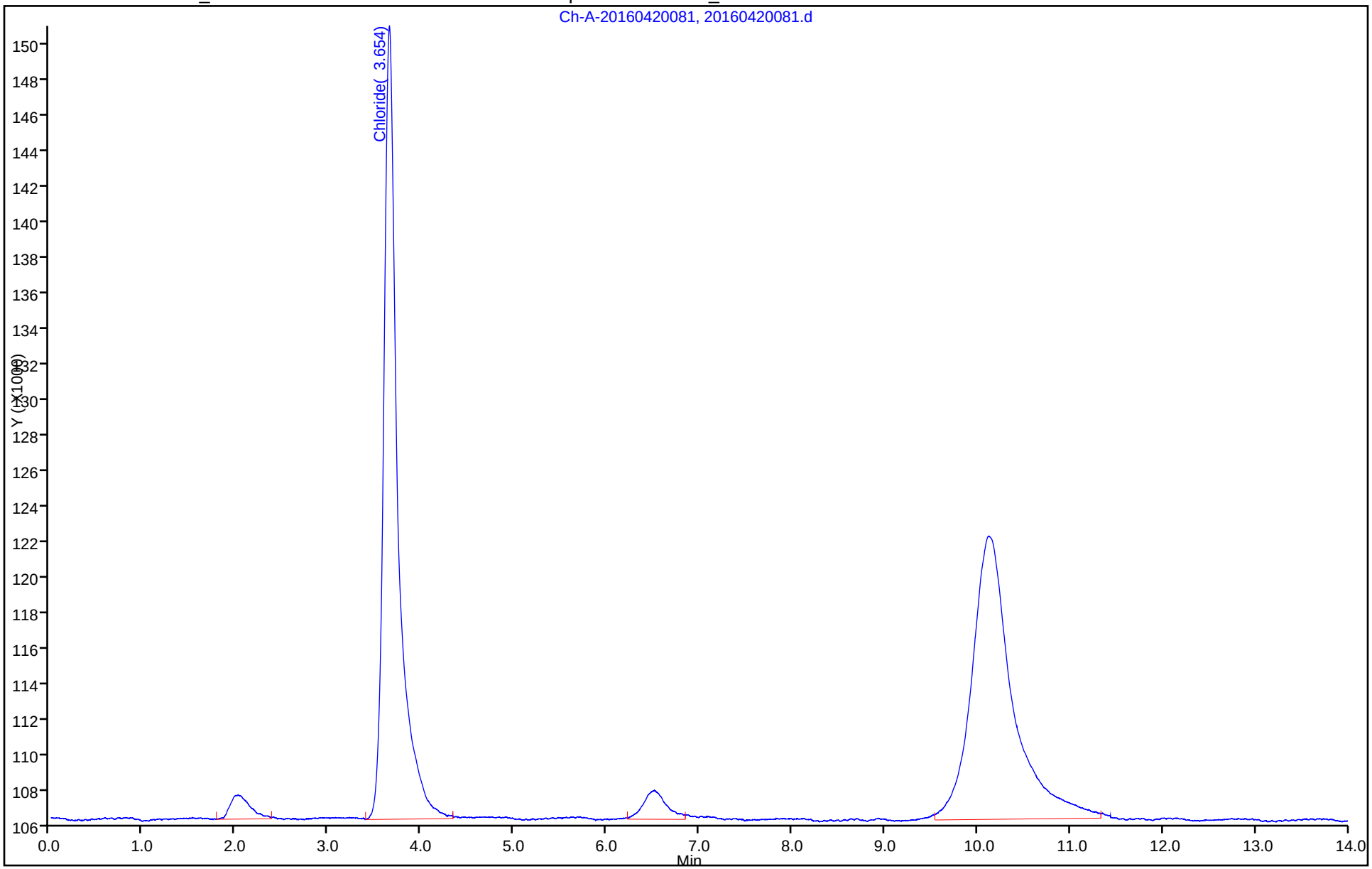
First Level Reviewer: nguyennt Date: 21-Apr-2016 17:18:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.654	3.635	0.019	466997	2.91	

Report Date: 21-Apr-2016 17:18:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420081.d				
Injection Date:	21-Apr-2016 09:48:42	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-3	Lab Sample ID:	440-144933-3	Worklist Smp#:	81
Client ID:	DBMW-7-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418-FD
Lab Sample ID: 440-144933-4
Matrix: Water
Lab File ID: 20160420082.d
Analysis Method: 300.0
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 10:04
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420082.d				
Lims ID:	440-144933-C-4				
Client ID:	DBMW-7-20160418-FD				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 10:04:03	ALS Bottle#:	0	Worklist Smp#:	82
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	#: 001A Name: 440-0072081-082				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 12:06:03	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:18:33		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.772	3.635	0.137	12826746	73.9	E

QC Flag Legend

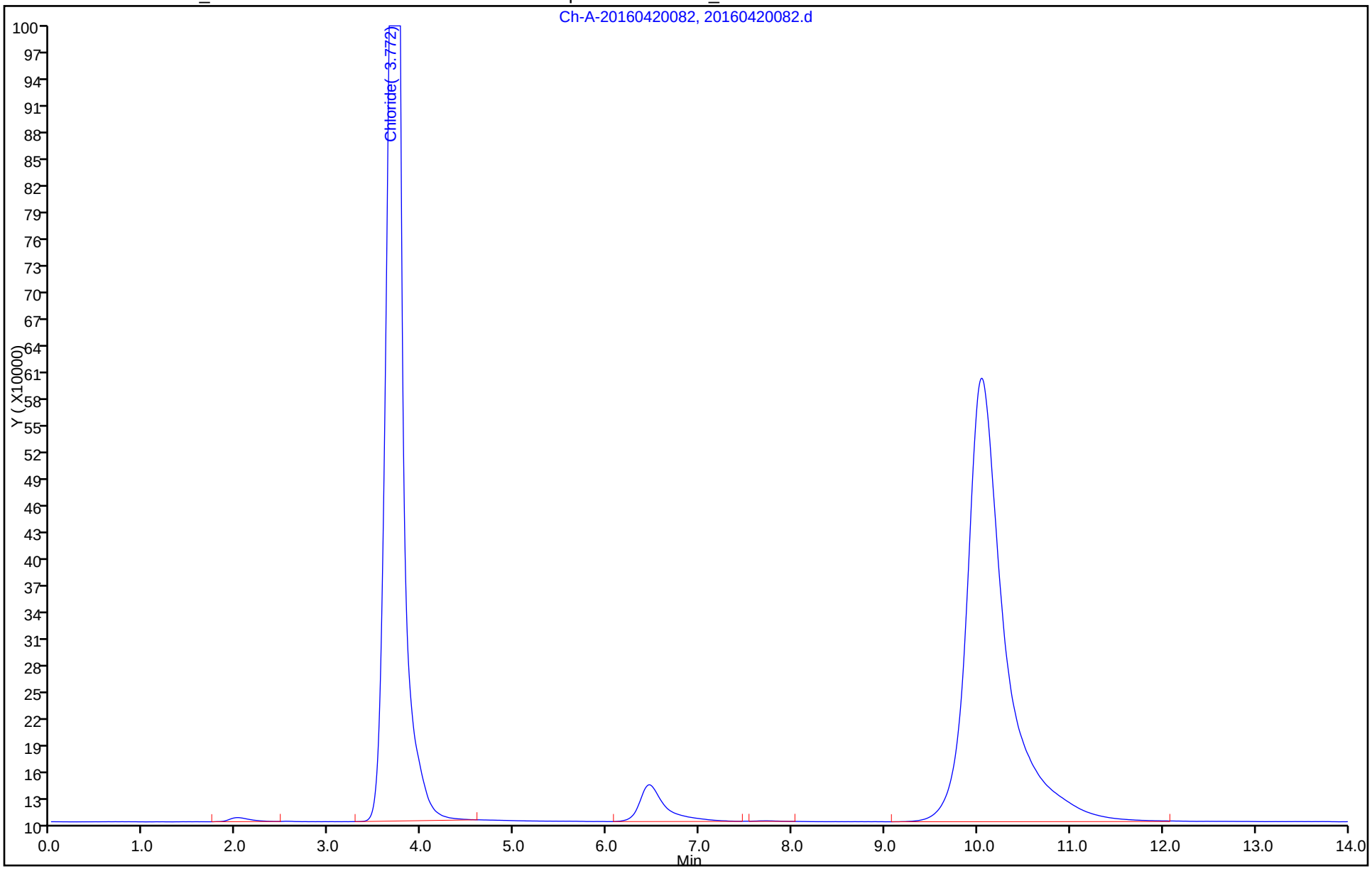
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:18:34 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420082.d				
Injection Date:	21-Apr-2016 10:04:03	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-4	Lab Sample ID:	440-144933-4	Worklist Smp#:	82
Client ID:	DBMW-7-20160418-FD				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418-FD
Lab Sample ID: 440-144933-4
Matrix: Water
Lab File ID: 20160420083.d
Analysis Method: 300.0
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 10:19
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1400		250	130

TestAmerica Irvine
Target Compound Quantitation Report

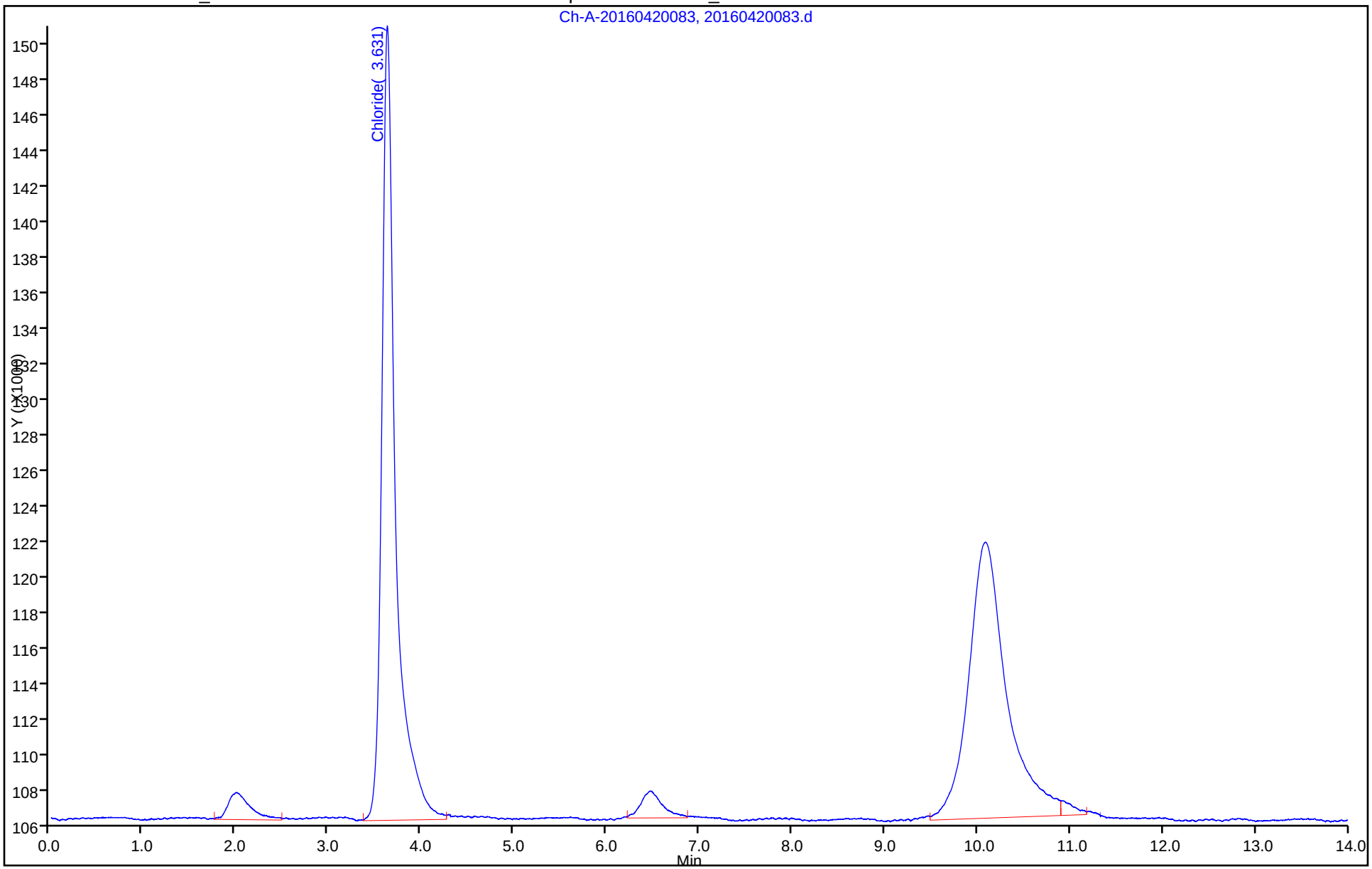
Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420083.d				
Lims ID:	440-144933-C-4				
Client ID:	DBMW-7-20160418-FD				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 10:19:24	ALS Bottle#:	0	Worklist Smp#:	83
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001A Name: 440-0072081-083				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 12:06:03	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:18:37		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.631	3.635	-0.004	456743	2.85	

Report Date: 21-Apr-2016 17:18:39 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420083.d				
Injection Date:	21-Apr-2016 10:19:24	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-C-4	Lab Sample ID:	440-144933-4	Worklist Smp#:	83
Client ID:	DBMW-7-20160418-FD				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 319603

SDG No.:

Instrument ID: IC-11 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/23/2016 11:42 Calibration End Date: 03/23/2016 14:00 Calibration ID: 13850

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319603/3	20160323A003.d
Level 2	STD1 440-319603/4	20160323A004.d
Level 3	STD2 440-319603/5	20160323A005.d
Level 4	STD3 440-319603/6	20160323A006.d
Level 5	STD4 440-319603/12	20160323A012.d
Level 6	STD5 440-319603/8	20160323A008.d
Level 7	STD6 440-319603/9	20160323A009.d
Level 8	STD7 440-319603/10	20160323A010.d
Level 9	STD8 440-319603/11	20160323A011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride		2.587	2.576	2.580	2.569	2.586	2.594	2.586	2.619		0.000 - 0.000	2.587
Chloride		3.668	3.643	3.653	3.623	3.644	3.642	+++++	+++++		0.000 - 0.000	3.646
Bromide		5.611	5.603	5.583	5.535	5.533	5.518	5.499	5.513		0.000 - 0.000	5.549
Sulfate		10.168	10.108	10.070	10.009	10.079	10.047	10.013	+++++		0.000 - 0.000	10.071

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 319603

SDG No.:

Instrument ID: IC-11 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/23/2016 11:42 Calibration End Date: 03/23/2016 14:00 Calibration ID: 13850

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319603/3	20160323A003.d
Level 2	STD1 440-319603/4	20160323A004.d
Level 3	STD2 440-319603/5	20160323A005.d
Level 4	STD3 440-319603/6	20160323A006.d
Level 5	STD4 440-319603/12	20160323A012.d
Level 6	STD5 440-319603/8	20160323A008.d
Level 7	STD6 440-319603/9	20160323A009.d
Level 8	STD7 440-319603/10	20160323A010.d
Level 9	STD8 440-319603/11	20160323A011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	 252196 264633	168918 255808	202323 265385	230655 269410	Lin	-88509.470	268074.397							1.0000		0.9950
Chloride	 167675 +++++	132546 166243	145539 176125	157315 +++++	Lin	-38541.800	174001.448							0.9980		0.9950
Bromide	 68048 72045	58794 68639	56709 70761	63489 71605	Lin	-24314.468	72243.6726							1.0000		0.9950
Sulfate	 111830 +++++	102554 111277	103249 115317	110451 116872	Lin	-23091.105	116459.802							0.9990		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 319603

SDG No.:

Instrument ID: IC-11 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/23/2016 11:42 Calibration End Date: 03/23/2016 14:00 Calibration ID: 13850

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319603/3	20160323A003.d
Level 2	STD1 440-319603/4	20160323A004.d
Level 3	STD2 440-319603/5	20160323A005.d
Level 4	STD3 440-319603/6	20160323A006.d
Level 5	STD4 440-319603/12	20160323A012.d
Level 6	STD5 440-319603/8	20160323A008.d
Level 7	STD6 440-319603/9	20160323A009.d
Level 8	STD7 440-319603/10	20160323A010.d
Level 9	STD8 440-319603/11	20160323A011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin	3837114	84459 5307709	202323 8082293	1153276 10585319	2521961	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 40.0	10.0
Chloride	Lin	2493642	66273 3522498	145539 +++++	786576 +++++	1676754	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Bromide	Lin	1029580	29397 1415213	56709 2148154	317443 2881801	680479	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 40.0	10.0
Sulfate	Lin	1669160	51277 2306343	103249 3506164	552253 +++++	1118299	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0

Curve Type Legend:

Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A003.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	23-Mar-2016 11:42:21	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070871-003				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Sublist:	chrom-300_11*sub7				
Method:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Mar-2016 17:22:11	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK051				
First Level Reviewer: nickloffn		Date:	23-Mar-2016 13:11:09		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Reagents:

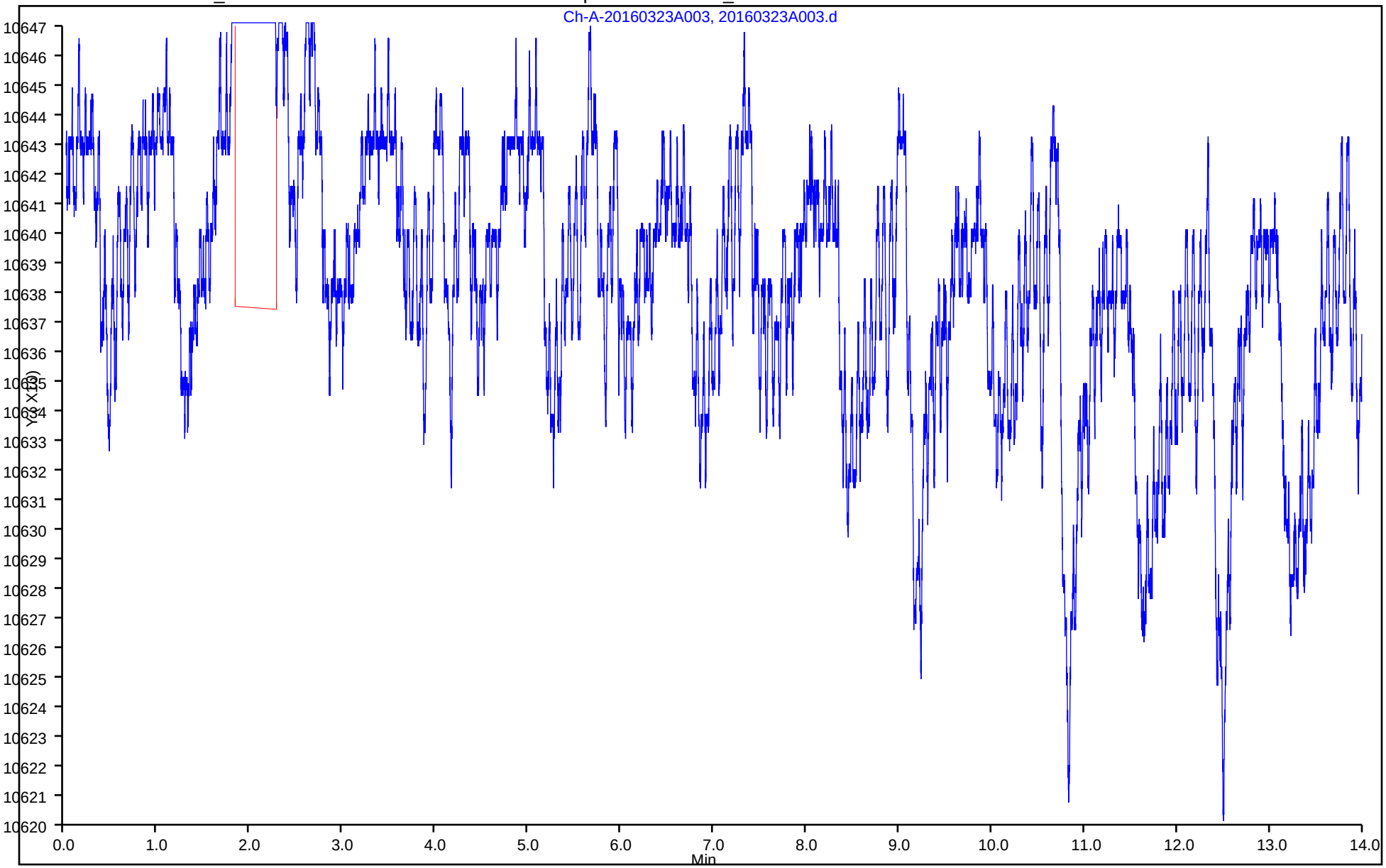
WCLCSANIONS_00113 Amount Added: 0.00 Units: mL

Report Date: 23-Mar-2016 17:22:13 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A003.d

Injection Date:	23-Mar-2016 11:42:21	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std0			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A004.d
Lims ID: std1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 23-Mar-2016 11:57:42 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070871-004
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Mar-2016 17:22:56 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK051

First Level Reviewer: nickloffn Date: 23-Mar-2016 13:15:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.587	2.586	0.001	84459	0.5000	0.6452	
2 Chloride	3.668	3.644	0.024	66273	0.5000	0.6024	
3 Nitrite as NO2	4.397	4.354	0.043	41942	NC	NC	
12 Nitrite as N	4.397	4.354	0.043	41942	NC	NC	
4 Bromide	5.611	5.533	0.079	29397	0.5000	0.7435	M
5 Nitrate as NO3	6.573	6.424	0.149	35929	NC	NC	
10 Nitrate as N	6.573	6.424	0.149	35929	NC	NC	
9 Orthophosphate as P	8.268	8.242	0.026	18532	NC	NC	M
11 Orthophosphorus as PO4	8.268	8.242	0.026	18532	NC	NC	M
7 Sulfate	10.168	10.079	0.089	51277	0.5000	0.6386	M
S 8 Nitrate Nitrite as N					0.1522	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

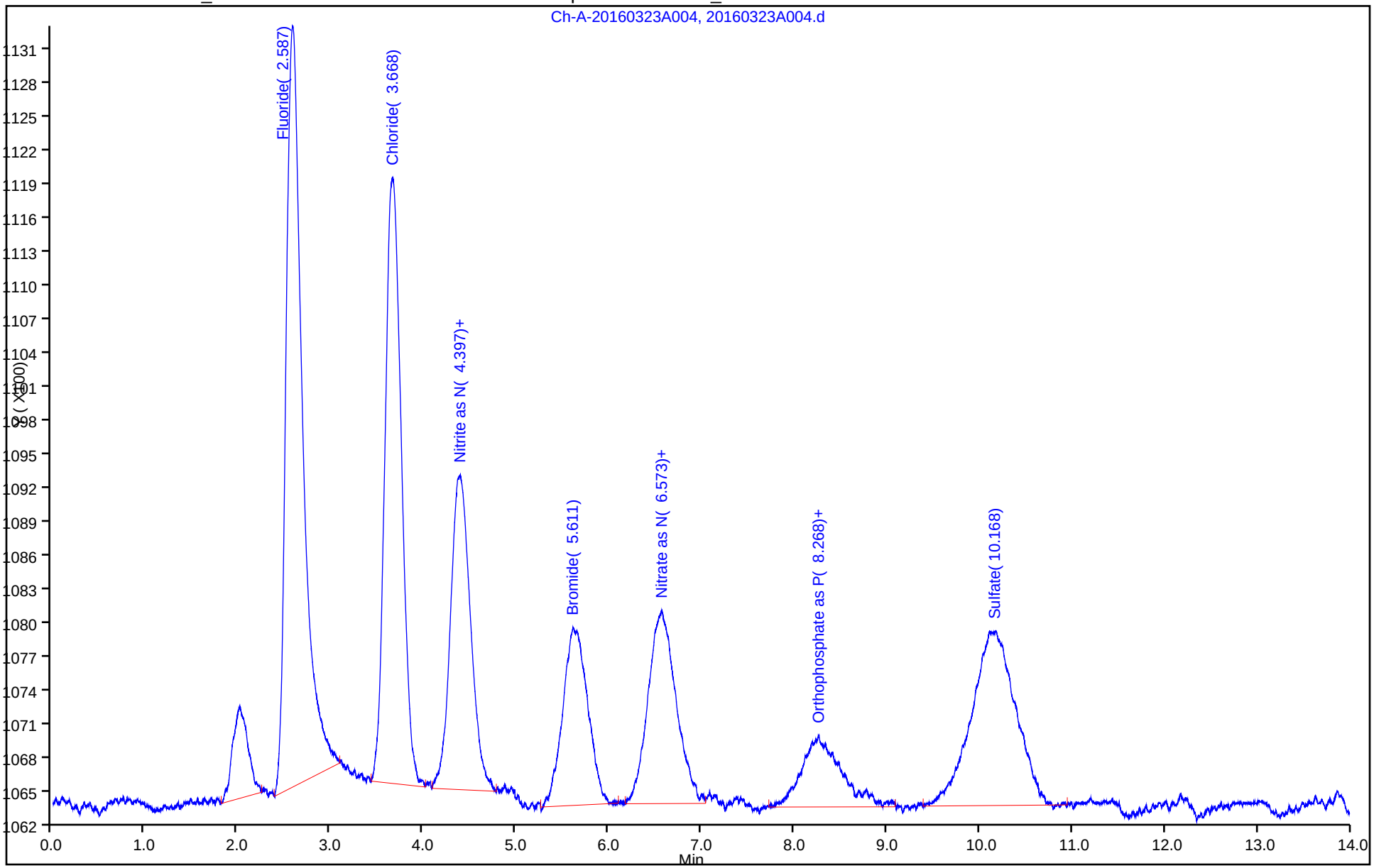
Reagents:

WCLCSANIONS_00113 Amount Added: 5.00 Units: uL

Report Date: 23-Mar-2016 17:22:56 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A004.d				
Injection Date:	23-Mar-2016 11:57:42	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std1			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



Manual Integration/User Assign Peak Report

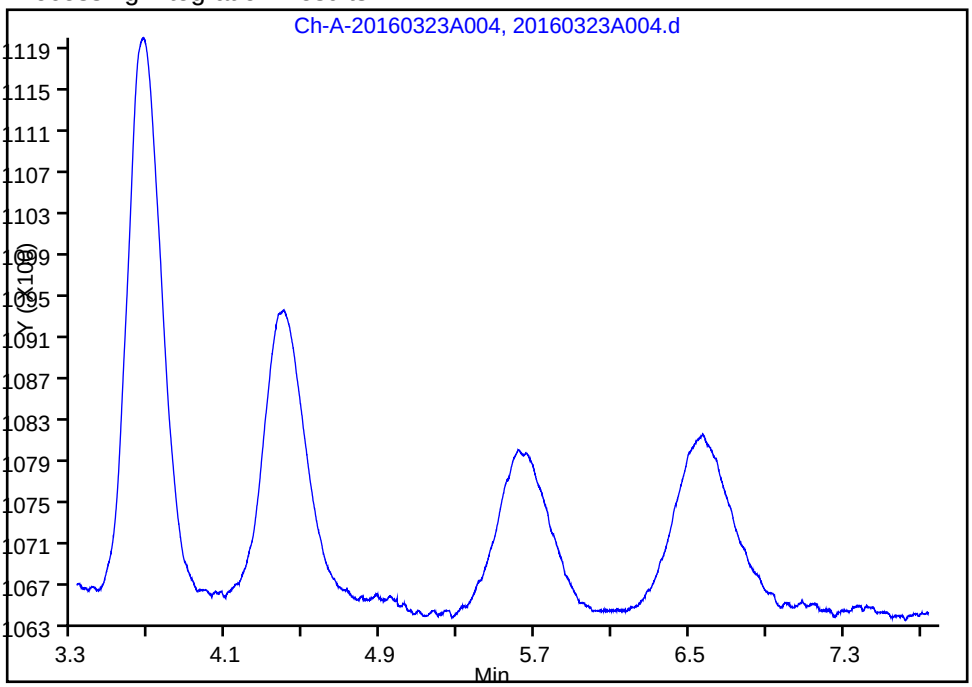
TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A004.d				
Injection Date:	23-Mar-2016 11:57:42	Instrument ID:	IC-11		
Lims ID:	std1				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

4 Bromide, CAS: 24959-67-9

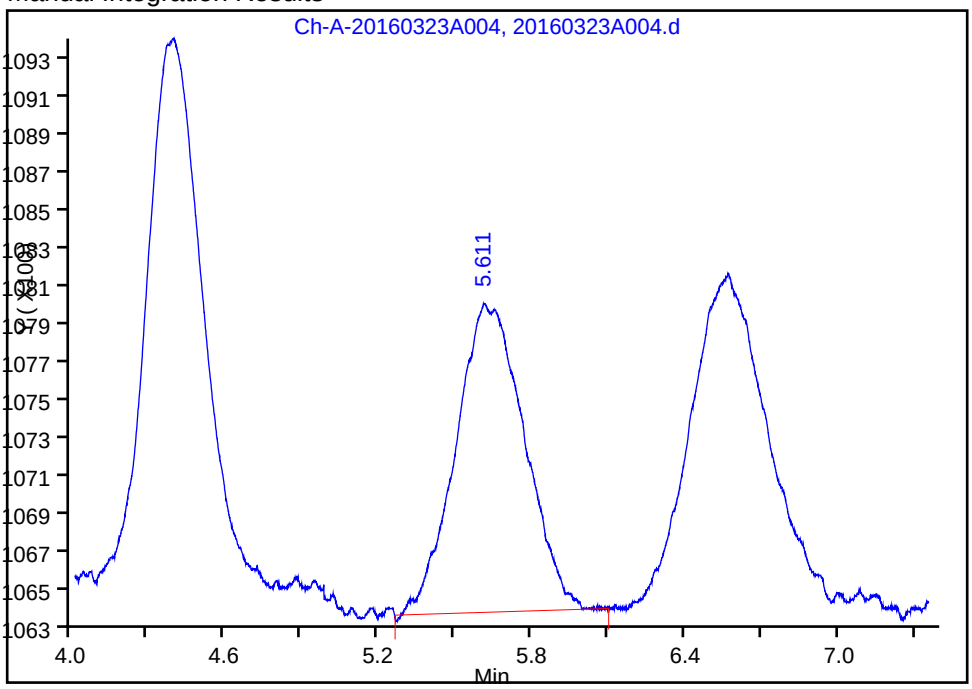
Not Detected
Expected RT: 5.53

Processing Integration Results



Manual Integration Results

RT: 5.61
Area: 29397
Amount: 0.743476
Amount Units: ug/ml



Reviewer: nickloffn, 23-Mar-2016 13:15:18
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

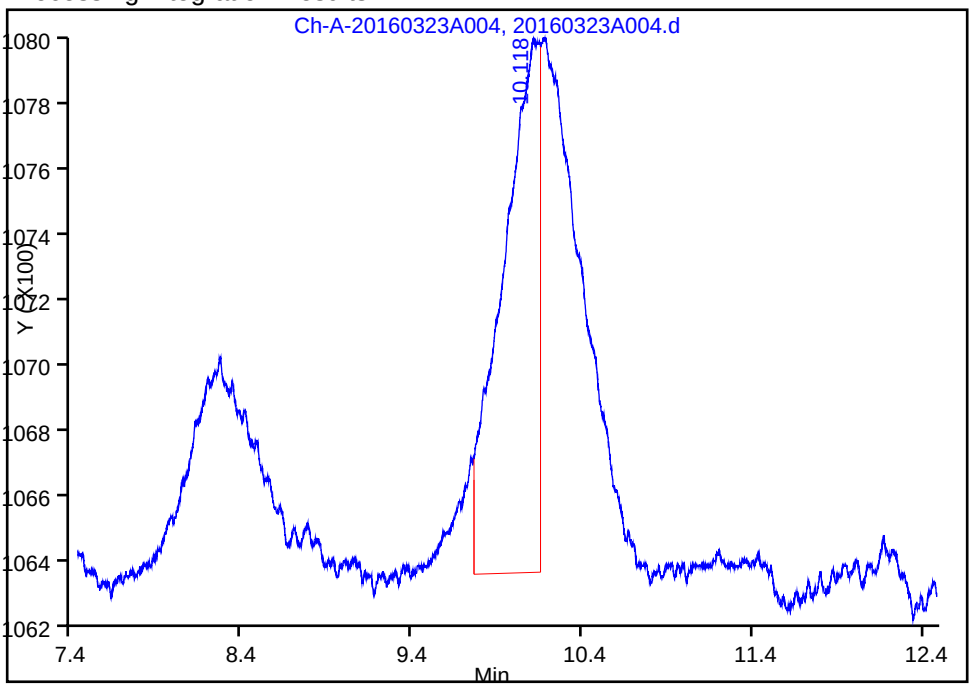
TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A004.d				
Injection Date:	23-Mar-2016 11:57:42	Instrument ID:	IC-11		
Lims ID:	std1				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

7 Sulfate, CAS: 14808-79-8

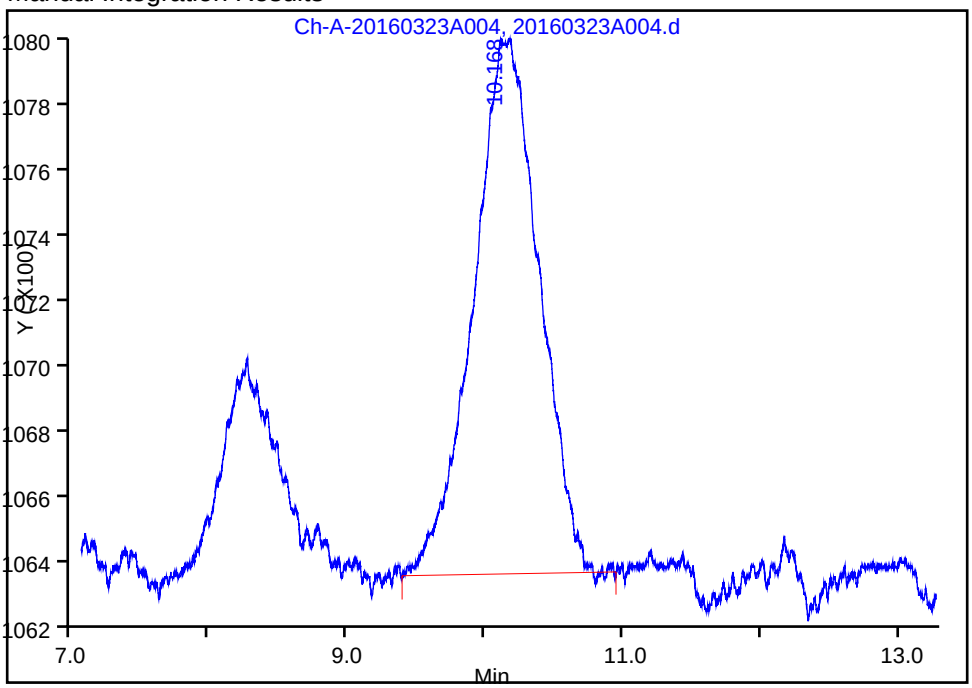
Processing Integration Results

RT: 10.12
Area: 22889
Amount: 0
Amount Units: ug/ml



Manual Integration Results

RT: 10.17
Area: 51277
Amount: 0.638573
Amount Units: ug/ml



Reviewer: nickloffn, 23-Mar-2016 13:15:18
Audit Action: Manually Integrated
Audit Reason: Incomplete Integration

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A005.d
Lims ID: std2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 23-Mar-2016 12:13:03 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070871-005
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Mar-2016 17:22:58 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK051

First Level Reviewer: nickloffn Date: 23-Mar-2016 14:08:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.576	2.586	-0.010	202323	1.00	1.08	
2 Chloride	3.643	3.644	-0.002	145539	1.00	1.06	
3 Nitrite as NO2	4.370	4.354	0.016	90404	NC	NC	
12 Nitrite as N	4.370	4.354	0.016	90404	NC	NC	
4 Bromide	5.603	5.533	0.070	56709	1.00	1.12	
5 Nitrate as NO3	6.546	6.424	0.122	75567	NC	NC	
10 Nitrate as N	6.546	6.424	0.122	75567	NC	NC	
9 Orthophosphate as P	8.259	8.242	0.017	37112	NC	NC	M
11 Orthophosphorus as PO4	8.259	8.242	0.017	37112	NC	NC	M
7 Sulfate	10.108	10.079	0.029	103249	1.00	1.08	
S 8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

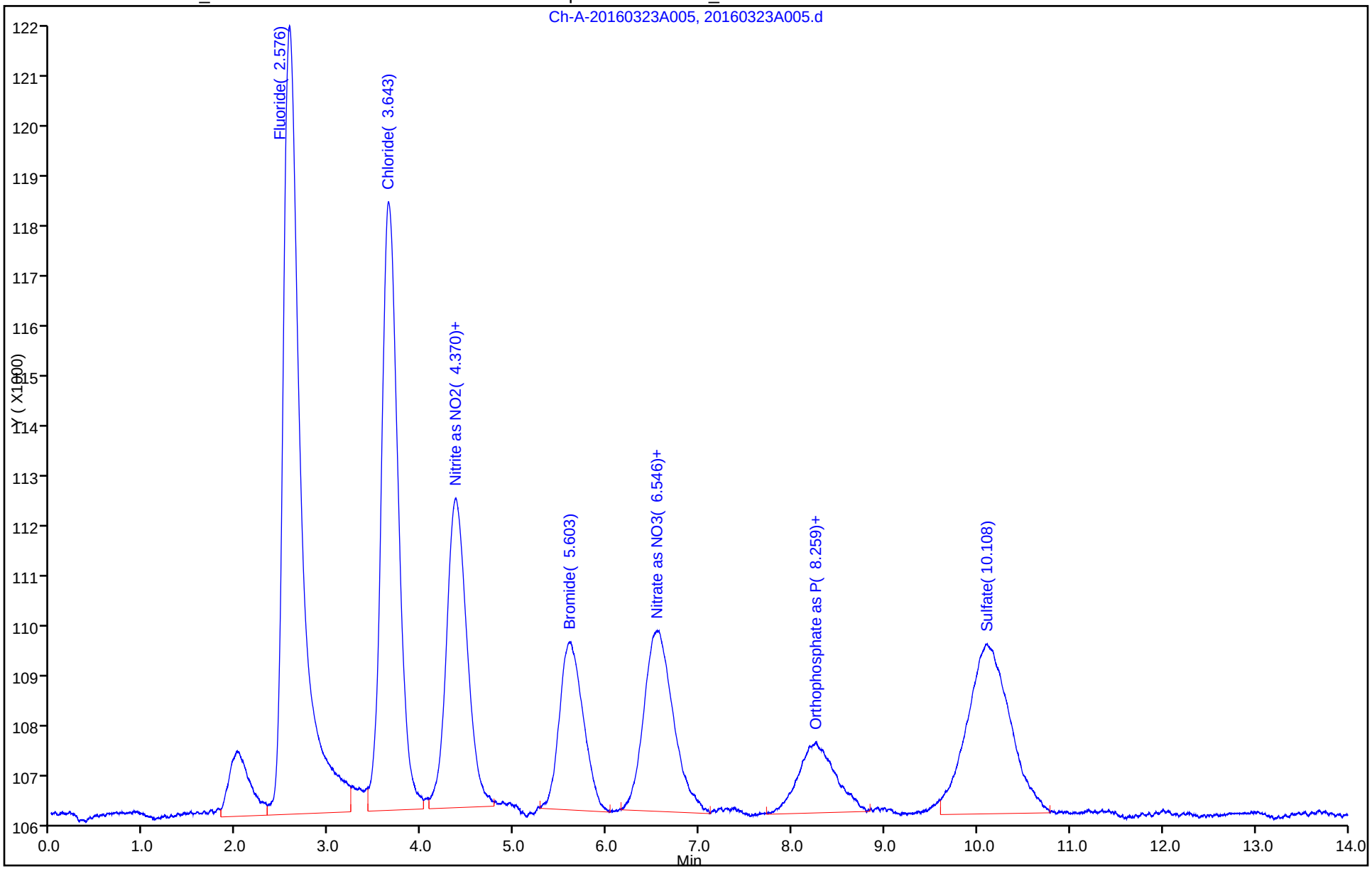
Reagents:

WCLCSANIONS_00113 Amount Added: 10.00 Units: uL

Report Date: 23-Mar-2016 17:22:59 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A005.d				
Injection Date:	23-Mar-2016 12:13:03	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std2			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A006.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	23-Mar-2016 12:28:24	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070871-006				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Sublist:	chrom-300_11*sub7				
Method:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Mar-2016 17:23:00	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK051				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.580	2.586	-0.006	1153276	5.00	4.63	
	2 Chloride	3.653	3.644	0.009	786576	5.00	4.74	
	3 Nitrite as NO2	4.366	4.354	0.012	521847	NC	NC	
	12 Nitrite as N	4.366	4.354	0.012	521847	NC	NC	
	4 Bromide	5.583	5.533	0.051	317443	5.00	4.73	
	5 Nitrate as NO3	6.502	6.424	0.078	404759	NC	NC	
	10 Nitrate as N	6.502	6.424	0.078	404759	NC	NC	
	9 Orthophosphate as P	8.231	8.242	-0.011	207547	NC	NC	
	11 Orthophosphorus as PO4	8.231	8.242	-0.011	207547	NC	NC	
	7 Sulfate	10.070	10.079	-0.009	552253	5.00	4.94	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

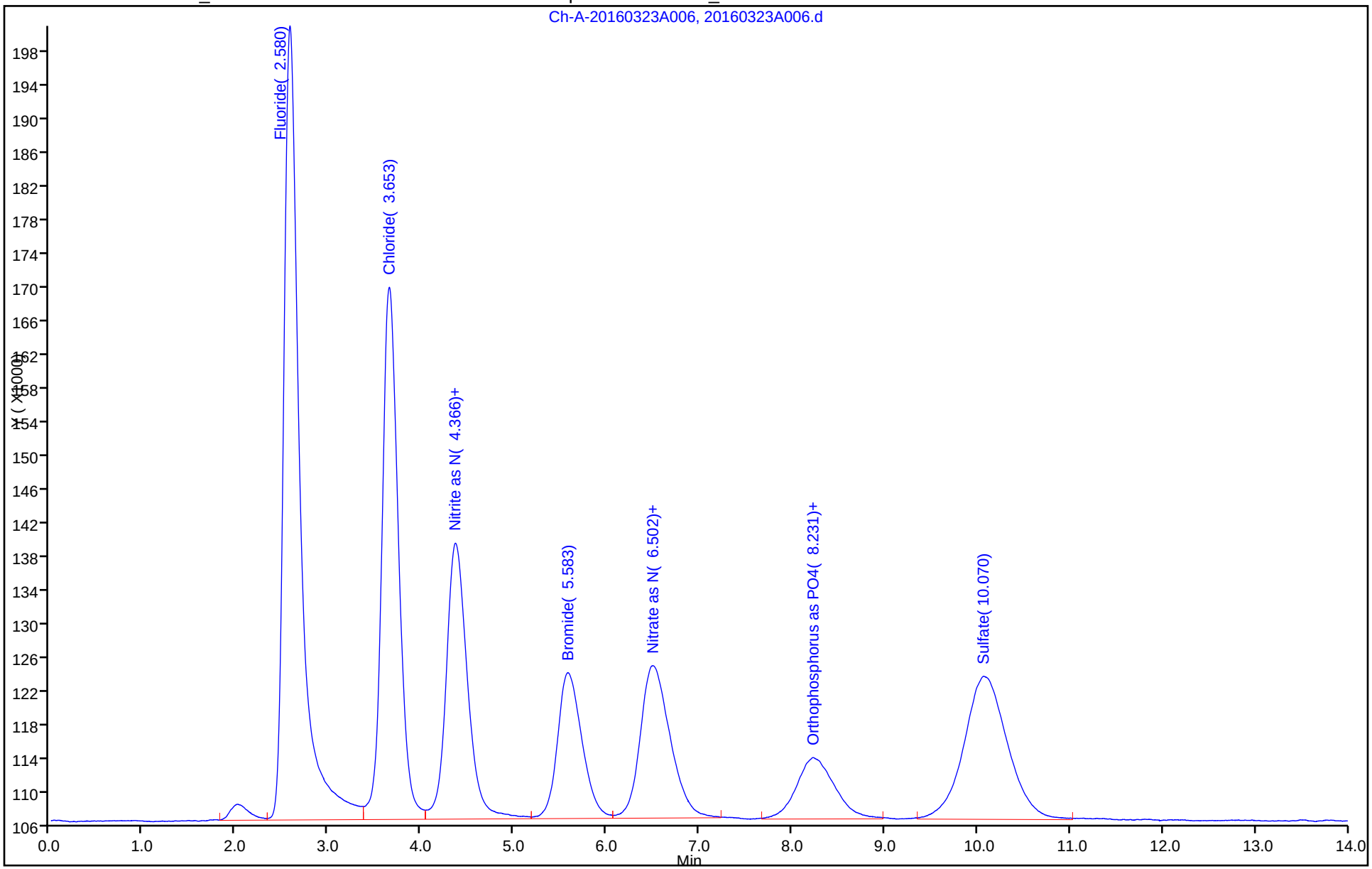
Reagents:

WCLCSANIONS_00113 Amount Added: 50.00 Units: uL

Report Date: 23-Mar-2016 17:23:01 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A006.d				
Injection Date:	23-Mar-2016 12:28:24	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std3			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A008.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	23-Mar-2016 12:59:06	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070871-008				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Sublist:	chrom-300_11*sub7				
Method:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Mar-2016 17:22:00	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK051				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.586	2.586	0.000	3837114	15.0	14.6	
2 Chloride	3.644	3.644	0.000	2493642	15.0	14.6	
3 Nitrite as NO2	4.354	4.354	0.000	1639758	NC	NC	
12 Nitrite as N	4.354	4.354	0.000	1639758	NC	NC	
4 Bromide	5.533	5.533	0.000	1029580	15.0	14.6	
5 Nitrate as NO3	6.424	6.424	0.000	1292807	NC	NC	
10 Nitrate as N	6.424	6.424	0.000	1292807	NC	NC	
9 Orthophosphate as P	8.242	8.242	0.000	656377	NC	NC	
11 Orthophosphorus as PO4	8.242	8.242	0.000	656377	NC	NC	
7 Sulfate	10.079	10.079	0.000	1669160	15.0	14.5	
S 8 Nitrate Nitrite as N					4.57	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

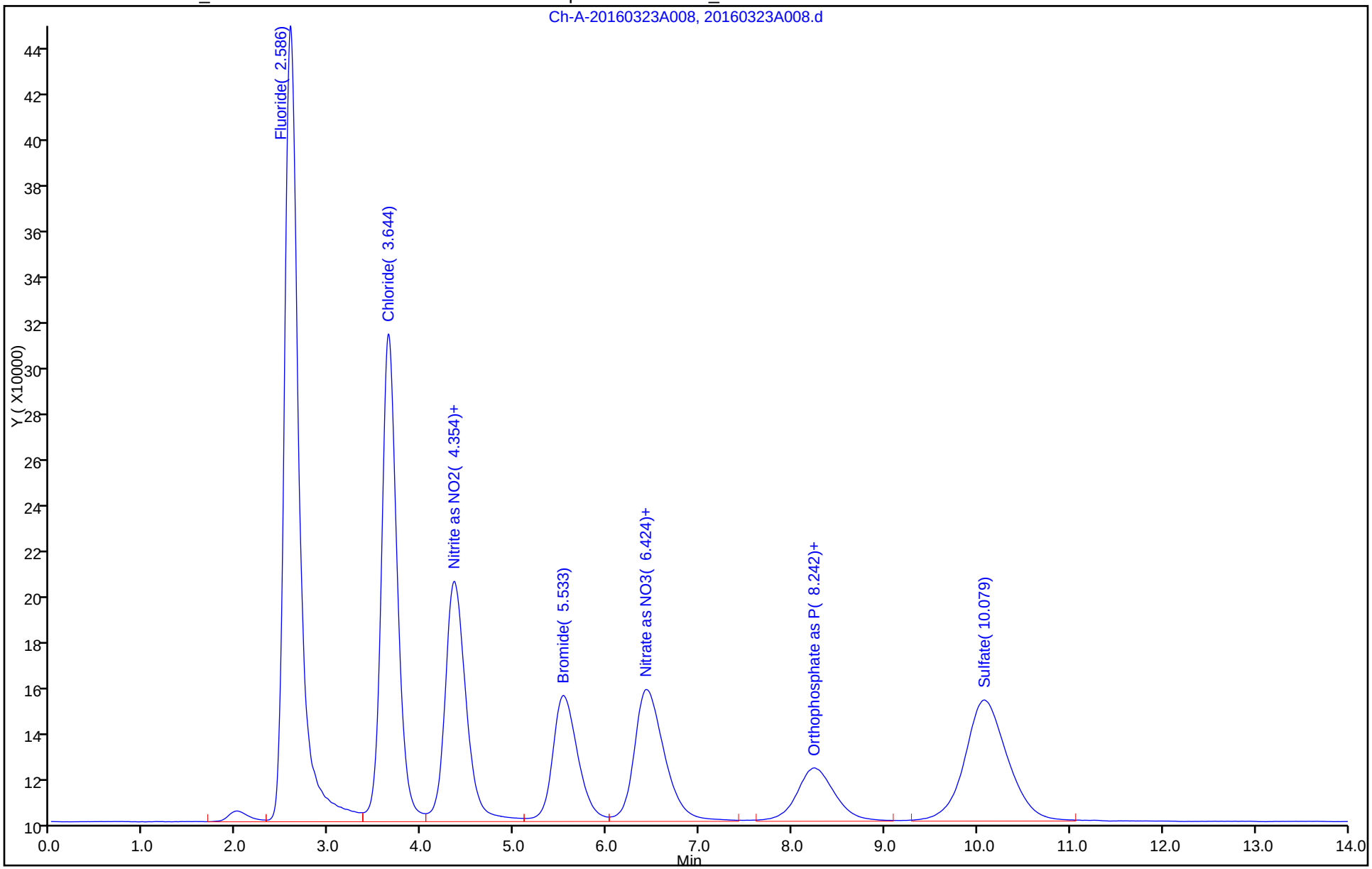
Reagents:

WCLCSANIONS_00113 Amount Added: 150.00 Units: uL

Report Date: 23-Mar-2016 17:22:01 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A008.d				
Injection Date:	23-Mar-2016 12:59:06	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std5			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A009.d
Lims ID: std6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 23-Mar-2016 13:14:27 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070871-009
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Mar-2016 17:23:02 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK051

First Level Reviewer: nickloffn Date: 23-Mar-2016 14:31:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.594	2.586	0.008	5307709	20.0	20.1	
2 Chloride	3.642	3.644	-0.002	3522498	20.0	20.5	
3 Nitrite as NO2	4.351	4.354	-0.003	2223771	NC	NC	
12 Nitrite as N	4.351	4.354	-0.003	2223771	NC	NC	
4 Bromide	5.518	5.533	-0.014	1415213	20.0	19.9	
5 Nitrate as NO3	6.406	6.424	-0.018	1776781	NC	NC	
10 Nitrate as N	6.406	6.424	-0.018	1776781	NC	NC	
9 Orthophosphate as P	8.210	8.242	-0.032	901315	NC	NC	
11 Orthophosphorus as PO4	8.210	8.242	-0.032	901315	NC	NC	
7 Sulfate	10.047	10.079	-0.032	2306343	20.0	20.0	
S 8 Nitrate Nitrite as N					6.09	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

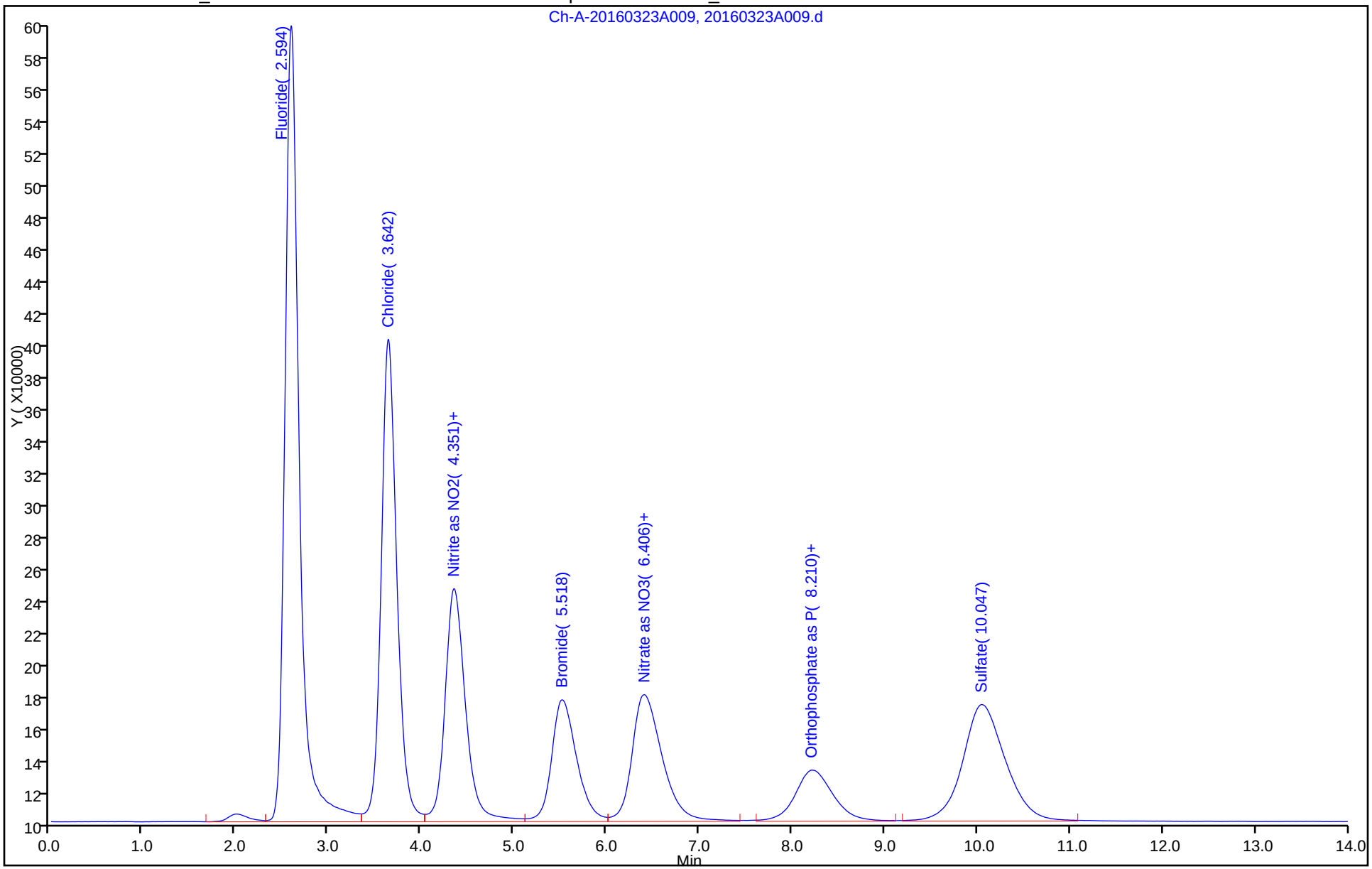
Reagents:

WCLCSANIONS_00113 Amount Added: 200.00 Units: uL

Report Date: 23-Mar-2016 17:23:02 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A009.d				
Injection Date:	23-Mar-2016 13:14:27	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std6			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A010.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	23-Mar-2016 13:29:48	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	7.0000		
Sample Info:	#: 001A Name: 440-0070871-010				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Sublist:	chrom-300_11*sub7				
Method:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Mar-2016 17:23:03	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK051				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.586	2.586	0.000	8082293	4.29	30.5	
	2 Chloride	3.634	3.644	-0.010	5585277	4.29	32.3	
	3 Nitrite as NO2	4.339	4.354	-0.015	3362797	NC	NC	
	12 Nitrite as N	4.339	4.354	-0.015	3362797	NC	NC	
	4 Bromide	5.499	5.533	-0.033	2148154	4.29	30.1	
	5 Nitrate as NO3	6.365	6.424	-0.059	2715396	NC	NC	
	10 Nitrate as N	6.365	6.424	-0.059	2715396	NC	NC	
	9 Orthophosphate as P	8.189	8.242	-0.053	1368376	NC	NC	
	11 Orthophosphorus as PO4	8.189	8.242	-0.053	1368376	NC	NC	
	7 Sulfate	10.013	10.079	-0.067	3506164	4.29	30.3	
S	8 Nitrate Nitrite as N					1.30	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

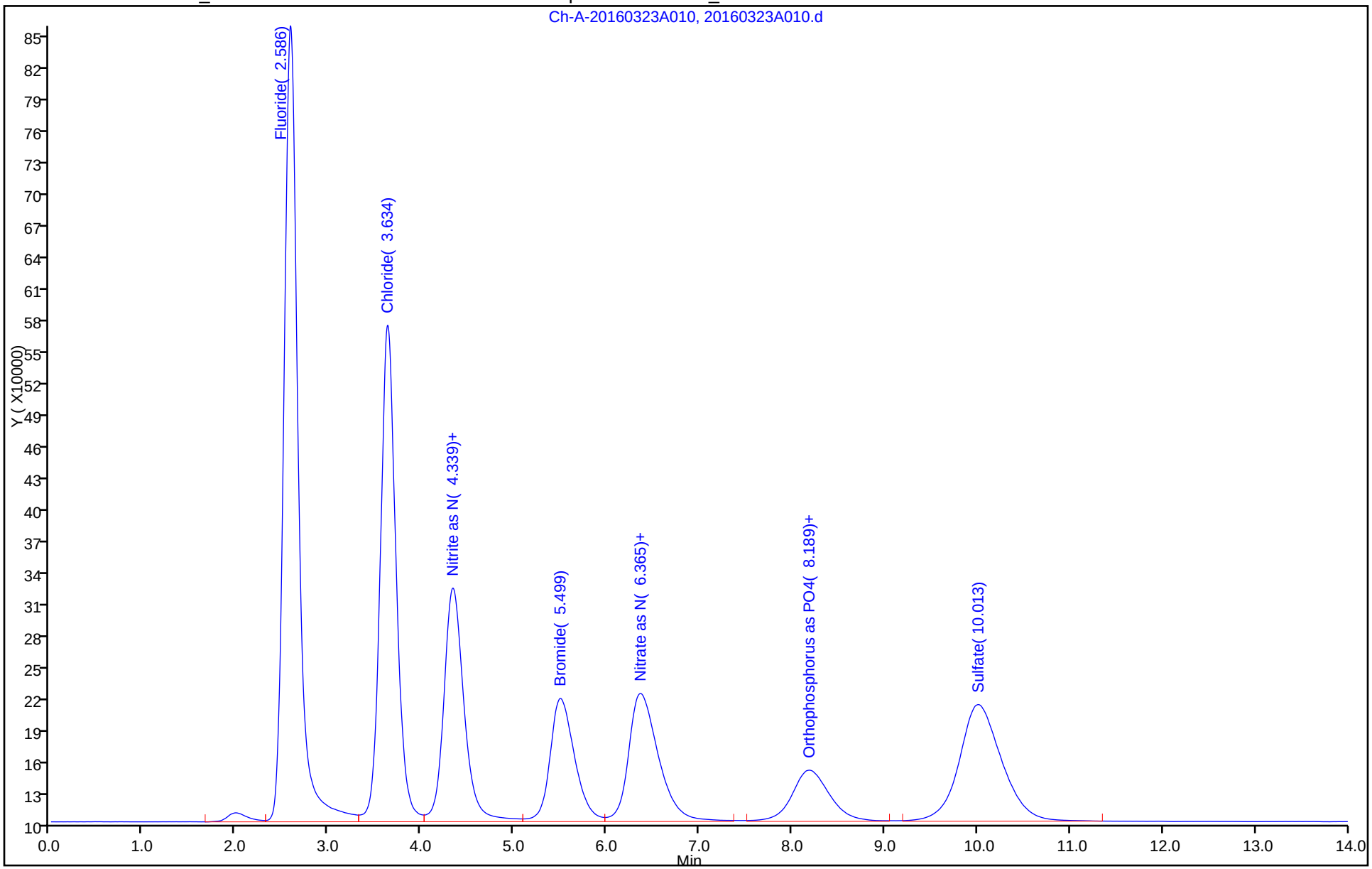
Reagents:

WCLCSANIONS_00113 Amount Added: 300.00 Units: uL

Report Date: 23-Mar-2016 17:23:04 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A010.d				
Injection Date:	23-Mar-2016 13:29:48	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std7			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	7.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A011.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	23-Mar-2016 13:45:09	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070871-011				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Sublist:	chrom-300_11*sub7				
Method:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Mar-2016 17:23:05	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK051				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.619	2.586	0.033	10585319	40.0	39.8	
	2 Chloride	3.642	3.644	-0.002	7561674	40.0	43.7	
	3 Nitrite as NO2	4.349	4.354	-0.005	4557606	NC	NC	
	12 Nitrite as N	4.349	4.354	-0.005	4557606	NC	NC	
	4 Bromide	5.513	5.533	-0.019	2881801	40.0	40.2	
	5 Nitrate as NO3	6.378	6.424	-0.046	3680412	NC	NC	
	10 Nitrate as N	6.378	6.424	-0.046	3680412	NC	NC	
	9 Orthophosphate as P	8.158	8.242	-0.084	1840581	NC	NC	
	11 Orthophosphorus as PO4	8.158	8.242	-0.084	1840581	NC	NC	
	7 Sulfate	9.983	10.079	-0.097	4727799	40.0	40.8	
S	8 Nitrate Nitrite as N					12.2	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

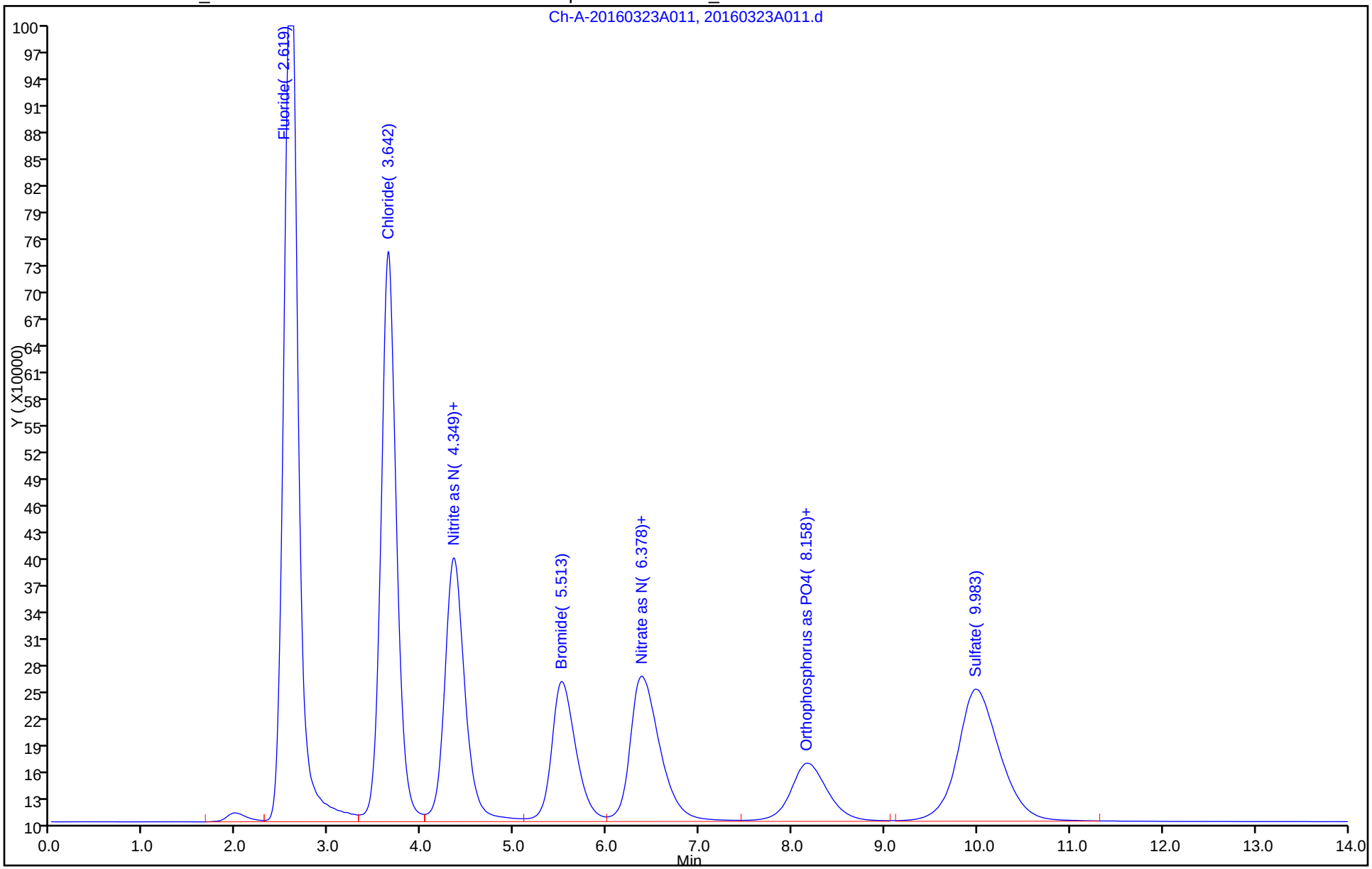
Reagents:

WCLCSANIONS_00113 Amount Added: 400.00 Units: uL

Report Date: 23-Mar-2016 17:23:05 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A011.d				
Injection Date:	23-Mar-2016 13:45:09	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std8			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d
Lims ID: std4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 23-Mar-2016 14:00:30 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070871-012
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Mar-2016 17:24:01 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK051

First Level Reviewer: nguyennt Date: 23-Mar-2016 17:21:57

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.569	2.586	-0.017	2521961	10.0	9.74	
2 Chloride	3.623	3.644	-0.021	1676754	10.0	9.86	
3 Nitrite as NO2	4.341	4.354	-0.013	1084689	NC	NC	
12 Nitrite as N	4.341	4.354	-0.013	1084689	NC	NC	
4 Bromide	5.535	5.533	0.003	680479	10.0	9.76	
5 Nitrate as NO3	6.440	6.424	0.016	837780	NC	NC	
10 Nitrate as N	6.440	6.424	0.016	837780	NC	NC	
9 Orthophosphate as P	8.193	8.242	-0.049	428764	NC	NC	
11 Orthophosphorus as PO4	8.193	8.242	-0.049	428764	NC	NC	
7 Sulfate	10.009	10.079	-0.070	1118299	10.0	9.80	
S 8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

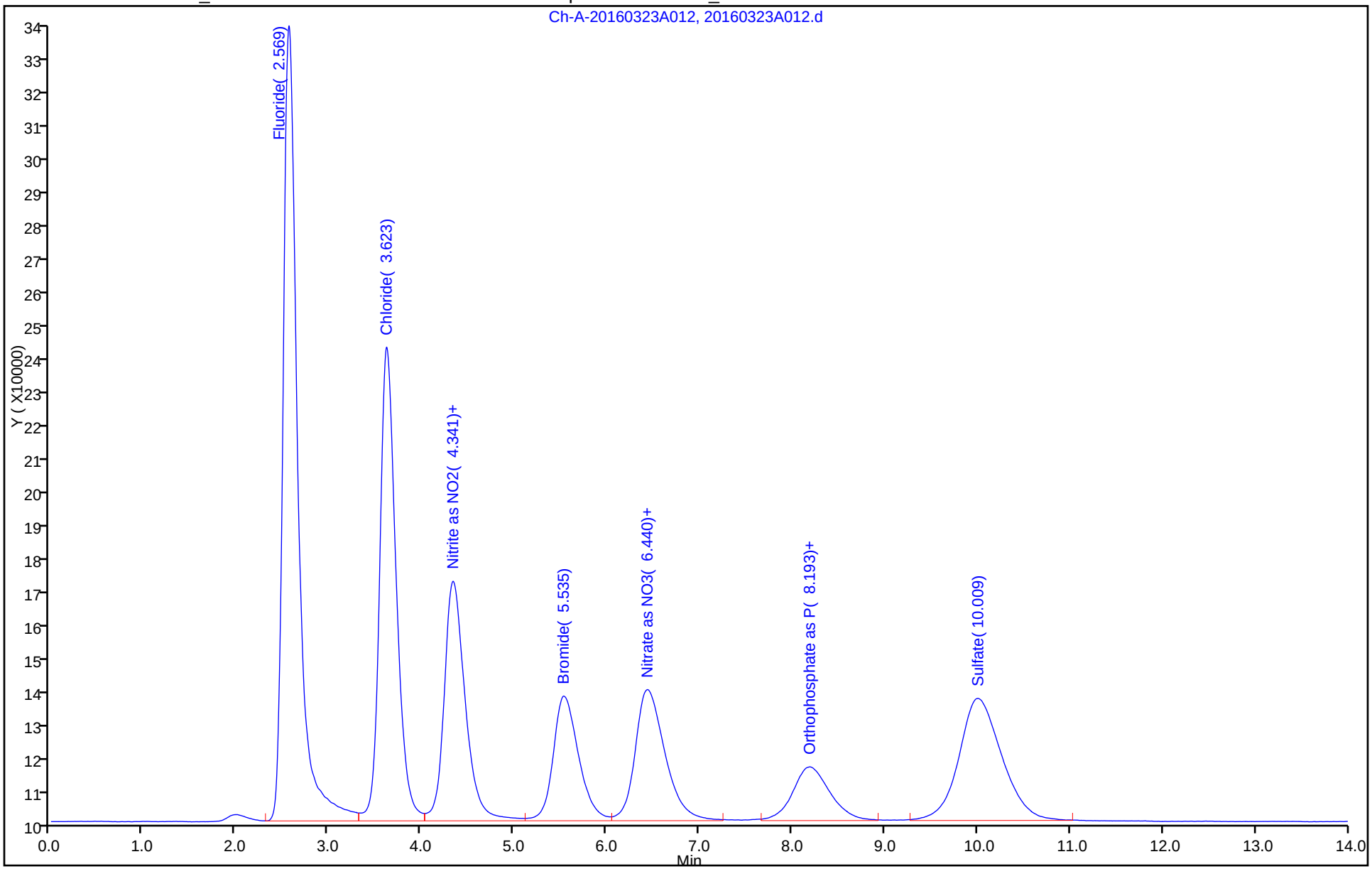
Reagents:

WCLCSANIONS_00113 Amount Added: 100.00 Units: uL

Report Date: 23-Mar-2016 17:24:01 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Injection Date:	23-Mar-2016 14:00:30	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	std4			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: ICV 440-319603/13 Calibration Date: 03/23/2016 16:30

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160323A013.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		261316		10.1	10.0	0.8	10.0
Chloride	Lin		173399		10.2	10.0	1.9	10.0
Bromide	Lin		69782		10.0	10.0	-0.0	10.0
Sulfate	Lin		114290		10.0	10.0	0.1	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: ICV 440-319603/13 Calibration Date: 03/23/2016 16:30

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160323A013.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.55	2.46	2.72
Chloride	3.60	3.46	3.83
Bromide	5.48	5.26	5.81
Sulfate	9.95	9.53	10.63

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A013.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 23-Mar-2016 16:30:07 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070871-013
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Mar-2016 18:45:11 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK051

First Level Reviewer: nguyennt Date: 23-Mar-2016 17:52:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.548	2.586	-0.038	2613157	10.0	10.1	
2 Chloride	3.600	3.644	-0.044	1733990	10.0	10.2	
3 Nitrite as NO2	4.296	4.354	-0.058	1120217	NC	NC	
12 Nitrite as N	4.296	4.354	-0.058	1120217	NC	NC	
4 Bromide	5.477	5.533	-0.055	697820	10.0	10.0	
5 Nitrate as NO3	6.353	6.424	-0.072	880030	NC	NC	
10 Nitrate as N	6.353	6.424	-0.072	880030	NC	NC	
9 Orthophosphate as P	8.140	8.242	-0.102	444997	NC	NC	
11 Orthophosphorus as PO4	8.140	8.242	-0.102	444997	NC	NC	
7 Sulfate	9.953	10.079	-0.126	1142899	10.0	10.0	
S 8 Nitrate Nitrite as N					5.30	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

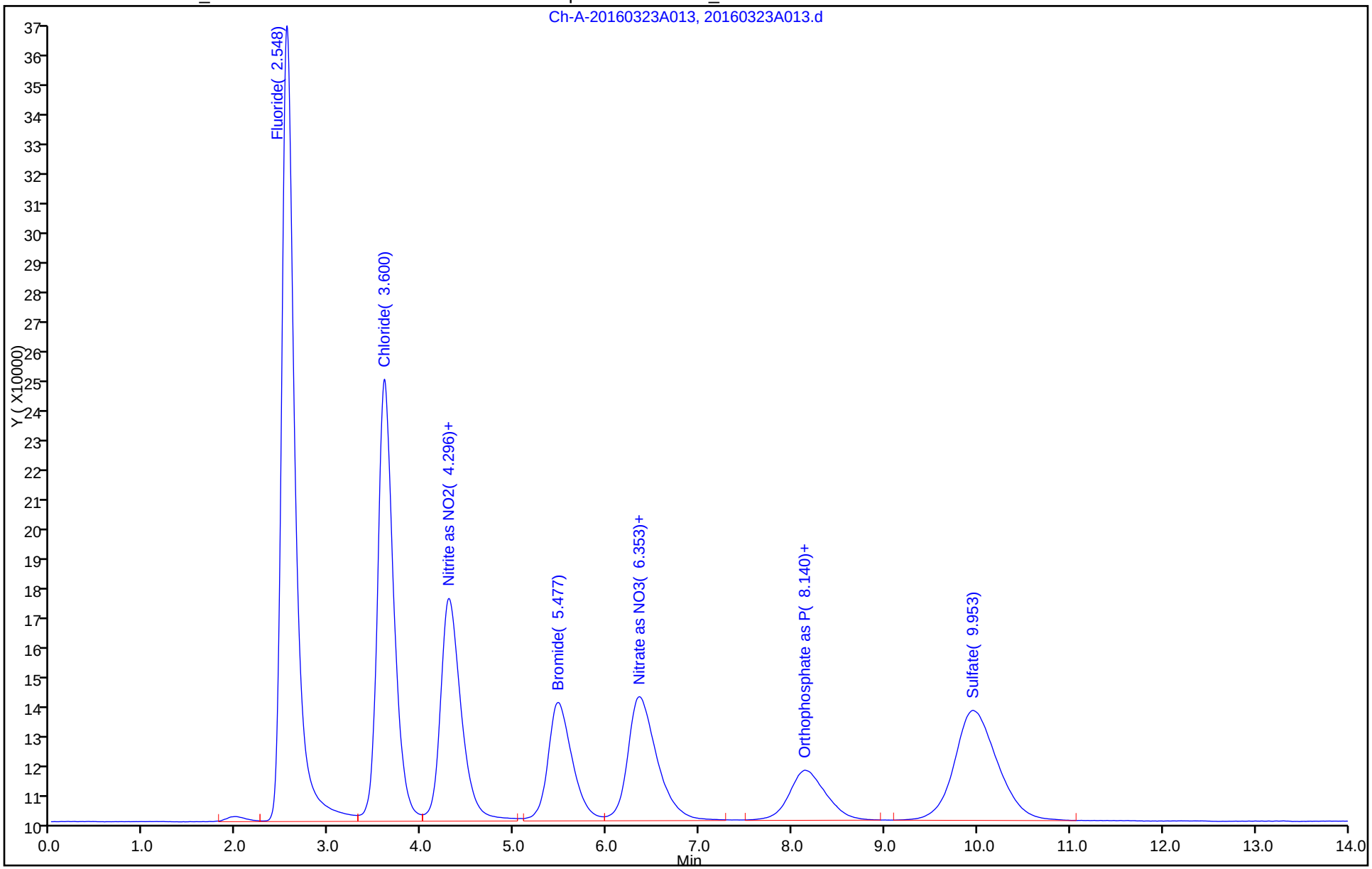
Reagents:

WCICVANIONS_00059 Amount Added: 1.00 Units: mL

Report Date: 23-Mar-2016 17:52:20 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A013.d				
Injection Date:	23-Mar-2016 16:30:07	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	icv			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/42 Calibration Date: 04/20/2016 23:37

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420042.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		255409		9.86	10.0	-1.4	10.0
Chloride	Lin		160552		9.45	10.0	-5.5	10.0
Bromide	Lin		63391		9.11	10.0	-8.9	10.0
Sulfate	Lin		108928		9.55	10.0	-4.5	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/42 Calibration Date: 04/20/2016 23:37

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420042.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.58	2.45	2.70
Chloride	3.66	3.47	3.84
Bromide	5.55	5.27	5.83
Sulfate	10.13	9.58	10.69

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420042.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 20-Apr-2016 23:37:25 ALS Bottle#: 0 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072081-042
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 00:19:00 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK012

First Level Reviewer: nguyennt Date: 21-Apr-2016 00:01:20

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.575	2.575	0.000	2554093	10.0	9.86	
	2 Chloride	3.656	3.656	0.000	1605524	10.0	9.45	
	12 Nitrite as N	4.355	4.355	0.000	991880	NC	NC	
	3 Nitrite as NO2	4.355	4.355	0.000	991880	NC	NC	
	4 Bromide	5.551	5.551	0.000	633906	10.0	9.11	
	10 Nitrate as N	6.438	6.438	0.000	820719	NC	NC	
	5 Nitrate as NO3	6.438	6.438	0.000	820719	NC	NC	
	11 Orthophosphorus as PO4	8.289	8.289	0.000	414052	NC	NC	
	9 Orthophosphate as P	8.289	8.289	0.000	414052	NC	NC	
	7 Sulfate	10.133	10.133	0.000	1089284	10.0	9.55	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

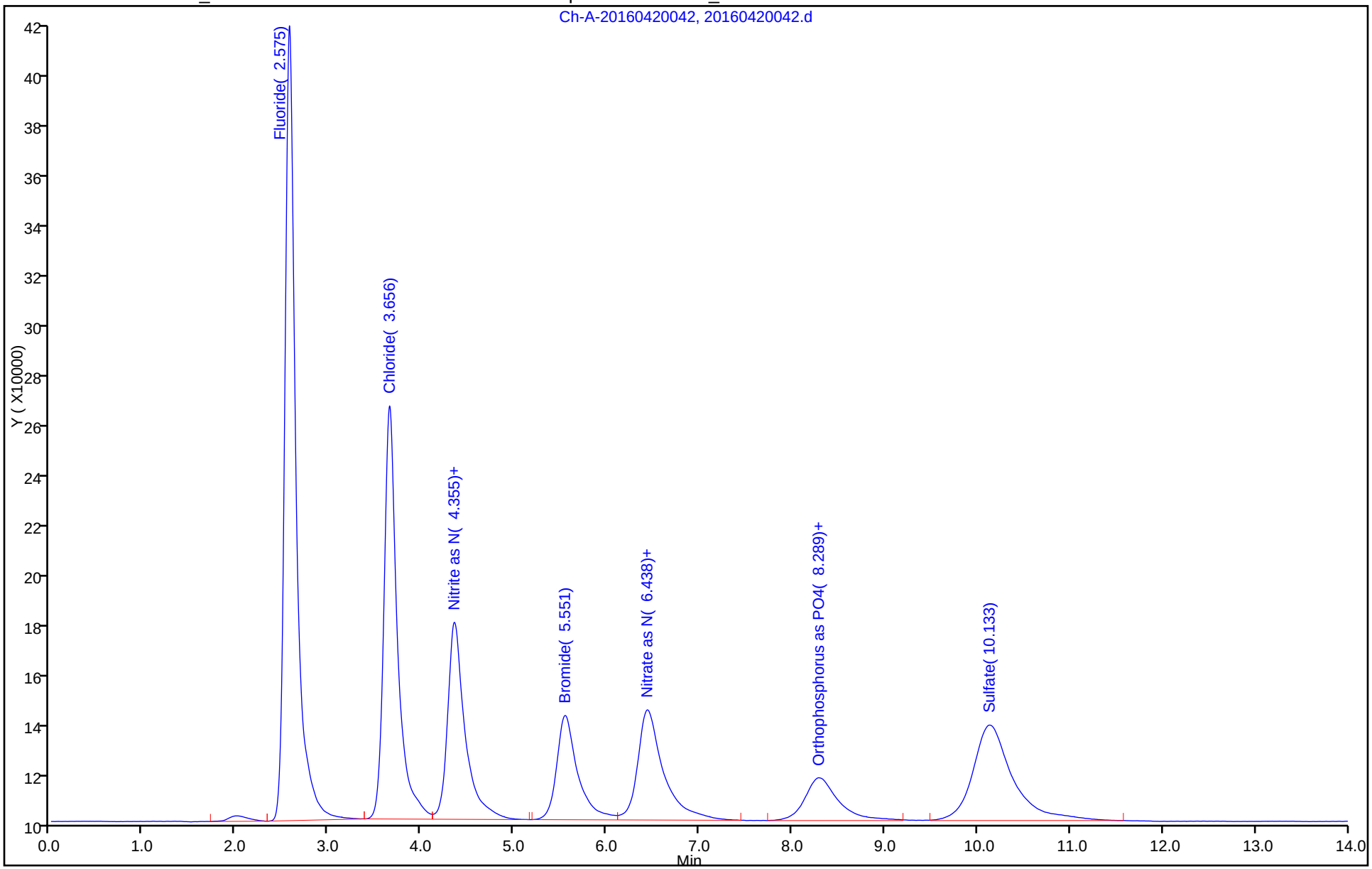
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 00:19:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420042.d				
Injection Date:	20-Apr-2016 23:37:25	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/54 Calibration Date: 04/21/2016 02:54

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420054.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		260211		10.0	10.0	0.4	10.0
Chloride	Lin		159461		9.39	10.0	-6.1	10.0
Bromide	Lin		63256		9.09	10.0	-9.1	10.0
Sulfate	Lin		109822		9.63	10.0	-3.7	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/54 Calibration Date: 04/21/2016 02:54

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420054.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.57	2.45	2.70
Chloride	3.65	3.47	3.84
Bromide	5.53	5.26	5.81
Sulfate	10.14	9.59	10.70

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420054.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 02:54:16 ALS Bottle#: 0 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072081-054
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 03:14:59 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK012

First Level Reviewer: nguyennt Date: 21-Apr-2016 03:14:59

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.573	2.573	0.000	2602107	10.0	10.0	
2 Chloride	3.653	3.653	0.000	1594610	10.0	9.39	
3 Nitrite as NO2	4.348	4.348	0.000	996180	NC	NC	
12 Nitrite as N	4.348	4.348	0.000	996180	NC	NC	
4 Bromide	5.533	5.533	0.000	632561	10.0	9.09	
5 Nitrate as NO3	6.411	6.411	0.000	842388	NC	NC	
10 Nitrate as N	6.411	6.411	0.000	842388	NC	NC	
9 Orthophosphate as P	8.279	8.279	0.000	429759	NC	NC	
11 Orthophosphorus as PO4	8.279	8.279	0.000	429759	NC	NC	
7 Sulfate	10.143	10.143	0.000	1098218	10.0	9.63	
S 8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

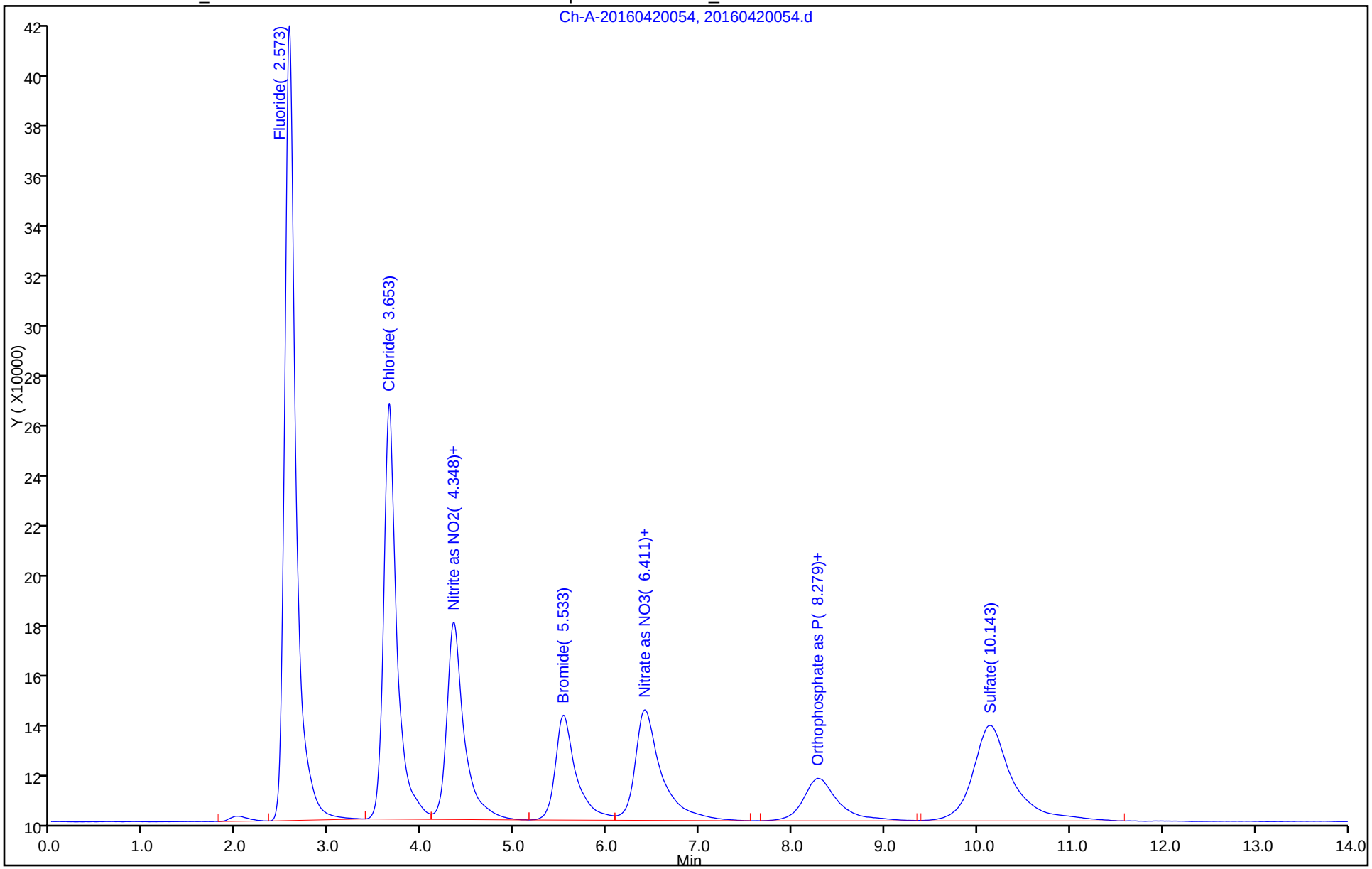
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 03:15:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420054.d				
Injection Date:	21-Apr-2016 02:54:16	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/66 Calibration Date: 04/21/2016 05:58

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420066.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		261255		10.1	10.0	0.8	10.0
Chloride	Lin		159476		9.39	10.0	-6.1	10.0
Bromide	Lin		62944		9.05	10.0	-9.5	10.0
Sulfate	Lin		110271		9.67	10.0	-3.3	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/66 Calibration Date: 04/21/2016 05:58

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420066.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.57	2.44	2.70
Chloride	3.66	3.48	3.84
Bromide	5.56	5.28	5.84
Sulfate	10.15	9.59	10.71

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420066.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 05:58:27 ALS Bottle#: 0 Worklist Smp#: 66
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072081-066
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:19:19 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:19:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.571	2.571	0.000	2612547	10.0	10.1	
2 Chloride	3.660	3.660	0.000	1594763	10.0	9.39	
12 Nitrite as N	4.363	4.363	0.000	1004179	NC	NC	
3 Nitrite as NO2	4.363	4.363	0.000	1004179	NC	NC	
4 Bromide	5.557	5.557	0.000	629441	10.0	9.05	
10 Nitrate as N	6.438	6.438	0.000	824892	NC	NC	
5 Nitrate as NO3	6.438	6.438	0.000	824892	NC	NC	
11 Orthophosphorus as PO4	8.281	8.281	0.000	429291	NC	NC	
9 Orthophosphate as P	8.281	8.281	0.000	429291	NC	NC	
7 Sulfate	10.153	10.153	0.000	1102708	10.0	9.67	
S 8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

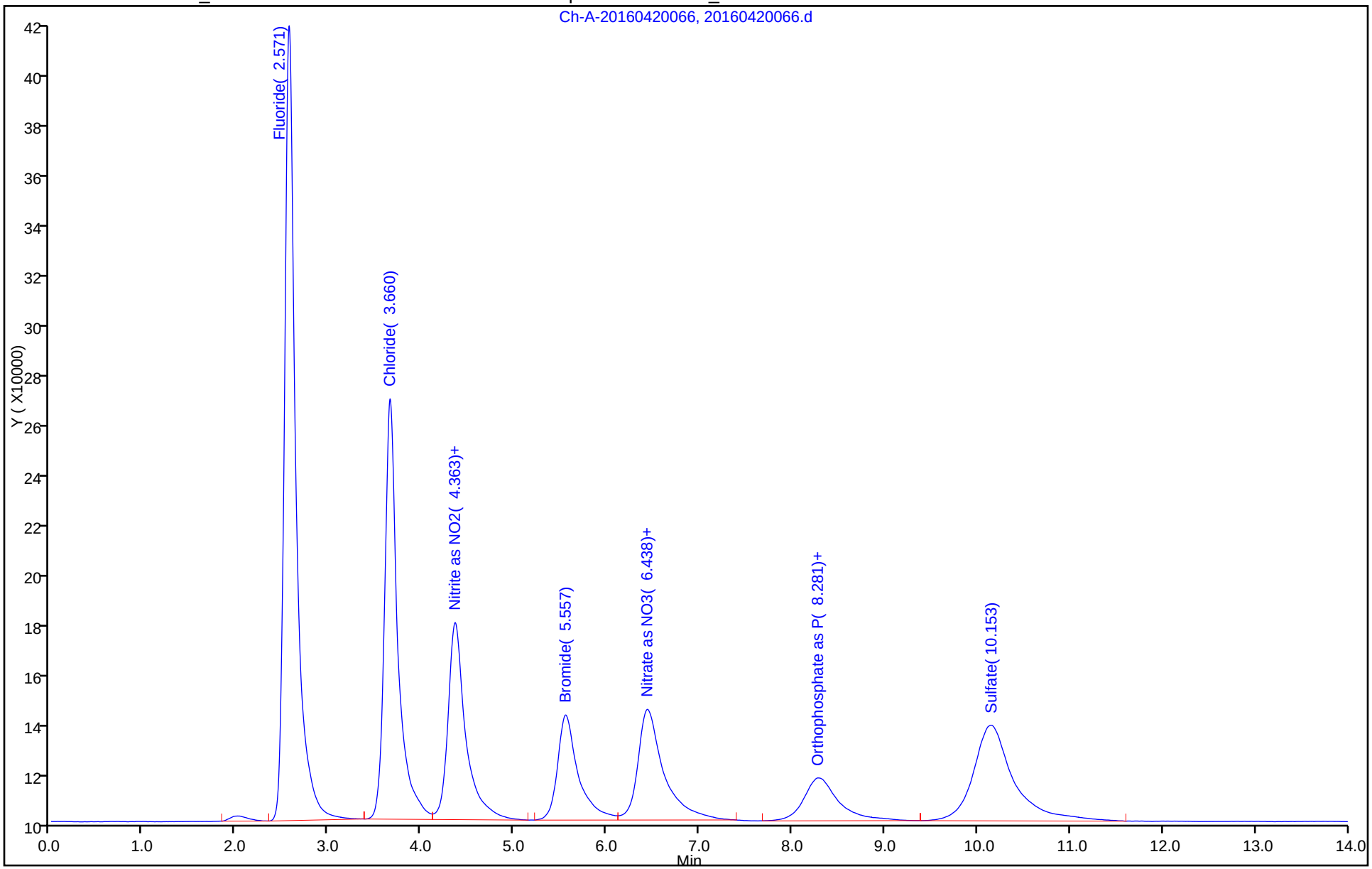
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:19:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420066.d				
Injection Date:	21-Apr-2016 05:58:27	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	66
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/78 Calibration Date: 04/21/2016 09:02

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420078.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		263233		10.1	10.0	1.5	10.0
Chloride	Lin		159647		9.40	10.0	-6.0	10.0
Bromide	Lin		63015		9.06	10.0	-9.4	10.0
Sulfate	Lin		109801		9.63	10.0	-3.7	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/78 Calibration Date: 04/21/2016 09:02

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420078.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.57	2.44	2.69
Chloride	3.65	3.47	3.84
Bromide	5.55	5.27	5.83
Sulfate	10.13	9.57	10.68

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420078.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 09:02:39 ALS Bottle#: 0 Worklist Smp#: 78
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072081-078
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:19:03 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:19:03

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.566	2.566	0.000	2632329	10.0	10.1	
	2 Chloride	3.654	3.654	0.000	1596473	10.0	9.40	
	3 Nitrite as NO2	4.353	4.353	0.000	1019676	NC	NC	
	12 Nitrite as N	4.353	4.353	0.000	1019676	NC	NC	
	4 Bromide	5.548	5.548	0.000	630145	10.0	9.06	
	5 Nitrate as NO3	6.435	6.435	0.000	839542	NC	NC	
	10 Nitrate as N	6.435	6.435	0.000	839542	NC	NC	
	9 Orthophosphate as P	8.278	8.278	0.000	431125	NC	NC	
	11 Orthophosphorus as PO4	8.278	8.278	0.000	431125	NC	NC	
	7 Sulfate	10.127	10.127	0.000	1098009	10.0	9.63	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

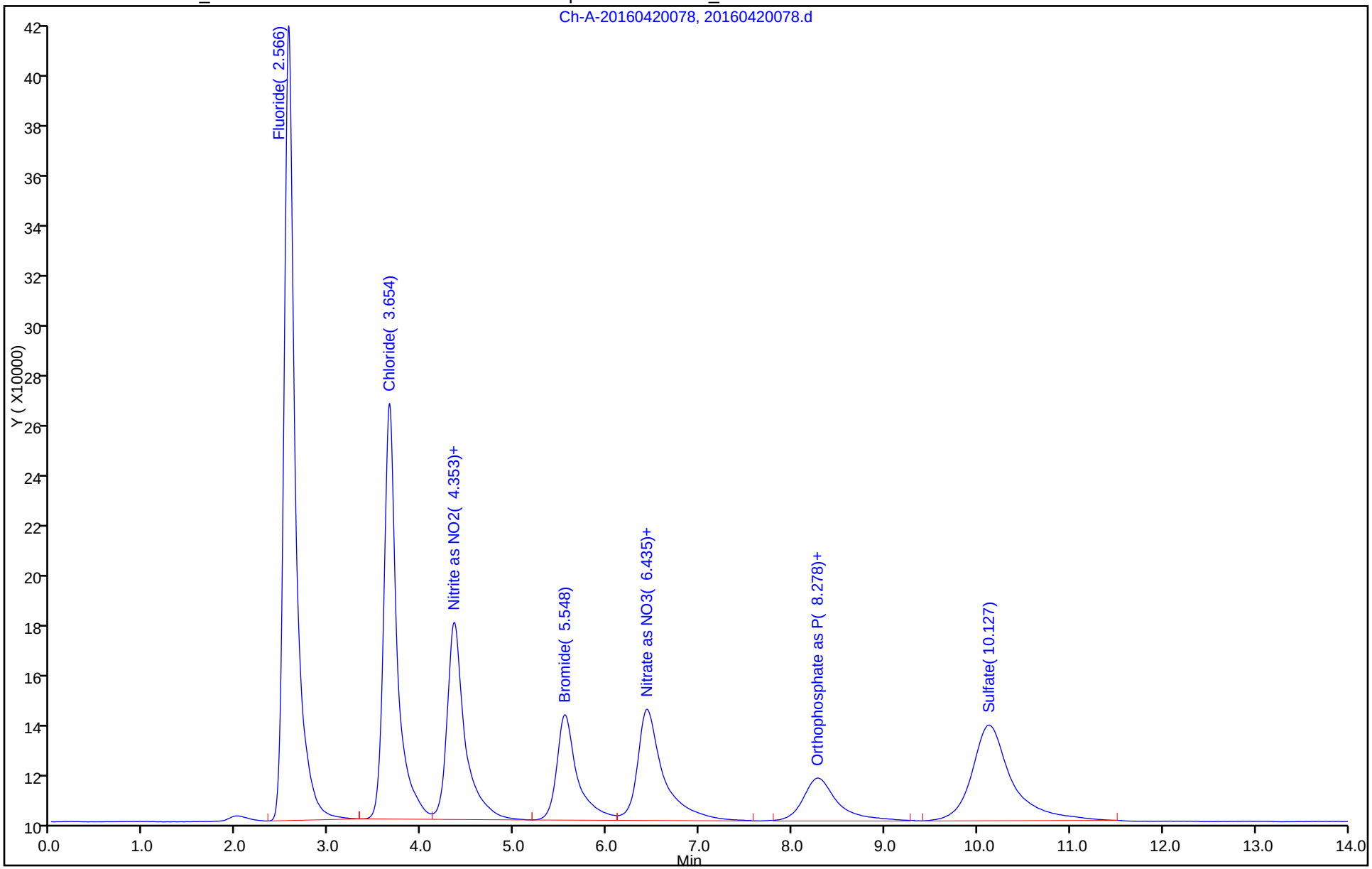
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:19:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420078.d				
Injection Date:	21-Apr-2016 09:02:39	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	78
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/85 Calibration Date: 04/21/2016 10:50

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420085.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		257078		9.92	10.0	-0.8	10.0
Chloride	Lin		157723		9.29	10.0	-7.1	10.0
Bromide	Lin		64066		9.20	10.0	-8.0	10.0
Sulfate	Lin		109374		9.59	10.0	-4.1	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325449/85 Calibration Date: 04/21/2016 10:50

Instrument ID: IC-11 Calib Start Date: 03/23/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/23/2016 14:00

Lab File ID: 20160420085.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.56	2.44	2.69
Chloride	3.64	3.45	3.82
Bromide	5.53	5.26	5.81
Sulfate	10.10	9.54	10.65

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420085.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 10:50:06 ALS Bottle#: 0 Worklist Smp#: 85
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072081-085
Operator ID: IRVINSTWET4 Instrument ID: IC-11
Sublist: chrom-300_11*sub7

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:18:49 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:18:49

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.563	2.563	0.000	2570782	10.0	9.92	
2 Chloride	3.635	3.635	0.000	1577229	10.0	9.29	
3 Nitrite as NO2	4.338	4.338	0.000	985395	NC	NC	
12 Nitrite as N	4.338	4.338	0.000	985395	NC	NC	
4 Bromide	5.533	5.533	0.000	640655	10.0	9.20	
5 Nitrate as NO3	6.415	6.415	0.000	840480	NC	NC	
10 Nitrate as N	6.415	6.415	0.000	840480	NC	NC	
9 Orthophosphate as P	8.254	8.254	0.000	423589	NC	NC	
11 Orthophosphorus as PO4	8.254	8.254	0.000	423589	NC	NC	
7 Sulfate	10.098	10.098	0.000	1093740	10.0	9.59	
S 8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

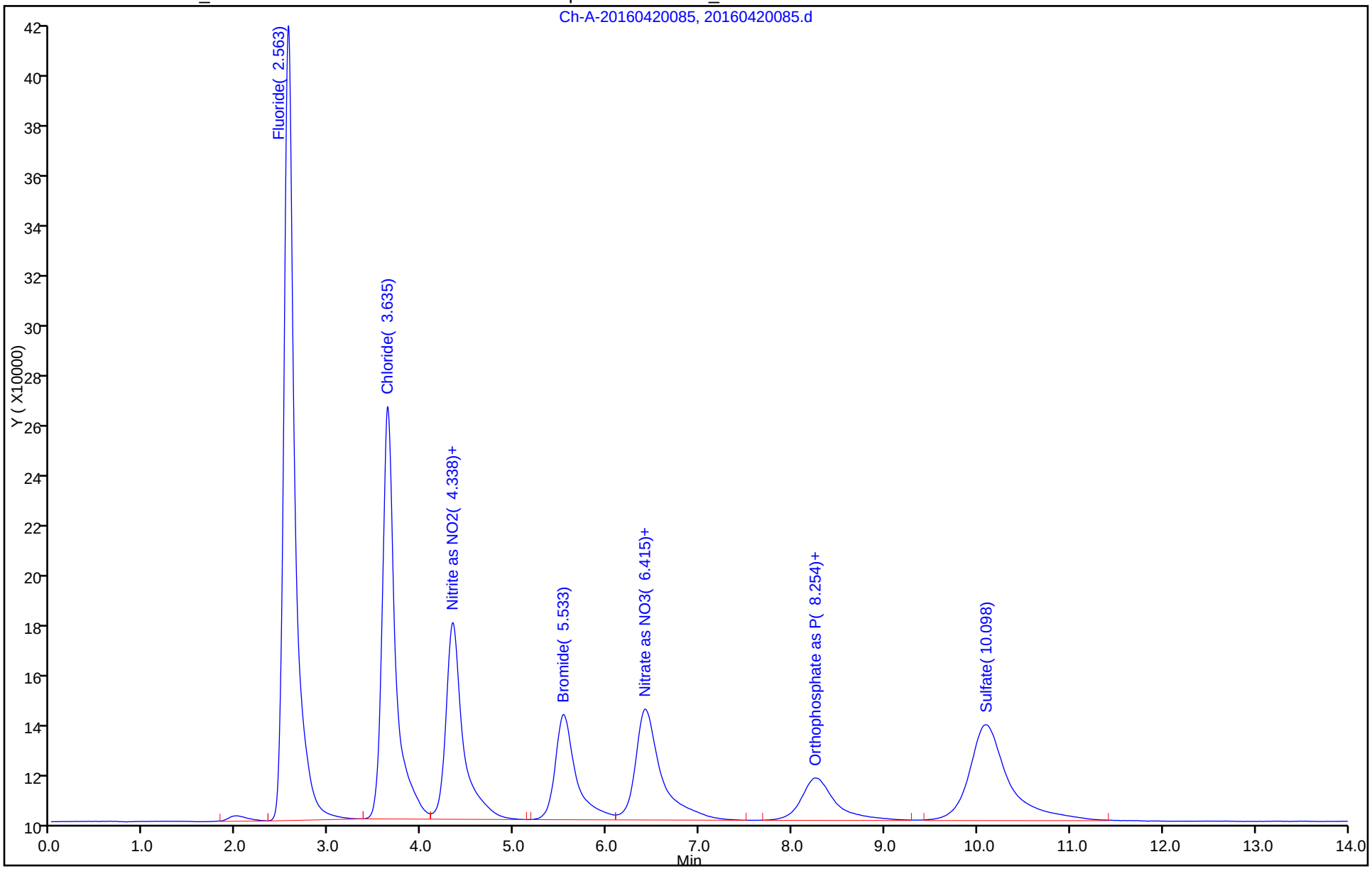
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:18:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420085.d				
Injection Date:	21-Apr-2016 10:50:06	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	85
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325449/45
Matrix: Water
Lab File ID: 20160420045.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 00:36
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

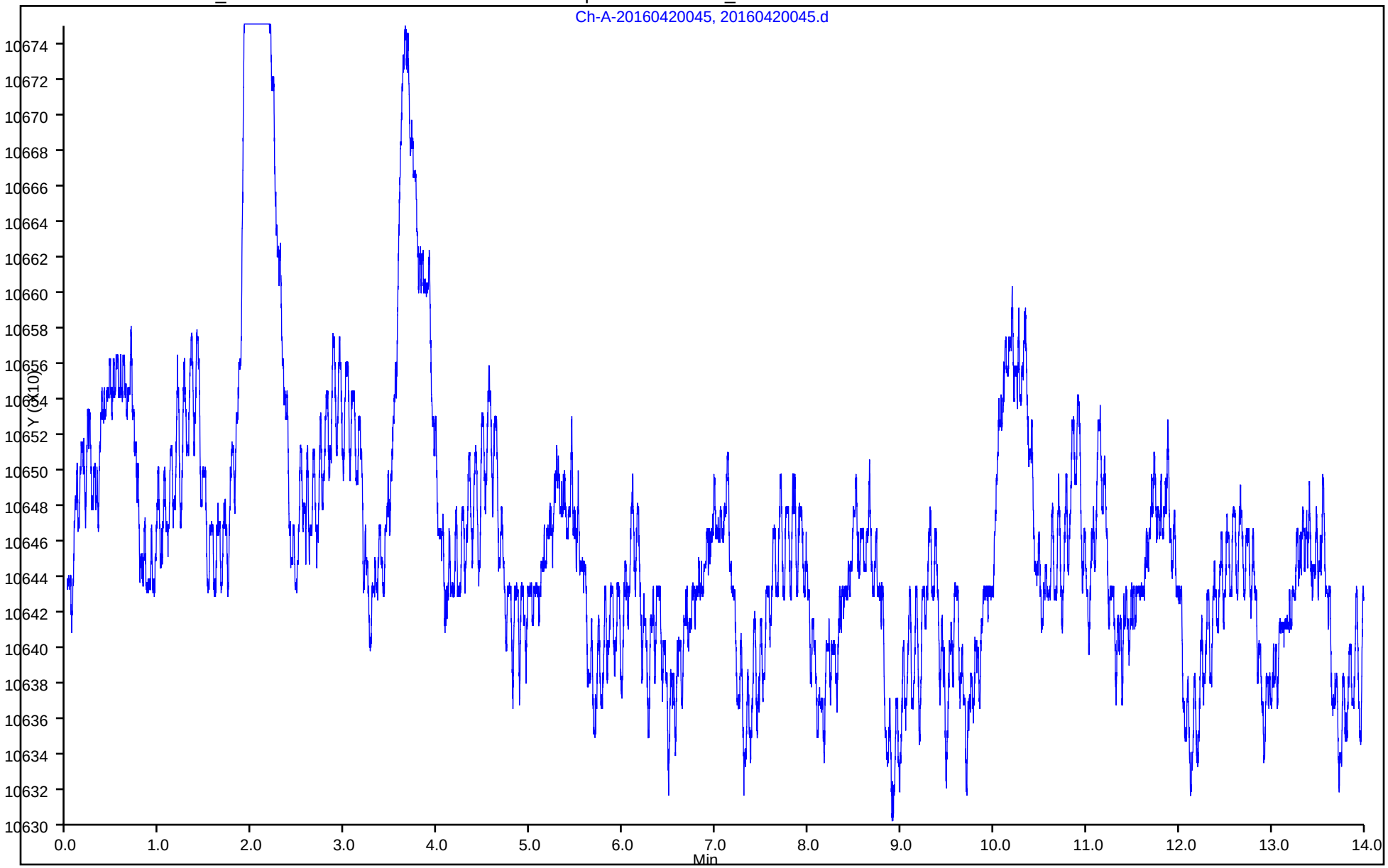
Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420045.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Apr-2016 00:36:07	ALS Bottle#:	0	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072081-045				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 01:36:00	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK004				
First Level Reviewer: ratanasinlapaphongp		Date:	21-Apr-2016 15:01:09		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 15:01:10 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420045.d				
Injection Date:	21-Apr-2016 00:36:07	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	mb			Worklist Smp#:	45
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325449/43
Matrix: Water
Lab File ID: 20160420043.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/20/2016 23:52
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420043.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	20-Apr-2016 23:52:46	ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072081-043				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 00:19:00	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK012				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 00:19:10		

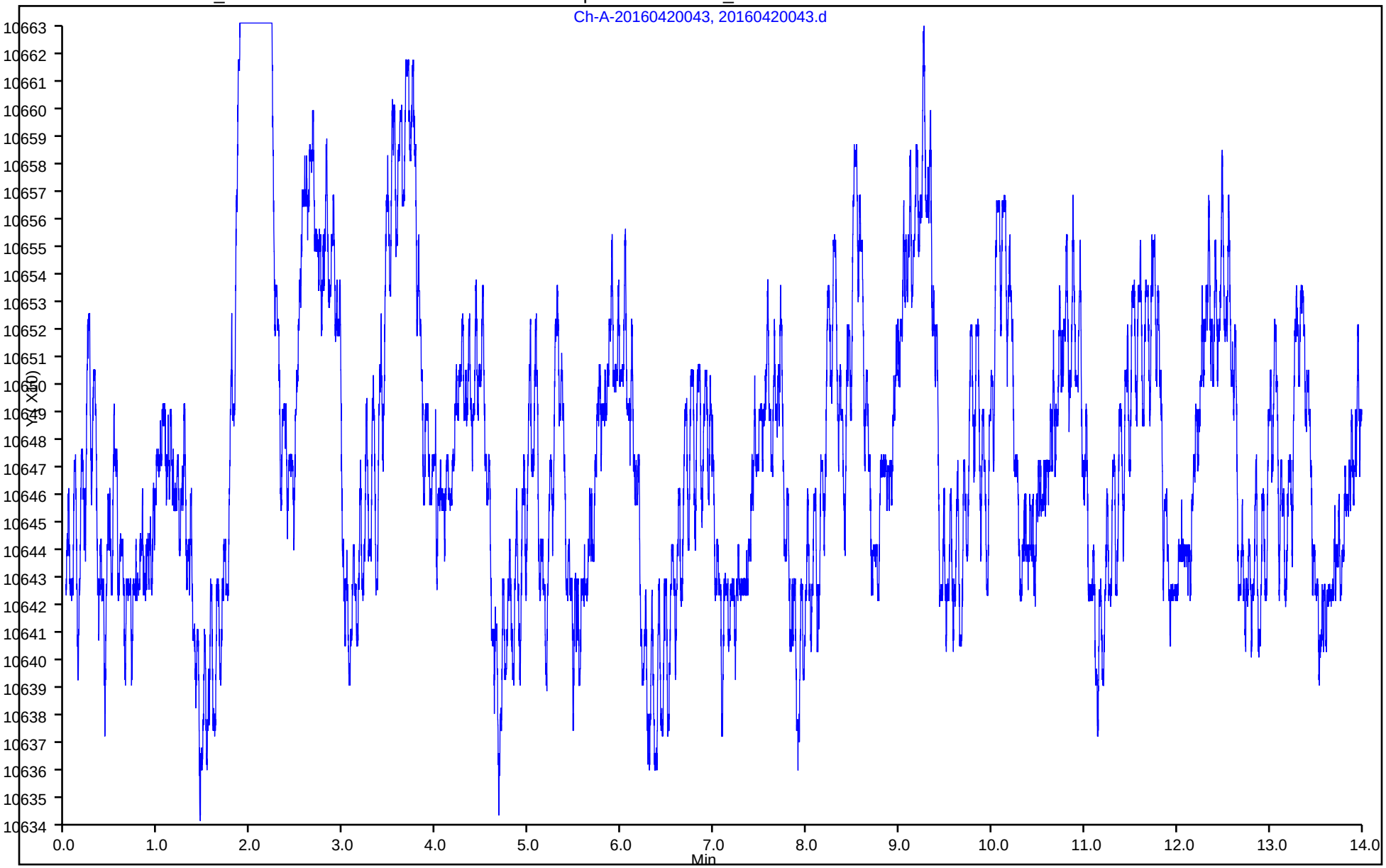
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 00:19:12 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420043.d

Injection Date:	20-Apr-2016 23:52:46	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325449/55
Matrix: Water
Lab File ID: 20160420055.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 03:09
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420055.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 03:09:37	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072081-055				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 04:41:08	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK004				
First Level Reviewer:	ratanasinlapaphongp	Date:	21-Apr-2016 17:51:29		

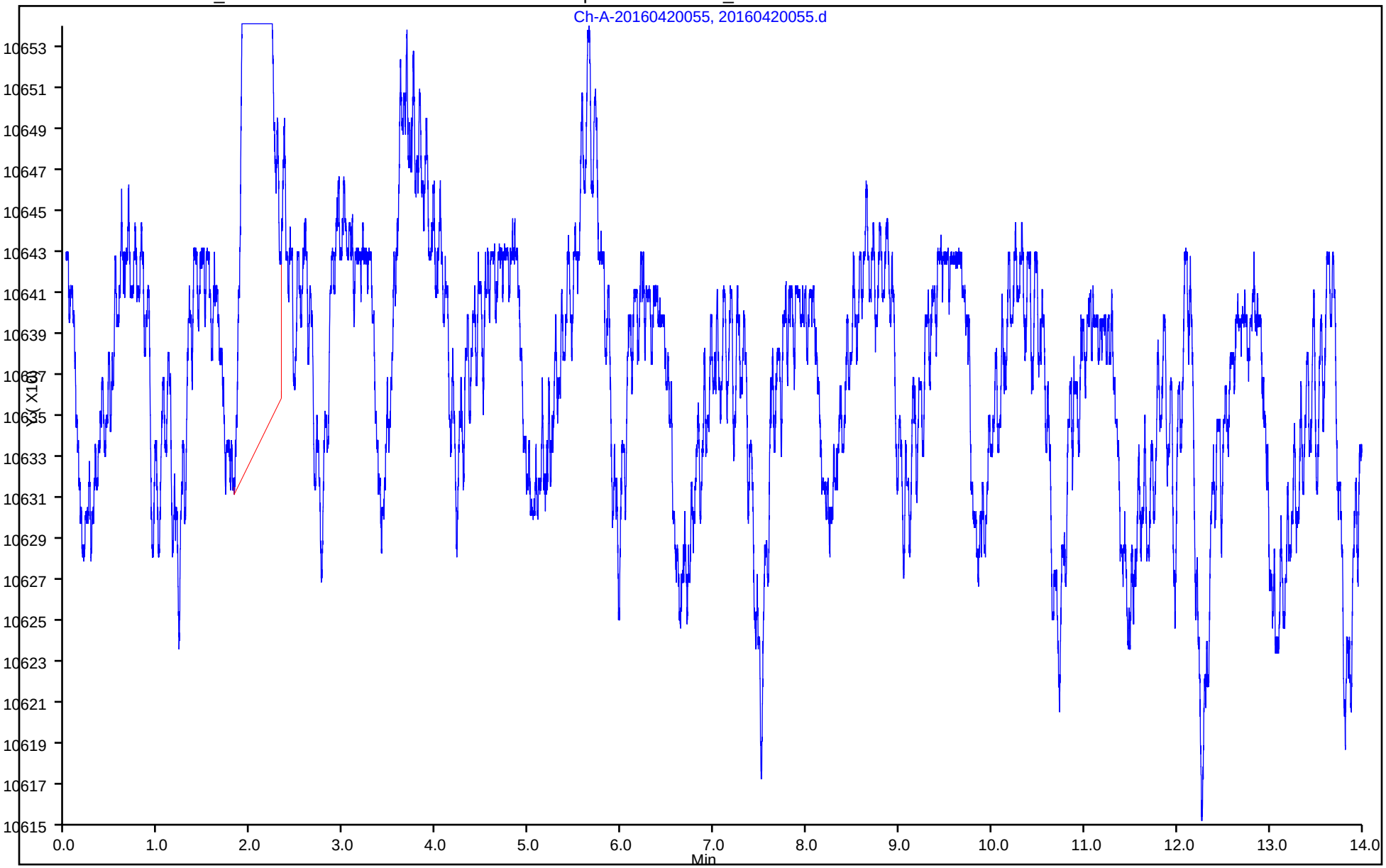
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 17:51:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420055.d

Injection Date:	21-Apr-2016 03:09:37	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	55
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325449/67
Matrix: Water
Lab File ID: 20160420067.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:13
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420067.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 06:13:48	ALS Bottle#:	0	Worklist Smp#:	67
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072081-067				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:19:19	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:19:31		

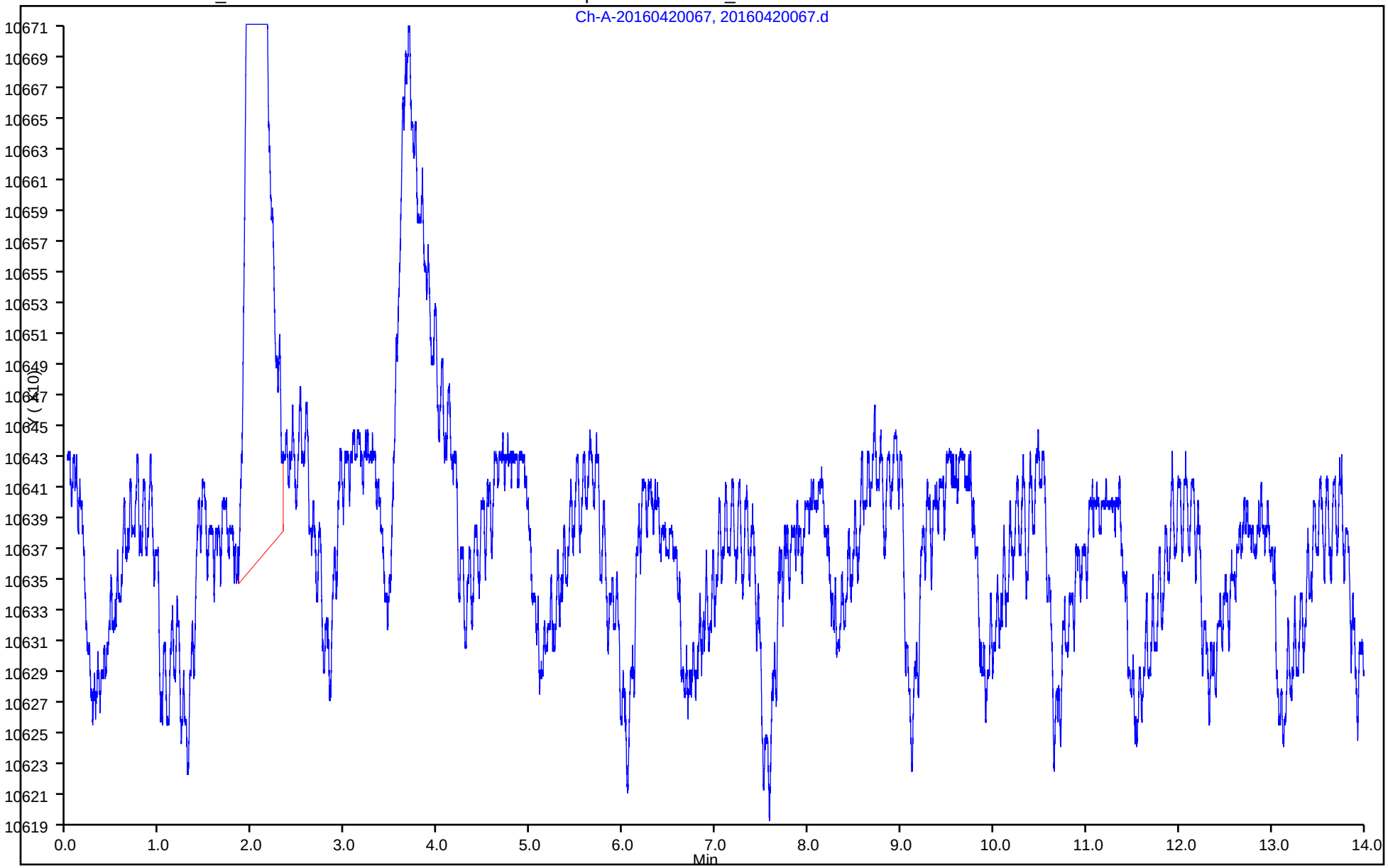
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 17:19:32 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420067.d

Injection Date:	21-Apr-2016 06:13:48	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	67
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325449/79
Matrix: Water
Lab File ID: 20160420079.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 09:18
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420079.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 09:18:00	ALS Bottle#:	0	Worklist Smp#:	79
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072081-079				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:19:03	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:19:12		

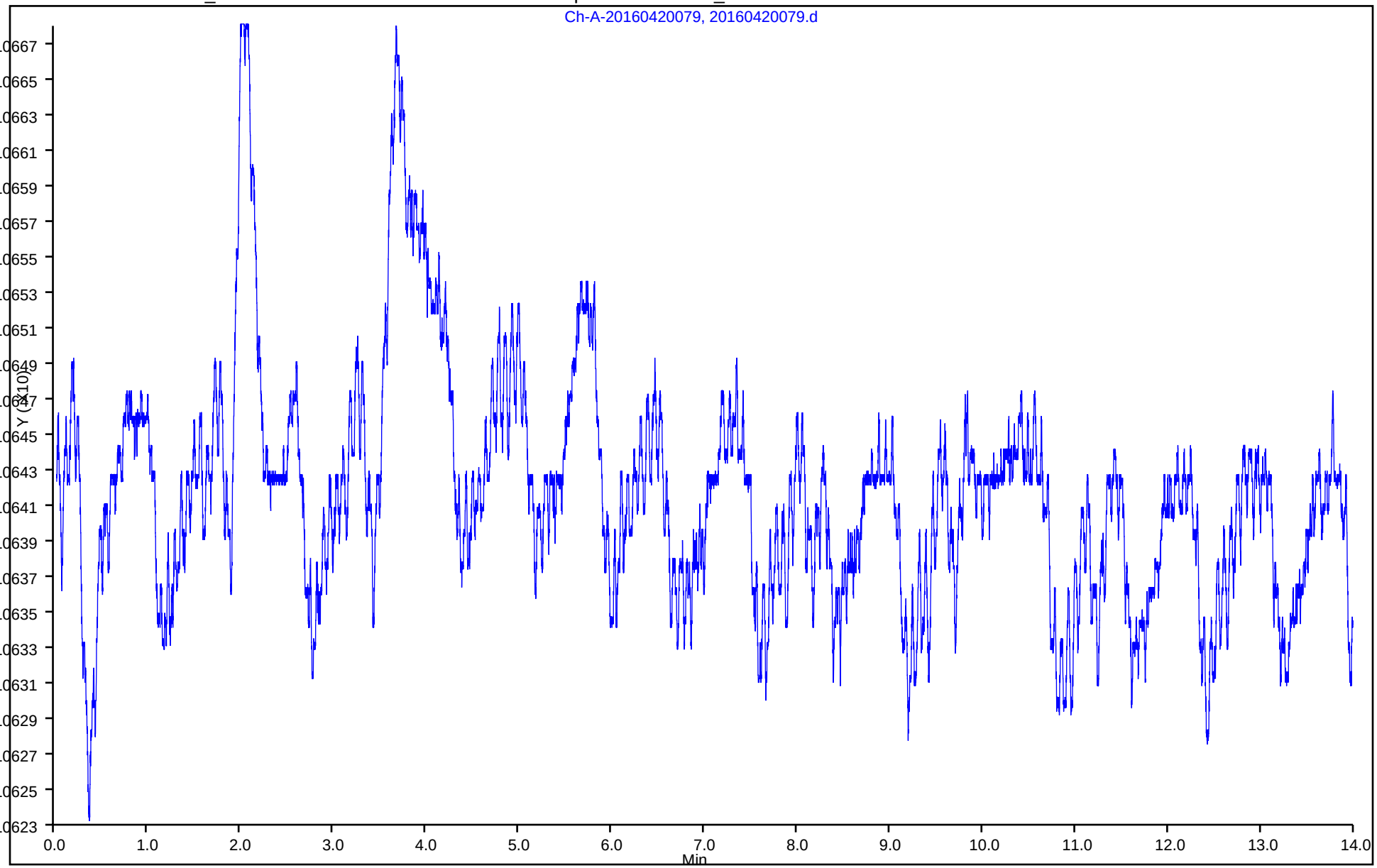
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 17:19:13 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420079.d

Injection Date:	21-Apr-2016 09:18:00	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	79
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325449/86
Matrix: Water
Lab File ID: 20160420086.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 11:05
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420086.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 11:05:27	ALS Bottle#:	0	Worklist Smp#:	86
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072081-086				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-11		
Method:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:18:49	Calib Date:	23-Mar-2016 14:00:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:18:56		

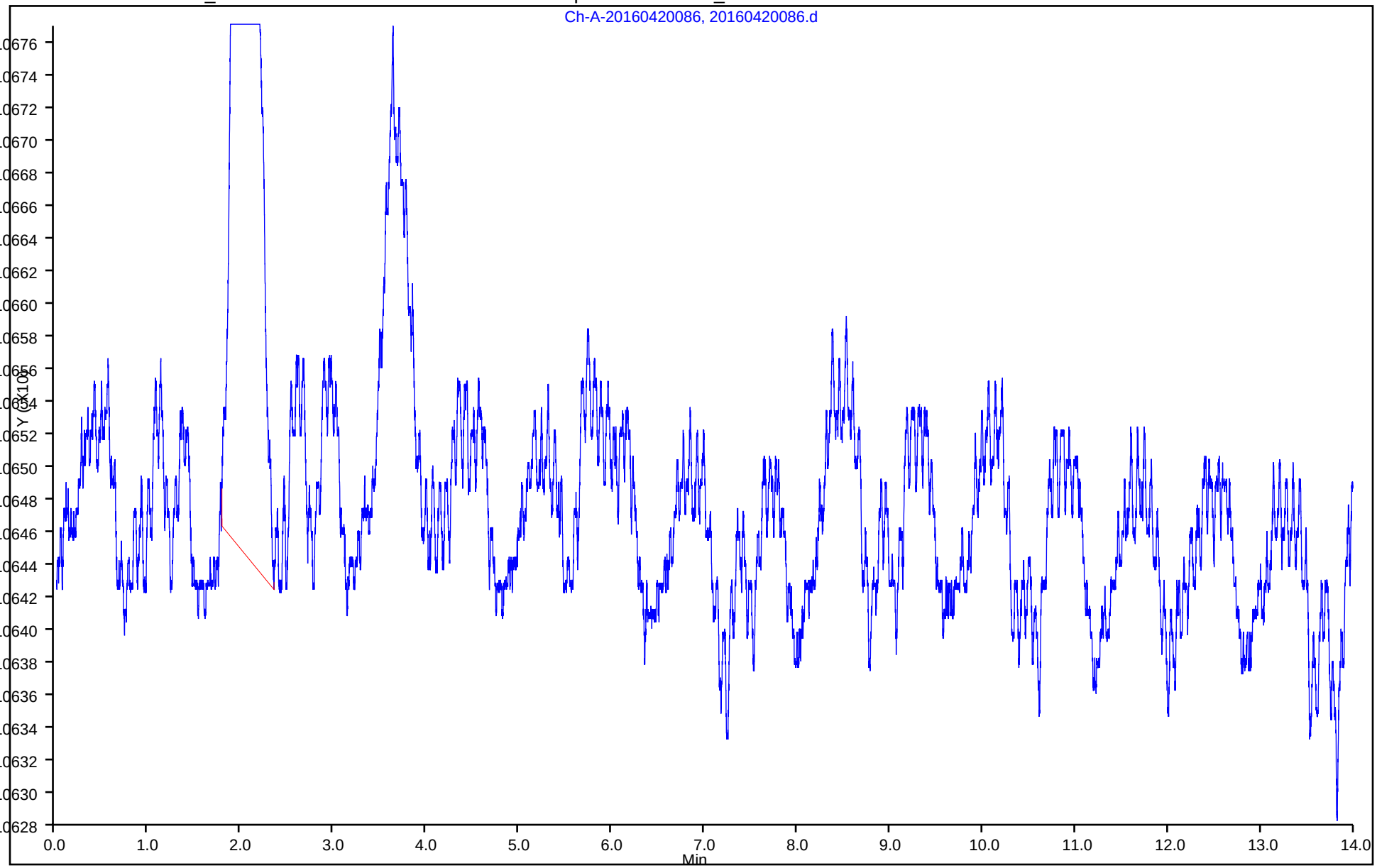
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 17:18:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420086.d

Injection Date:	21-Apr-2016 11:05:27	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	86
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325449/46
Matrix: Water
Lab File ID: 20160420046.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 00:51
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	4.87		0.50	0.25
16887-00-6	Chloride	4.64		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420046.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 21-Apr-2016 00:51:28 ALS Bottle#: 0 Worklist Smp#: 46
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072081-046
Operator ID: IRVINSTWET4 Instrument ID: IC-11

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 02:08:28 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK012

First Level Reviewer: nguyennt Date: 21-Apr-2016 01:19:51

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.559	2.575	-0.016	1214155	5.00	4.86	
	2 Chloride	3.636	3.656	-0.020	768173	5.00	4.64	
	3 Nitrite as NO2	4.340	4.355	-0.015	499976	NC	NC	
	12 Nitrite as N	4.340	4.355	-0.015	499976	NC	NC	
	4 Bromide	5.538	5.551	-0.013	327228	5.00	4.87	
	5 Nitrate as NO3	6.423	6.438	-0.015	426273	NC	NC	
	10 Nitrate as N	6.423	6.438	-0.015	426273	NC	NC	
	9 Orthophosphate as P	8.303	8.289	0.013	207452	NC	NC	
	11 Orthophosphorus as PO4	8.303	8.289	0.013	207452	NC	NC	
	7 Sulfate	10.133	10.133	0.001	529140	5.00	4.74	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

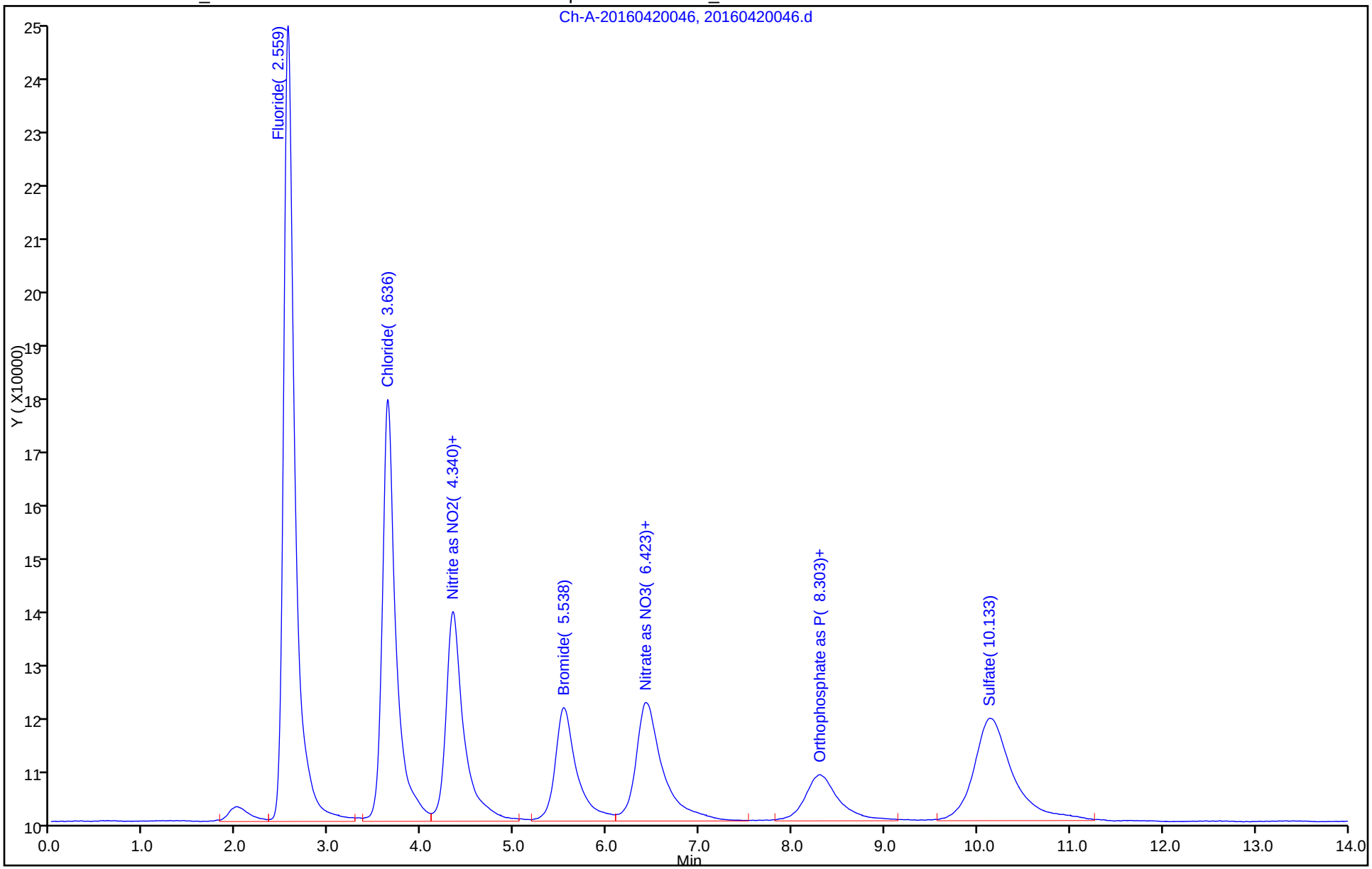
Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 21-Apr-2016 01:19:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420046.d				
Injection Date:	21-Apr-2016 00:51:28	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	lcs			Worklist Smp#:	46
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144995-A-2 MS
Matrix: Water
Lab File ID: 20160420072.d
Analysis Method: 300.0
Date Collected: 04/20/2016 07:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 07:30
Con. Extract Vol.:
Dilution Factor: 50
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	53.0		25	13
16887-00-6	Chloride	99.4		25	13

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420072.d
Lims ID: 440-144995-A-2 MS
Client ID:
Sample Type: MS
Inject. Date: 21-Apr-2016 07:30:33 ALS Bottle#: 0 Worklist Smp#: 72
Injection Vol: 1.0 ul Dil. Factor: 50.0000
Sample Info: #: 001A Name: 440-0072081-072
Operator ID: IRVINSTWET4 Instrument ID: IC-11

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:37:38 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:37:38

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.553	2.571	-0.018	215037	1.00	1.13	
	2 Chloride	3.638	3.660	-0.022	307251	1.00	1.99	
	12 Nitrite as N	4.346	4.363	-0.016	83996	NC	NC	
	3 Nitrite as NO2	4.346	4.363	-0.016	83996	NC	NC	
	4 Bromide	5.558	5.557	0.001	52312	1.00	1.06	
	10 Nitrate as N	6.480	6.438	0.042	90136	NC	NC	
	5 Nitrate as NO3	6.480	6.438	0.042	90136	NC	NC	
	11 Orthophosphorus as PO4	8.312	8.281	0.031	35913	NC	NC	M
	9 Orthophosphate as P	8.312	8.281	0.031	35913	NC	NC	M
	7 Sulfate	10.140	10.153	-0.012	932800	1.00	8.21	
S	8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

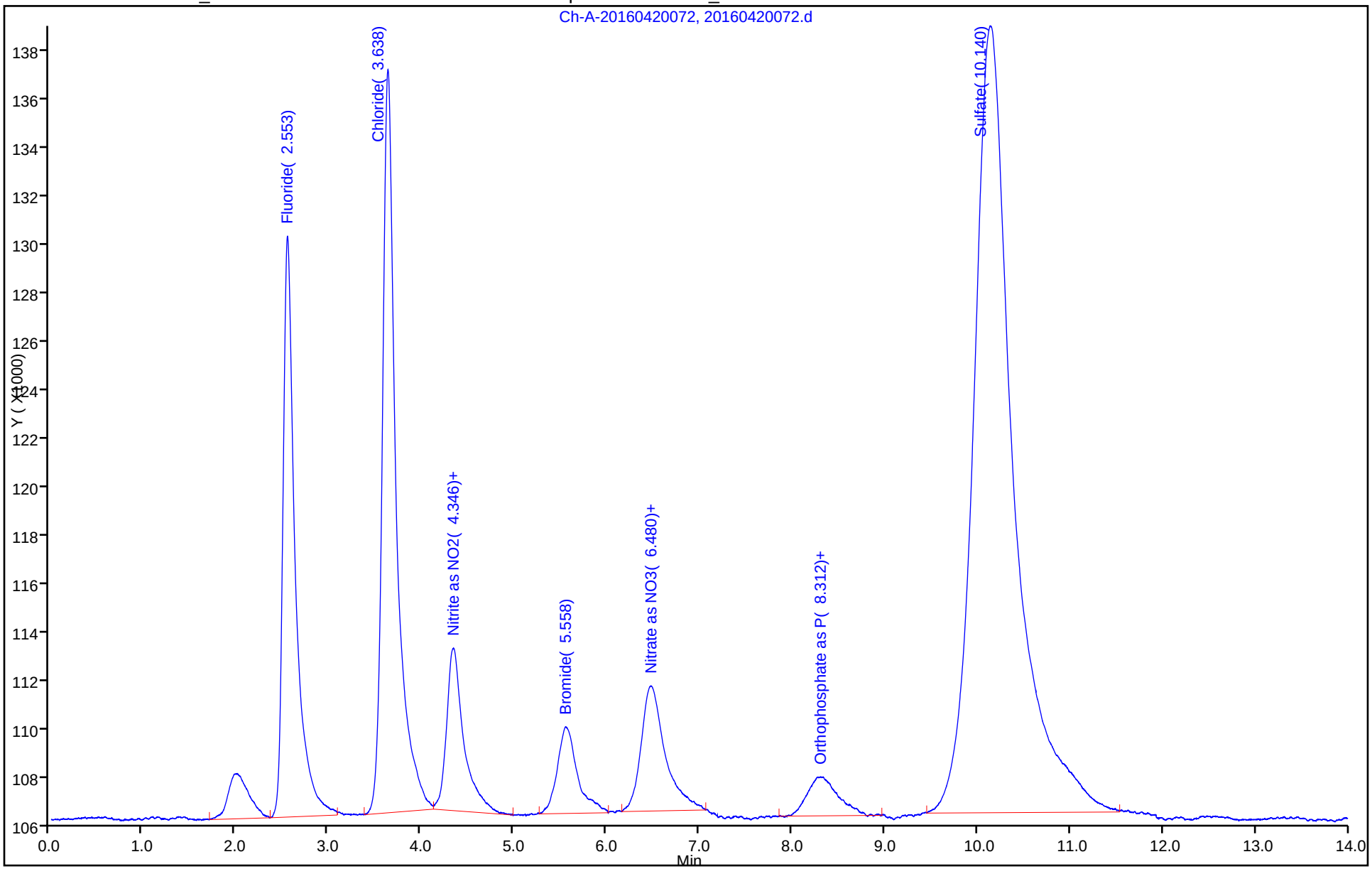
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 21-Apr-2016 17:37:38 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420072.d				
Injection Date:	21-Apr-2016 07:30:33	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144995-A-2 MS			Worklist Smp#:	72
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	50.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144995-A-2 MSD
Matrix: Water
Lab File ID: 20160420073.d
Analysis Method: 300.0
Date Collected: 04/20/2016 07:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 07:45
Con. Extract Vol.:
Dilution Factor: 50
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325449
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	53.4		25	13
16887-00-6	Chloride	98.5		25	13

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420073.d
Lims ID: 440-144995-A-2 MSD
Client ID:
Sample Type: MSD
Inject. Date: 21-Apr-2016 07:45:54 ALS Bottle#: 0 Worklist Smp#: 73
Injection Vol: 1.0 ul Dil. Factor: 50.0000
Sample Info: #: 001A Name: 440-0072081-073
Operator ID: IRVINSTWET4 Instrument ID: IC-11

Method: \\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\300_11.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:37:51 Calib Date: 23-Mar-2016 14:00:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC11\20160323-70871.b\20160323A012.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:37:51

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.556	2.571	-0.015	211920	1.00	1.12	
	2 Chloride	3.638	3.660	-0.022	304282	1.00	1.97	
	12 Nitrite as N	4.337	4.363	-0.025	81476	NC	NC	
	3 Nitrite as NO2	4.337	4.363	-0.025	81476	NC	NC	
	4 Bromide	5.557	5.557	0.000	52837	1.00	1.07	
	10 Nitrate as N	6.463	6.438	0.025	92277	NC	NC	
	5 Nitrate as NO3	6.463	6.438	0.025	92277	NC	NC	
	11 Orthophosphorus as PO4	8.292	8.281	0.011	36901	NC	NC	M
	9 Orthophosphate as P	8.292	8.281	0.011	36901	NC	NC	M
	7 Sulfate	10.117	10.153	-0.035	916578	1.00	8.07	
S	8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

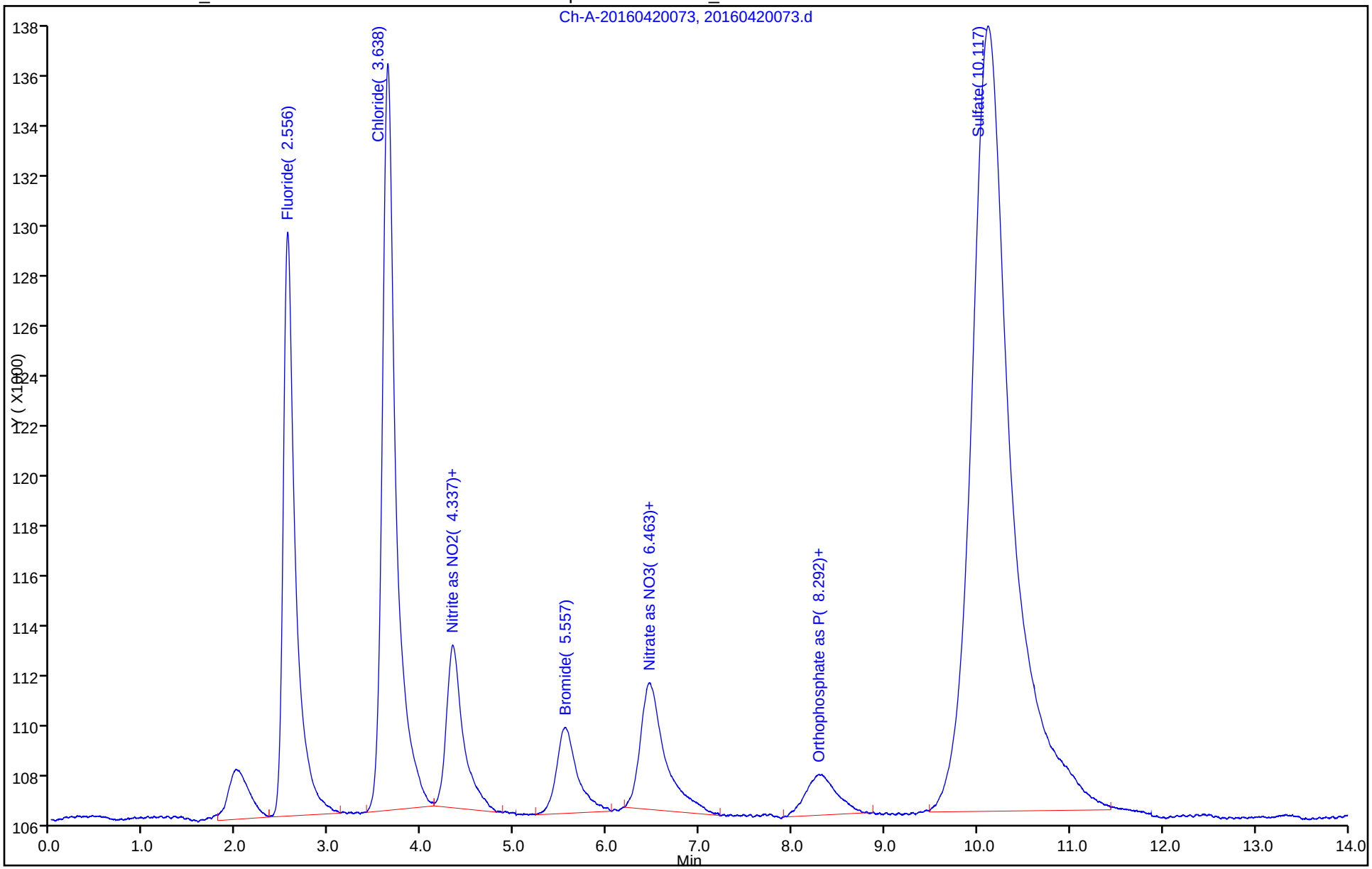
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 21-Apr-2016 17:37:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC11\20160420-72081.b\20160420073.d				
Injection Date:	21-Apr-2016 07:45:54	Instrument ID:	IC-11	Operator ID:	IRVINSTWET4
Lims ID:	440-144995-A-2 MSD			Worklist Smp#:	73
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	50.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	IC-300_28D		



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-11 Start Date: 03/23/2016 11:42

Analysis Batch Number: 319603 End Date: 03/24/2016 08:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0 440-319603/3 IC		03/23/2016 11:42	1	20160323A003.d	AS14 4(mm)
STD1 440-319603/4 IC		03/23/2016 11:57	1	20160323A004.d	AS14 4(mm)
STD2 440-319603/5 IC		03/23/2016 12:13	1	20160323A005.d	AS14 4(mm)
STD3 440-319603/6 IC		03/23/2016 12:28	1	20160323A006.d	AS14 4(mm)
STD5 440-319603/8 IC		03/23/2016 12:59	1	20160323A008.d	AS14 4(mm)
STD6 440-319603/9 IC		03/23/2016 13:14	1	20160323A009.d	AS14 4(mm)
STD7 440-319603/10 IC		03/23/2016 13:29	1	20160323A010.d	AS14 4(mm)
STD8 440-319603/11 IC		03/23/2016 13:45	1	20160323A011.d	AS14 4(mm)
STD4 440-319603/12 IC		03/23/2016 14:00	1	20160323A012.d	AS14 4(mm)
ICV 440-319603/13		03/23/2016 16:30	1	20160323A013.d	AS14 4(mm)
ZZZZZ		03/23/2016 16:55	1		AS14 4(mm)
CCV 440-319603/1014		03/23/2016 16:55	1		AS14 4(mm)
ZZZZZ		03/23/2016 17:11	1		AS14 4(mm)
CCB 440-319603/1015		03/23/2016 17:11	1		AS14 4(mm)
ZZZZZ		03/23/2016 17:26	1		AS14 4(mm)
ZZZZZ		03/23/2016 17:41	1		AS14 4(mm)
ZZZZZ		03/23/2016 17:57	1		AS14 4(mm)
ZZZZZ		03/23/2016 18:29	5		AS14 4(mm)
ZZZZZ		03/23/2016 18:44	5		AS14 4(mm)
ZZZZZ		03/23/2016 19:00	5		AS14 4(mm)
ZZZZZ		03/23/2016 19:15	5		AS14 4(mm)
ZZZZZ		03/23/2016 19:30	5		AS14 4(mm)
ZZZZZ		03/23/2016 19:46	20		AS14 4(mm)
ZZZZZ		03/23/2016 20:01	100		AS14 4(mm)
ZZZZZ		03/23/2016 20:16	100		AS14 4(mm)
ZZZZZ		03/23/2016 20:32	20		AS14 4(mm)
ZZZZZ		03/23/2016 20:47	50		AS14 4(mm)
CCV 440-319603/30		03/23/2016 21:03	1		AS14 4(mm)
CCB 440-319603/31		03/23/2016 21:18	1		AS14 4(mm)
ZZZZZ		03/23/2016 21:38	1		AS14 4(mm)
ZZZZZ		03/23/2016 21:53	5		AS14 4(mm)
ZZZZZ		03/23/2016 22:09	10		AS14 4(mm)
ZZZZZ		03/23/2016 22:24	50		AS14 4(mm)
ZZZZZ		03/23/2016 22:39	5		AS14 4(mm)
ZZZZZ		03/23/2016 22:55	5		AS14 4(mm)
ZZZZZ		03/23/2016 23:10	5		AS14 4(mm)
CCV 440-319603/42		03/24/2016 00:11	1		AS14 4(mm)
CCB 440-319603/43		03/24/2016 00:27	1		AS14 4(mm)
ZZZZZ		03/24/2016 02:45	1		AS14 4(mm)
ZZZZZ		03/24/2016 03:00	1		AS14 4(mm)
CCV 440-319603/54		03/24/2016 03:16	1		AS14 4(mm)
CCB 440-319603/55		03/24/2016 03:31	1		AS14 4(mm)
ZZZZZ		03/24/2016 03:46	1		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-11 Start Date: 03/23/2016 11:42

Analysis Batch Number: 319603 End Date: 03/24/2016 08:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		03/24/2016 05:18	5		AS14 4(mm)
ZZZZZ		03/24/2016 05:34	5		AS14 4(mm)
ZZZZZ		03/24/2016 05:49	5		AS14 4(mm)
CCV 440-319603/66		03/24/2016 06:20	1		AS14 4(mm)
CCB 440-319603/67		03/24/2016 06:35	1		AS14 4(mm)
CCV 440-319603/72		03/24/2016 07:52	1		AS14 4(mm)
CCB 440-319603/73		03/24/2016 08:07	1		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-11 Start Date: 04/20/2016 11:15

Analysis Batch Number: 325449 End Date: 04/21/2016 11:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/20/2016 11:15	1		AS14 4(mm)
ZZZZZ		04/20/2016 11:30	1		AS14 4(mm)
CCV 440-325449/1002		04/20/2016 11:30	1		AS14 4(mm)
ZZZZZ		04/20/2016 11:45	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:01	1		AS14 4(mm)
CCB 440-325449/1004		04/20/2016 12:01	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:16	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:31	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:47	1		AS14 4(mm)
ZZZZZ		04/20/2016 14:19	1		AS14 4(mm)
ZZZZZ		04/20/2016 14:34	5		AS14 4(mm)
ZZZZZ		04/20/2016 14:50	1		AS14 4(mm)
ZZZZZ		04/20/2016 15:05	10		AS14 4(mm)
ZZZZZ		04/20/2016 15:20	10		AS14 4(mm)
ZZZZZ		04/20/2016 15:36	10		AS14 4(mm)
ZZZZZ		04/20/2016 15:51	1		AS14 4(mm)
ZZZZZ		04/20/2016 16:07	20		AS14 4(mm)
ZZZZZ		04/20/2016 16:22	10		AS14 4(mm)
ZZZZZ		04/20/2016 16:37	500		AS14 4(mm)
CCV 440-325449/18		04/20/2016 16:53	1		AS14 4(mm)
CCB 440-325449/19		04/20/2016 17:08	1		AS14 4(mm)
ZZZZZ		04/20/2016 17:57	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:12	10		AS14 4(mm)
ZZZZZ		04/20/2016 18:27	500		AS14 4(mm)
ZZZZZ		04/20/2016 18:43	5		AS14 4(mm)
ZZZZZ		04/20/2016 18:58	5		AS14 4(mm)
ZZZZZ		04/20/2016 19:44	5		AS14 4(mm)
ZZZZZ		04/20/2016 20:00	5		AS14 4(mm)
ZZZZZ		04/20/2016 20:15	5		AS14 4(mm)
CCV 440-325449/30		04/20/2016 20:30	1		AS14 4(mm)
CCB 440-325449/31		04/20/2016 20:46	1		AS14 4(mm)
ZZZZZ		04/20/2016 23:06	1		AS14 4(mm)
ZZZZZ		04/20/2016 23:22	20		AS14 4(mm)
CCV 440-325449/42		04/20/2016 23:37	1	20160420042.d	AS14 4(mm)
CCB 440-325449/43		04/20/2016 23:52	1	20160420043.d	AS14 4(mm)
MB 440-325449/45		04/21/2016 00:36	1	20160420045.d	AS14 4(mm)
LCS 440-325449/46		04/21/2016 00:51	1	20160420046.d	AS14 4(mm)
ZZZZZ		04/21/2016 02:08	5		AS14 4(mm)
ZZZZZ		04/21/2016 02:23	5		AS14 4(mm)
ZZZZZ		04/21/2016 02:38	5		AS14 4(mm)
CCV 440-325449/54		04/21/2016 02:54	1	20160420054.d	AS14 4(mm)
CCB 440-325449/55		04/21/2016 03:09	1	20160420055.d	AS14 4(mm)
ZZZZZ		04/21/2016 05:43	5		AS14 4(mm)
CCV 440-325449/66		04/21/2016 05:58	1	20160420066.d	AS14 4(mm)
CCB 440-325449/67		04/21/2016 06:13	1	20160420067.d	AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-11 Start Date: 04/20/2016 11:15

Analysis Batch Number: 325449 End Date: 04/21/2016 11:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/21/2016 07:15	50		AS14 4(mm)
440-144995-A-2 MS		04/21/2016 07:30	50	20160420072.d	AS14 4(mm)
440-144995-A-2 MSD		04/21/2016 07:45	50	20160420073.d	AS14 4(mm)
440-144933-1		04/21/2016 08:01	10	20160420074.d	AS14 4(mm)
440-144933-1		04/21/2016 08:16	500	20160420075.d	AS14 4(mm)
440-144933-2		04/21/2016 08:31	20	20160420076.d	AS14 4(mm)
440-144933-2		04/21/2016 08:47	500	20160420077.d	AS14 4(mm)
CCV 440-325449/78		04/21/2016 09:02	1	20160420078.d	AS14 4(mm)
CCB 440-325449/79		04/21/2016 09:18	1	20160420079.d	AS14 4(mm)
440-144933-3		04/21/2016 09:33	20	20160420080.d	AS14 4(mm)
440-144933-3		04/21/2016 09:48	500	20160420081.d	AS14 4(mm)
440-144933-4		04/21/2016 10:04	20	20160420082.d	AS14 4(mm)
440-144933-4		04/21/2016 10:19	500	20160420083.d	AS14 4(mm)
ZZZZZ		04/21/2016 10:34	50		AS14 4(mm)
CCV 440-325449/85		04/21/2016 10:50	1	20160420085.d	AS14 4(mm)
CCB 440-325449/86		04/21/2016 11:05	1	20160420086.d	AS14 4(mm)

Method 300.1

Disinfection By-Products (IC) by Method 300.1

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): AS9-HC ID: 4 (mm)

Client Sample ID	Lab Sample ID	DCAA #
AA-23R-20160418	440-144933-1	104
DBMW-8-20160418	440-144933-2	104
DBMW-7-20160418	440-144933-3	105
DBMW-7-20160418-FD	440-144933-4	104
	MB 440-325632/4	103
	MB 440-326094/5	104
	LCS 440-325632/3	105
	LCS 440-326094/4	105
	MRL 440-325632/2	103
	MRL 440-326094/3	106
	440-144899-A-2 MS	105
	440-145185-A-1 MS	104
	440-144899-A-2 MSD	106
	440-145185-A-1 MSD	105

	QC LIMITS
DCAA = Dichloroacetic acid(Surr)	90-115

Column to be used to flag recovery values

FORM II 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a003.d

Lab ID: LCS 440-325632/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	107	107	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a004.d

Lab ID: LCS 440-326094/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	98.0	98	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a002.d

Lab ID: MRL 440-325632/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	20.7	104	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a003.d

Lab ID: MRL 440-326094/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.0 J	95	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a018.d

Lab ID: 440-144899-A-2 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	200	430	114	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a010.d

Lab ID: 440-145185-A-1 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	220	426	101	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a019.d

Lab ID: 440-144899-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Chlorate	200	433	116	1	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a011.d

Lab ID: 440-145185-A-1 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Chlorate	200	424	100	0	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab File ID: 201604210001a004.d Lab Sample ID: MB 440-325632/4

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/21/2016 07:12

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-325632/3	201604210001a003.d	04/21/2016 06:39
	CCB 440-325632/16	201604210001a016.d	04/21/2016 13:51
	440-144899-A-2 MS	201604210001a018.d	04/21/2016 14:57
	440-144899-A-2 MSD	201604210001a019.d	04/21/2016 15:30
	CCB 440-325632/28	201604210001a028.d	04/21/2016 20:29
DBMW-8-20160418	440-144933-2	201604210001a030.d	04/21/2016 21:35
DBMW-7-20160418	440-144933-3	201604210001a031.d	04/21/2016 22:08
DBMW-7-20160418-FD	440-144933-4	201604210001a032.d	04/21/2016 22:41
	CCB 440-325632/44	201604210001a040.d	04/22/2016 03:07

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab File ID: 201604230001a005.d Lab Sample ID: MB 440-326094/5

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/23/2016 10:22

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-326094/4	201604230001a004.d	04/23/2016 09:49
AA-23R-20160418	440-144933-1	201604230001a006.d	04/23/2016 10:55
	440-145185-A-1 MS	201604230001a010.d	04/23/2016 13:08
	440-145185-A-1 MSD	201604230001a011.d	04/23/2016 13:41
	CCB 440-326094/17	201604230001a017.d	04/23/2016 17:00

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: AA-23R-20160418
Lab Sample ID: 440-144933-1
Matrix: Water
Lab File ID: 201604230001a006.d
Analysis Method: 300.1B
Date Collected: 04/18/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 10:55
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	70000		10000	5000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a006.d				
Lims ID:	440-144933-A-1				
Client ID:	AA-23R-20160418				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 10:55:37	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001 Name: 440-0072215-006				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 13:33:31	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 12:24:40		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.540	13.370	0.170	13462745	1035.3	
2 Chlorate	16.527	16.230	0.297	3130591	139.3	

Reagents:

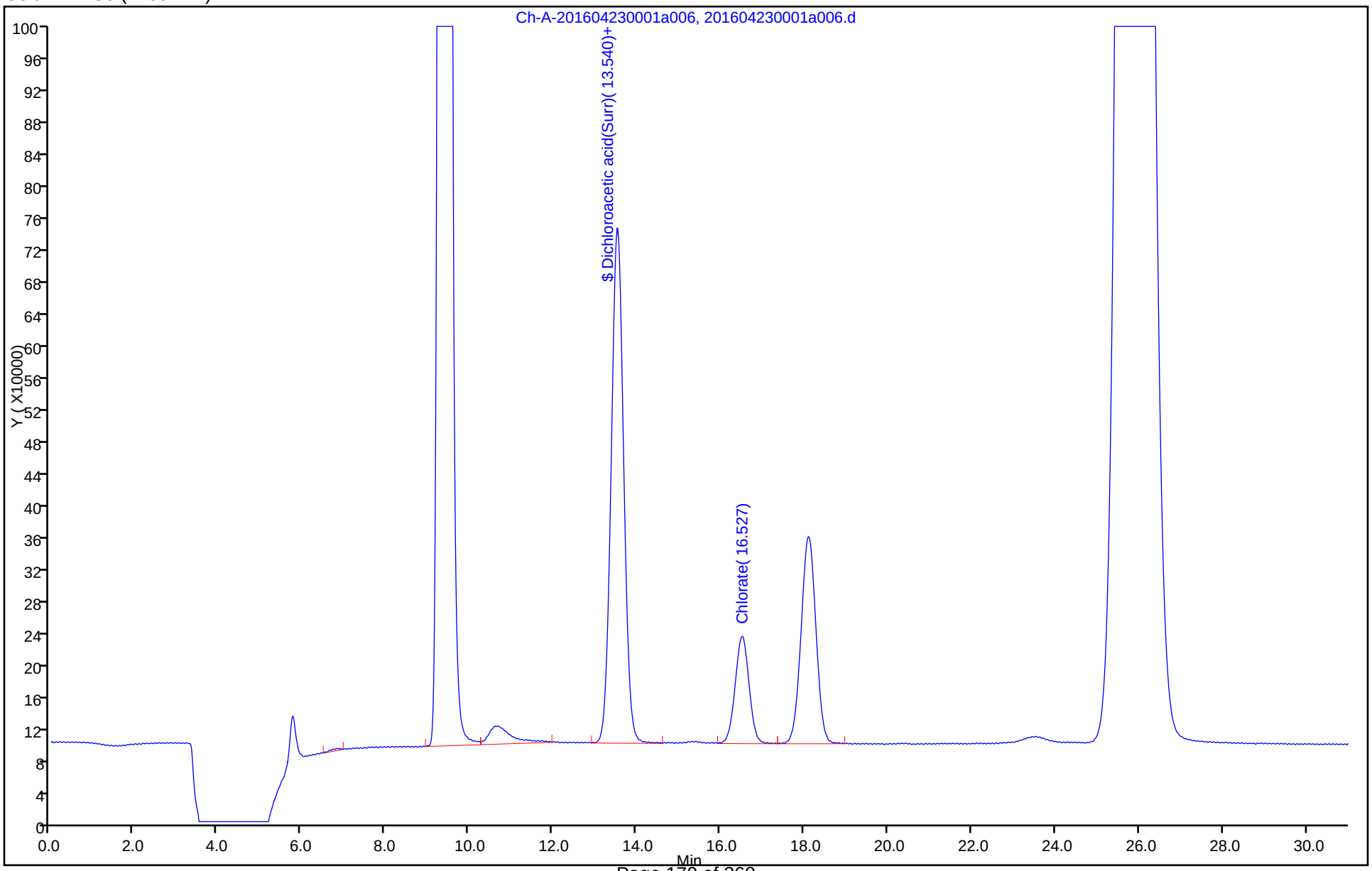
WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 23-Apr-2016 12:52:10 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a006.d				
Injection Date:	23-Apr-2016 10:55:37	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-A-1	Lab Sample ID:	440-144933-1	Worklist Smp#:	6
Client ID:	AA-23R-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-8-20160418
Lab Sample ID: 440-144933-2
Matrix: Water
Lab File ID: 201604210001a030.d
Analysis Method: 300.1B
Date Collected: 04/18/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 21:35
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	10000		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a030.d				
Lims ID:	440-144933-A-2				
Client ID:	DBMW-8-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 21:35:36	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072110-030				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:08:32	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:08:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.573	13.370	0.203	13460937	1035.2	
2 Chlorate	16.507	16.230	0.277	2306775	102.2	

Reagents:

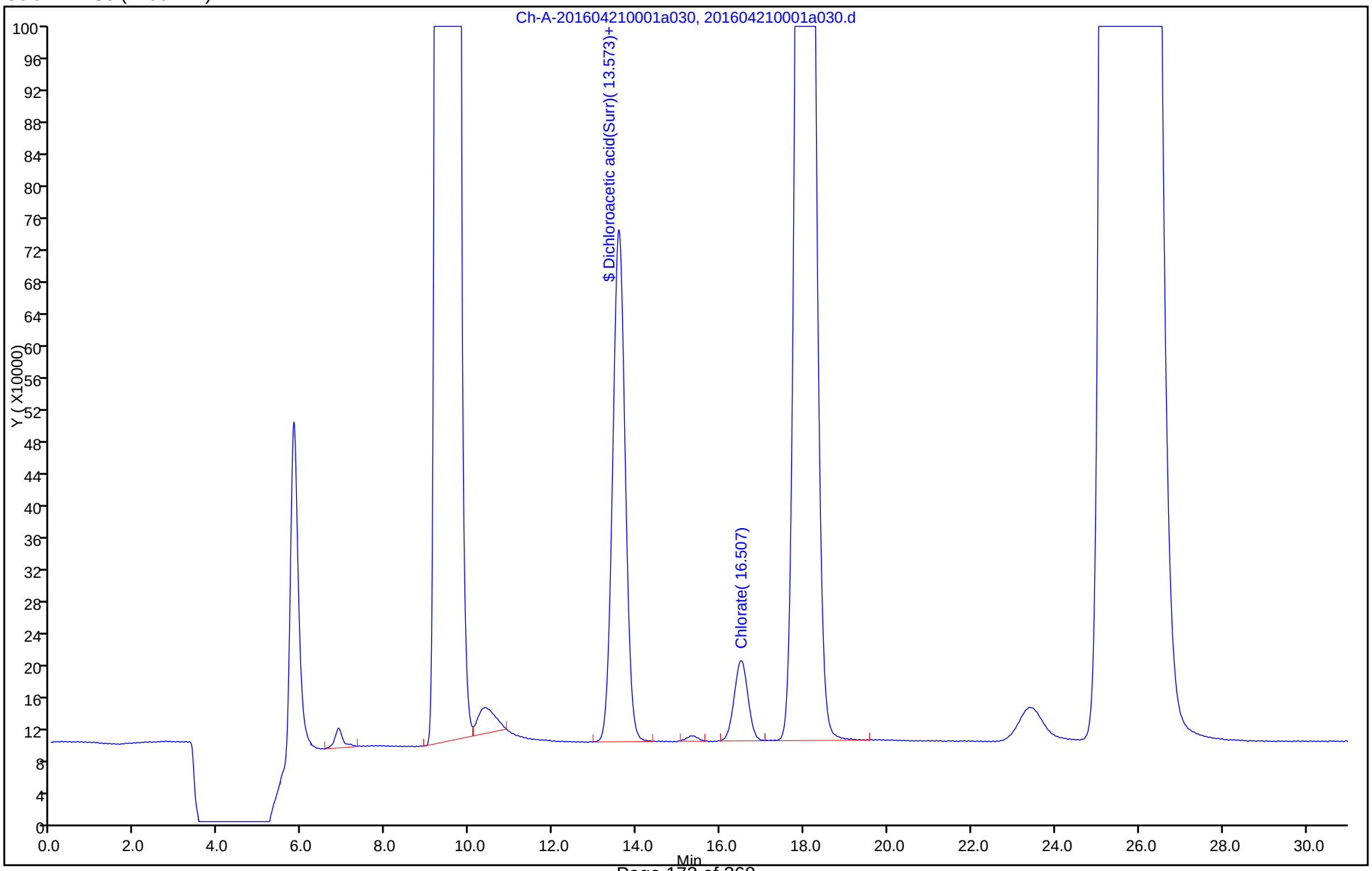
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 23-Apr-2016 07:08:32 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a030.d				
Injection Date:	21-Apr-2016 21:35:36	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-A-2	Lab Sample ID:	440-144933-2	Worklist Smp#:	30
Client ID:	DBMW-8-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418
Lab Sample ID: 440-144933-3
Matrix: Water
Lab File ID: 201604210001a031.d
Analysis Method: 300.1B
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 22:08
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	8000		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a031.d				
Lims ID:	440-144933-A-3				
Client ID:	DBMW-7-20160418				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 22:08:46	ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072110-031				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:08:42	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:08:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.583	13.370	0.213	13527152	1040.3	
2 Chlorate	16.520	16.230	0.290	1815148	80.1	

Reagents:

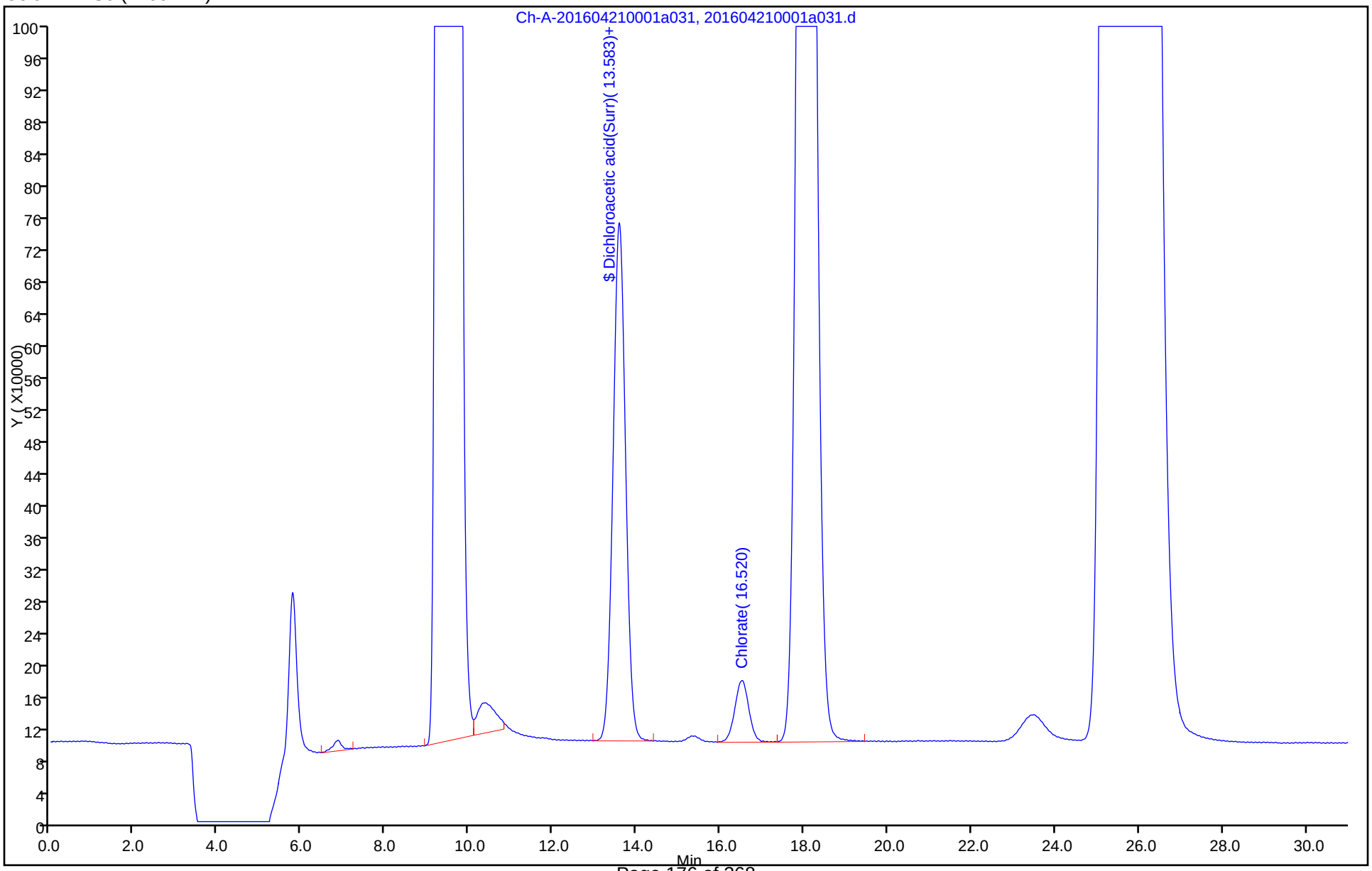
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 23-Apr-2016 07:08:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a031.d				
Injection Date:	21-Apr-2016 22:08:46	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-A-3	Lab Sample ID:	440-144933-3	Worklist Smp#:	31
Client ID:	DBMW-7-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418-FD
Lab Sample ID: 440-144933-4
Matrix: Water
Lab File ID: 201604210001a032.d
Analysis Method: 300.1B
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 22:41
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC
ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	7600		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a032.d				
Lims ID:	440-144933-A-4				
Client ID:	DBMW-7-20160418-FD				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 22:41:57	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072110-032				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:08:52	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:08:52

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.577	13.370	0.207	13445448	1034.0	
2 Chlorate	16.500	16.230	0.270	1719334	75.8	

Reagents:

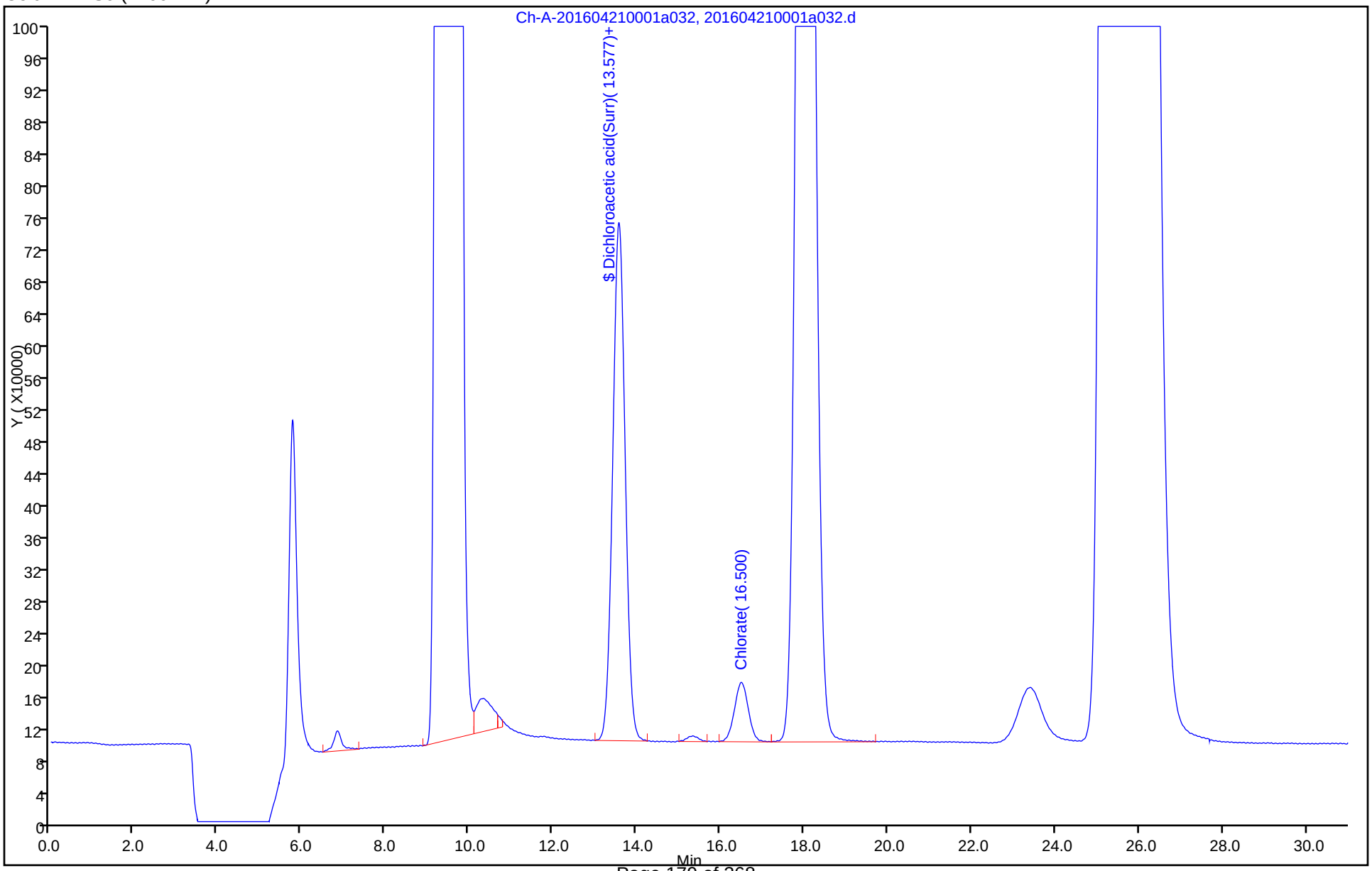
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 23-Apr-2016 07:08:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a032.d				
Injection Date:	21-Apr-2016 22:41:57	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144933-A-4	Lab Sample ID:	440-144933-4	Worklist Smp#:	32
Client ID:	DBMW-7-20160418-FD				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Bromate		8.617	8.637	8.630	8.637	8.637					0.000 - 0.000	8.632
Bromide		16.530	16.547	16.600	16.620	16.693					0.000 - 0.000	16.598
Chlorate		18.010	18.043	18.053	18.067	18.027					0.000 - 0.000	18.040
Dichloroacetic acid(Surr)	14.517	14.520	14.533	14.500	14.513	14.490					13.482 - 15.511	14.512

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Bromate	14349	19044 14698	14750	14388	Lin	3388.08196	14577.9338							1.0000		0.9950
Bromide	26042	23576 24541	25629	26061	Lin	160772.070	24672.7328							0.9990		0.9950
Chlorate	22433	21362 22252	23416	23379	Lin	35196.8608	22223.5543							1.0000		0.9950
Dichloroacetic acid(Surr)	13223 12831	13029 12797	13075	13067	Ave		13003.6499				1.2		15.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Bromate	Lin	1471315	95313	184560	360048	718151	0.000000 100	5.01	12.5	25.0	50.1
Bromide	Lin	24540865	1178813	3203639	6515129	13021197	0.000000 1000	50.0	125	250	500
Chlorate	Lin	8900719	427235	1170778	2337921	4486665	0.000000 400	20.0	50.0	100	200
Dichloroacetic acid(Surr)	Ave	13139591 12716735	12947051	12992376	12984873	12750586	994 994	994	994	994	994

Curve Type Legend:

Ave = Average
Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	28-Jan-2016 08:07:59	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-002				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:35	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	14.517	14.513	0.004	13139591	993.7	1010.5	

Reagents:

WC3001LCS_00034	Amount Added: 0.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

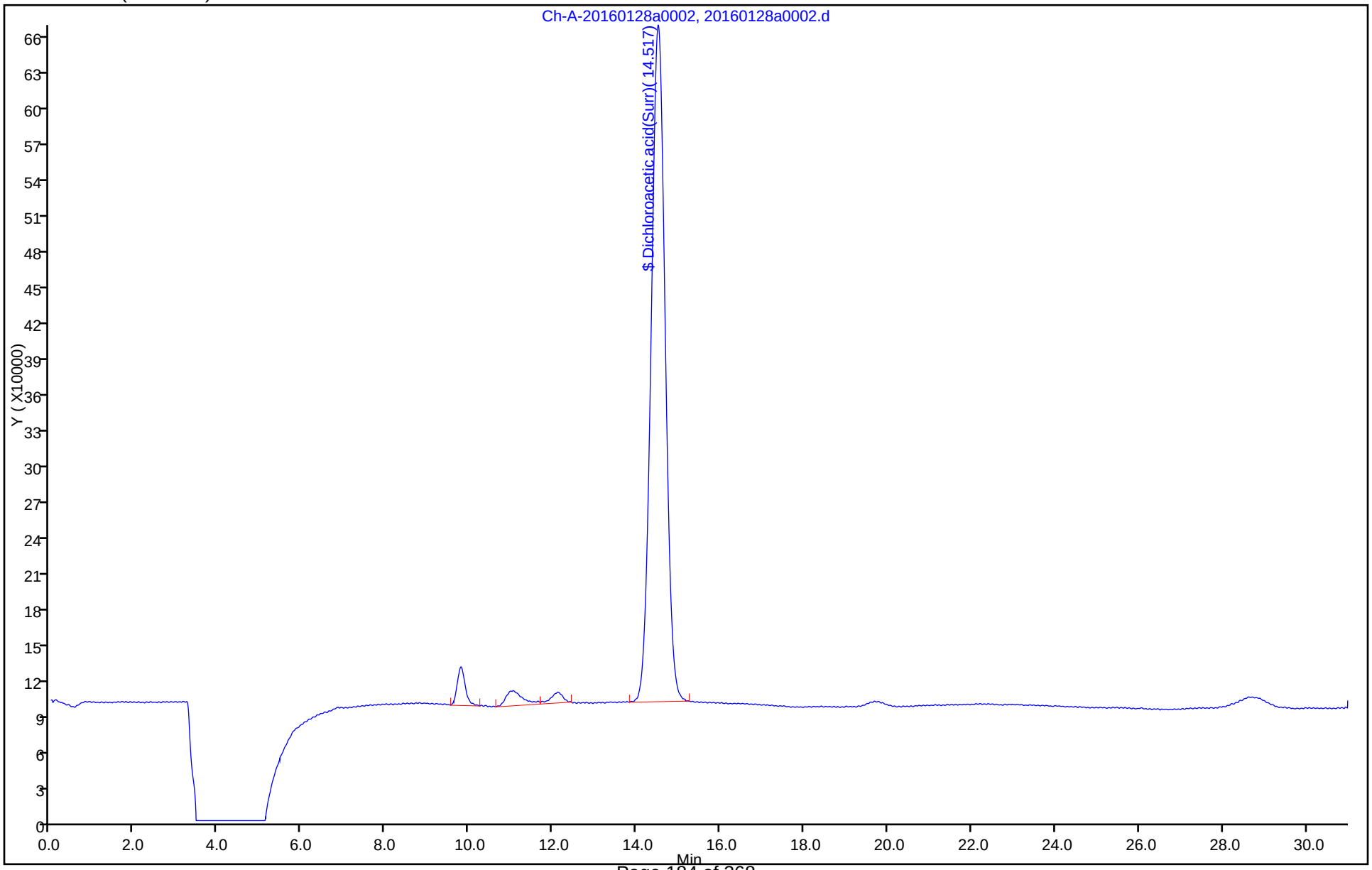
Report Date: 28-Jan-2016 11:28:36 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d

Injection Date:	28-Jan-2016 08:07:59	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std0			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d				
Lims ID:	std1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	28-Jan-2016 08:41:10	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-003				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:37	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 09:17:36

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.547	7.547	0.000	495358	NC	NC	
3 Bromate	8.617	8.617	0.000	95313	5.01	6.31	
$ 6 Dichloroacetic acid(Surr)	14.520	14.513	0.007	12947051	993.7	995.6	
4 Bromide	16.530	16.530	0.000	1178813	50.0	41.3	
2 Chlorate	18.010	18.010	0.000	427235	20.0	17.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

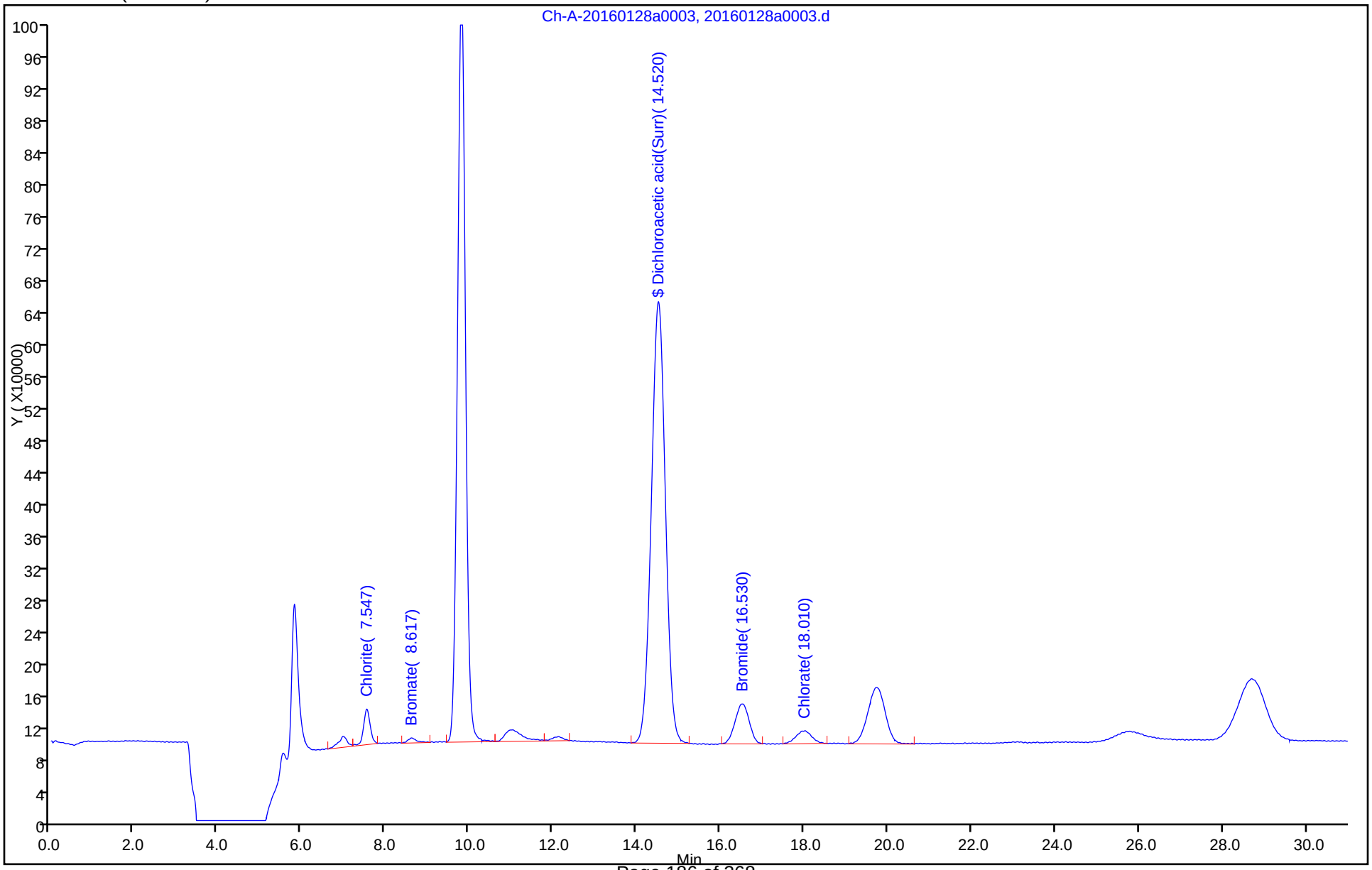
Report Date: 28-Jan-2016 11:28:37 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d

Injection Date:	28-Jan-2016 08:41:10	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std1			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	28-Jan-2016 09:14:20	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-004				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:38	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 09:50:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.557	7.547	0.010	1353340	NC	NC	
3 Bromate	8.637	8.617	0.020	184560	12.5	12.4	
$ 6 Dichloroacetic acid(Surr)	14.533	14.513	0.020	12992376	993.7	999.1	
4 Bromide	16.547	16.530	0.017	3203639	125.0	123.3	
2 Chlorate	18.043	18.010	0.033	1170778	50.0	51.1	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

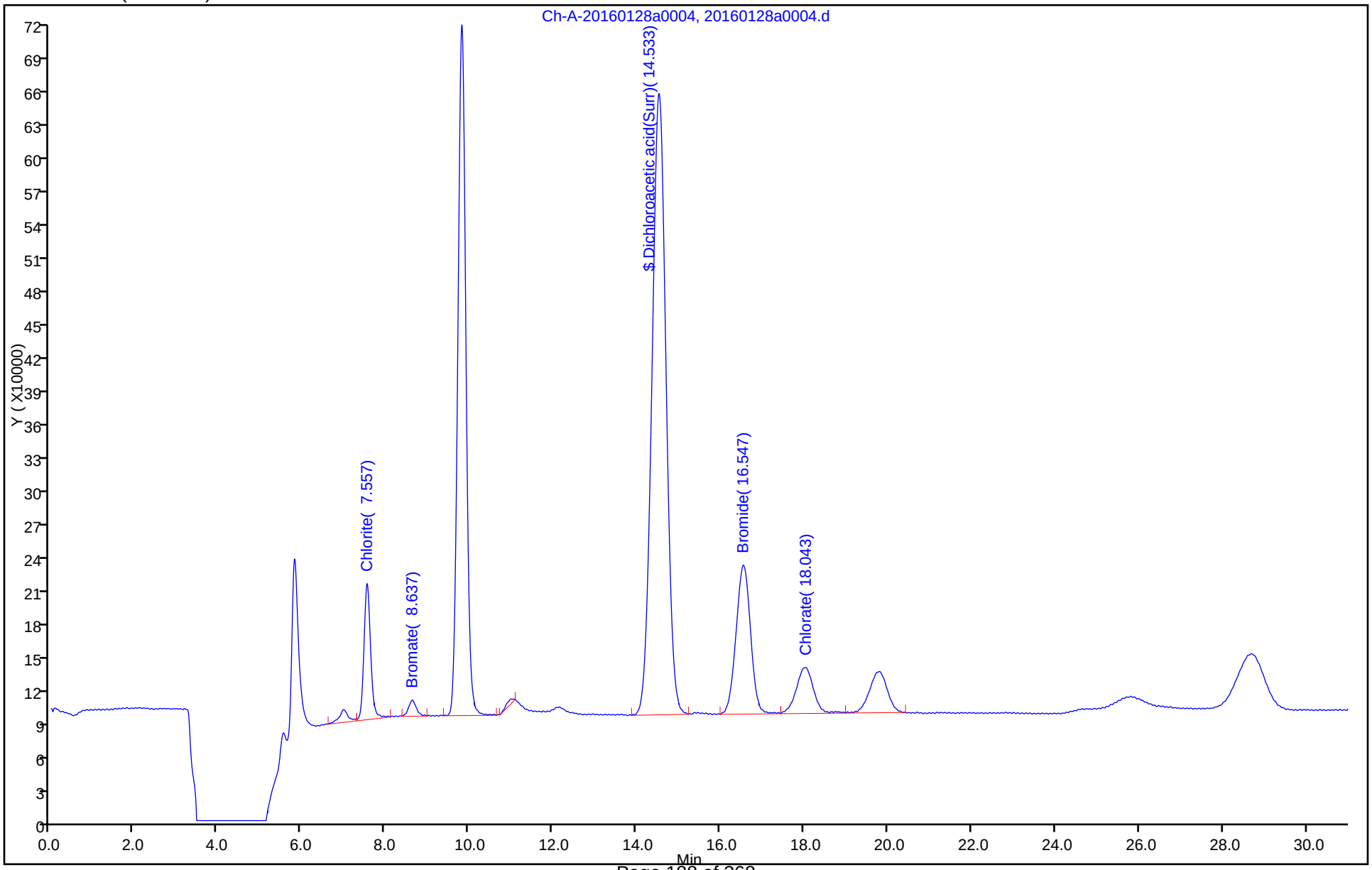
WC3001LCS_00034	Amount Added: 62.50	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 28-Jan-2016 11:28:38 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Injection Date:	28-Jan-2016 09:14:20	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std2			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	28-Jan-2016 09:47:31	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-005				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:23:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	2752443	NC	NC	
3 Bromate	8.630	8.617	0.013	360048	25.0	24.5	
$ 6 Dichloroacetic acid(Surr)	14.500	14.513	-0.013	12984873	993.7	998.6	
4 Bromide	16.600	16.530	0.070	6515129	250.0	257.5	
2 Chlorate	18.053	18.010	0.043	2337921	100.0	103.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

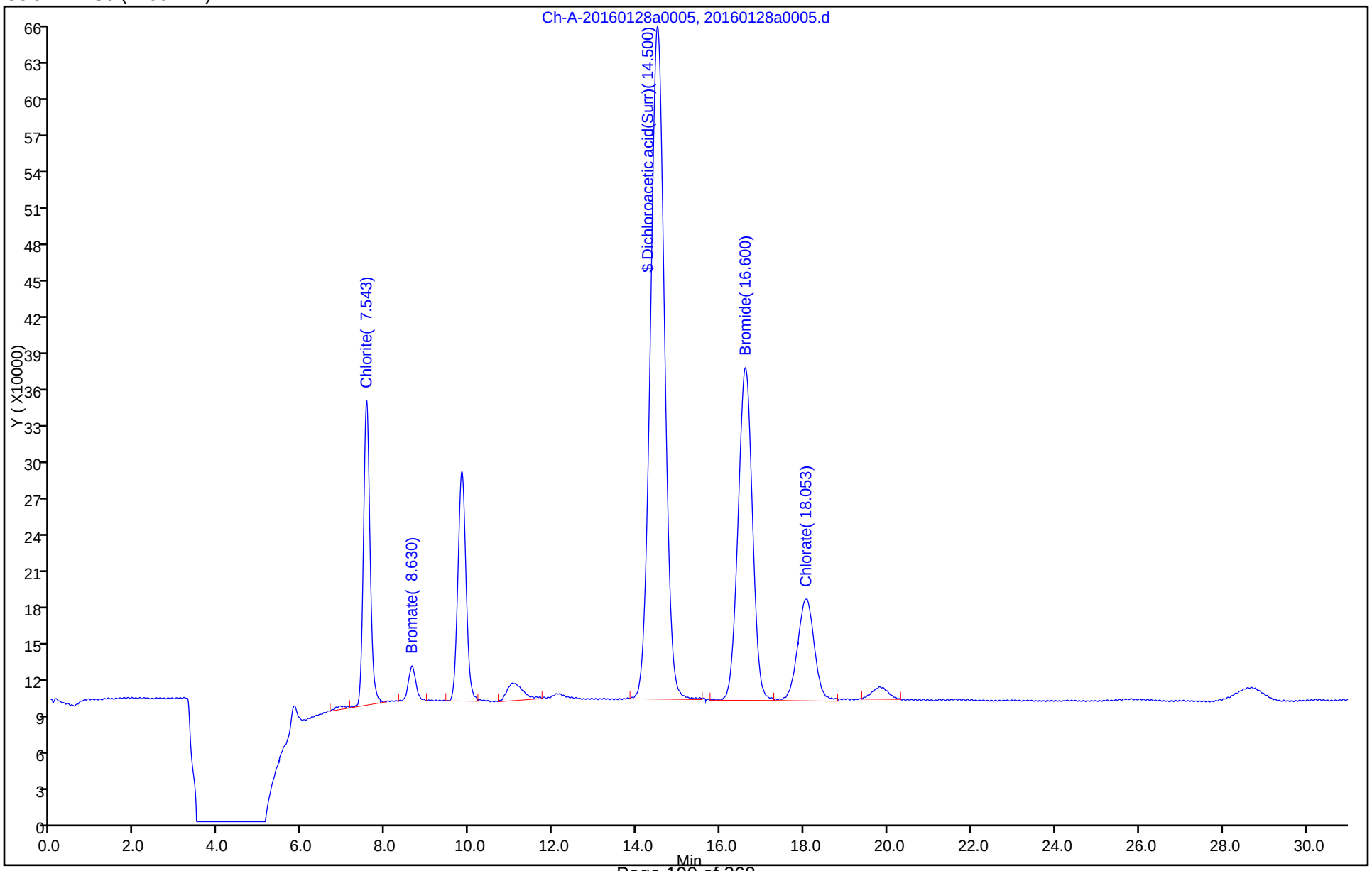
Report Date: 28-Jan-2016 11:28:39 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d

Injection Date:	28-Jan-2016 09:47:31	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std3			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	28-Jan-2016 10:20:42	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-006				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				
First Level Reviewer: zakhrabovy		Date:	28-Jan-2016 10:57:42		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.550	7.547	0.003	5566429	NC	NC	
3 Bromate	8.637	8.617	0.020	718151	50.1	49.0	
$ 6 Dichloroacetic acid(Surr)	14.513	14.513	0.000	12750586	993.7	980.5	
4 Bromide	16.620	16.530	0.090	13021197	500.0	521.2	
2 Chlorate	18.067	18.010	0.057	4486665	200.0	200.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

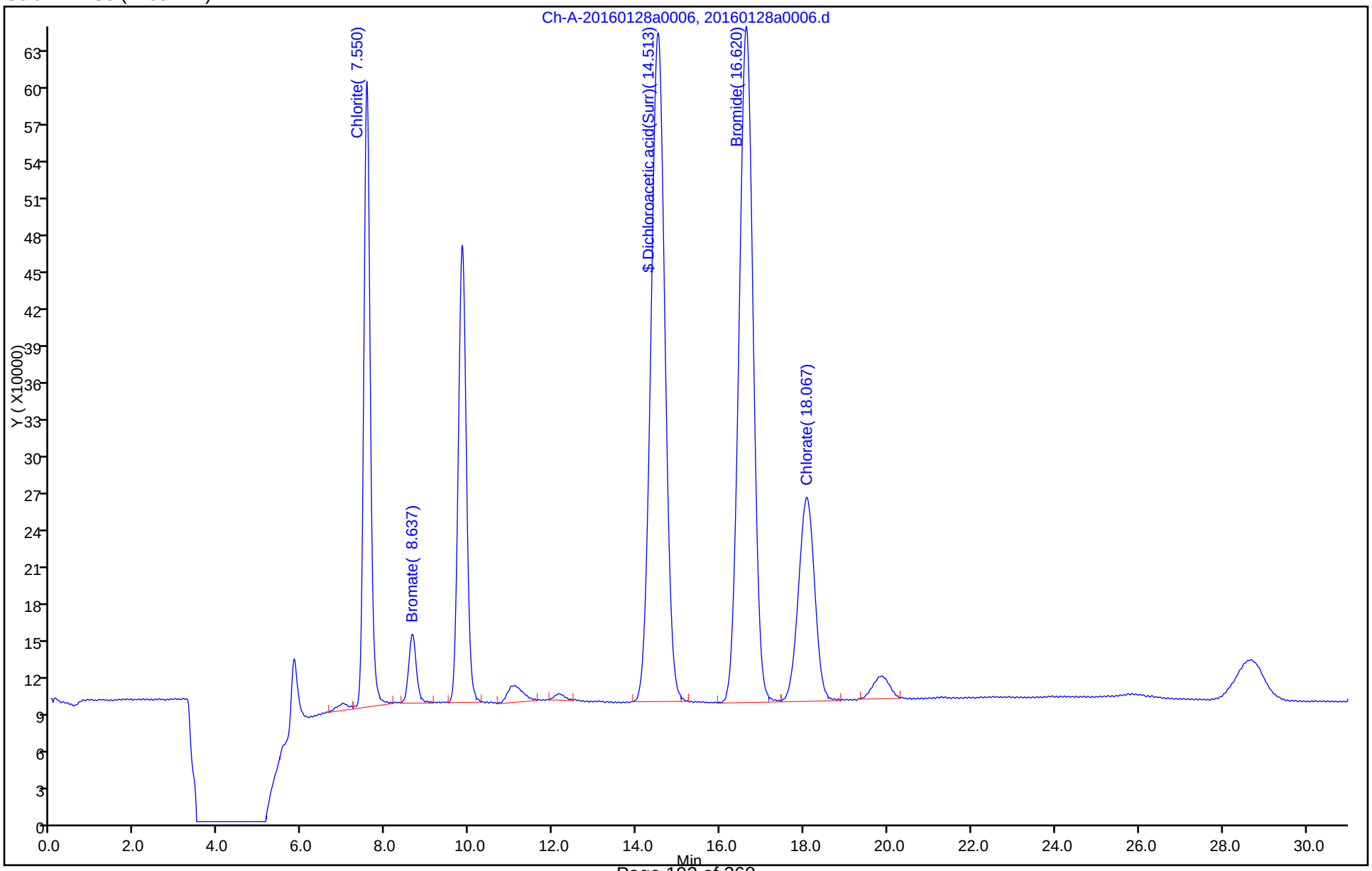
Report Date: 28-Jan-2016 11:28:40 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d

Injection Date:	28-Jan-2016 10:20:42	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std4			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	28-Jan-2016 10:53:53	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-007				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 12:05:32	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:05:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.580	7.547	0.033	11051100	NC	NC	
3 Bromate	8.637	8.617	0.020	1471315	100.1	100.7	
$ 6 Dichloroacetic acid(Surr)	14.490	14.513	-0.023	12716735	993.7	977.9	
4 Bromide	16.693	16.530	0.163	24540865	1000.0	988.1	
2 Chlorate	18.027	18.010	0.017	8900719	400.0	398.9	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

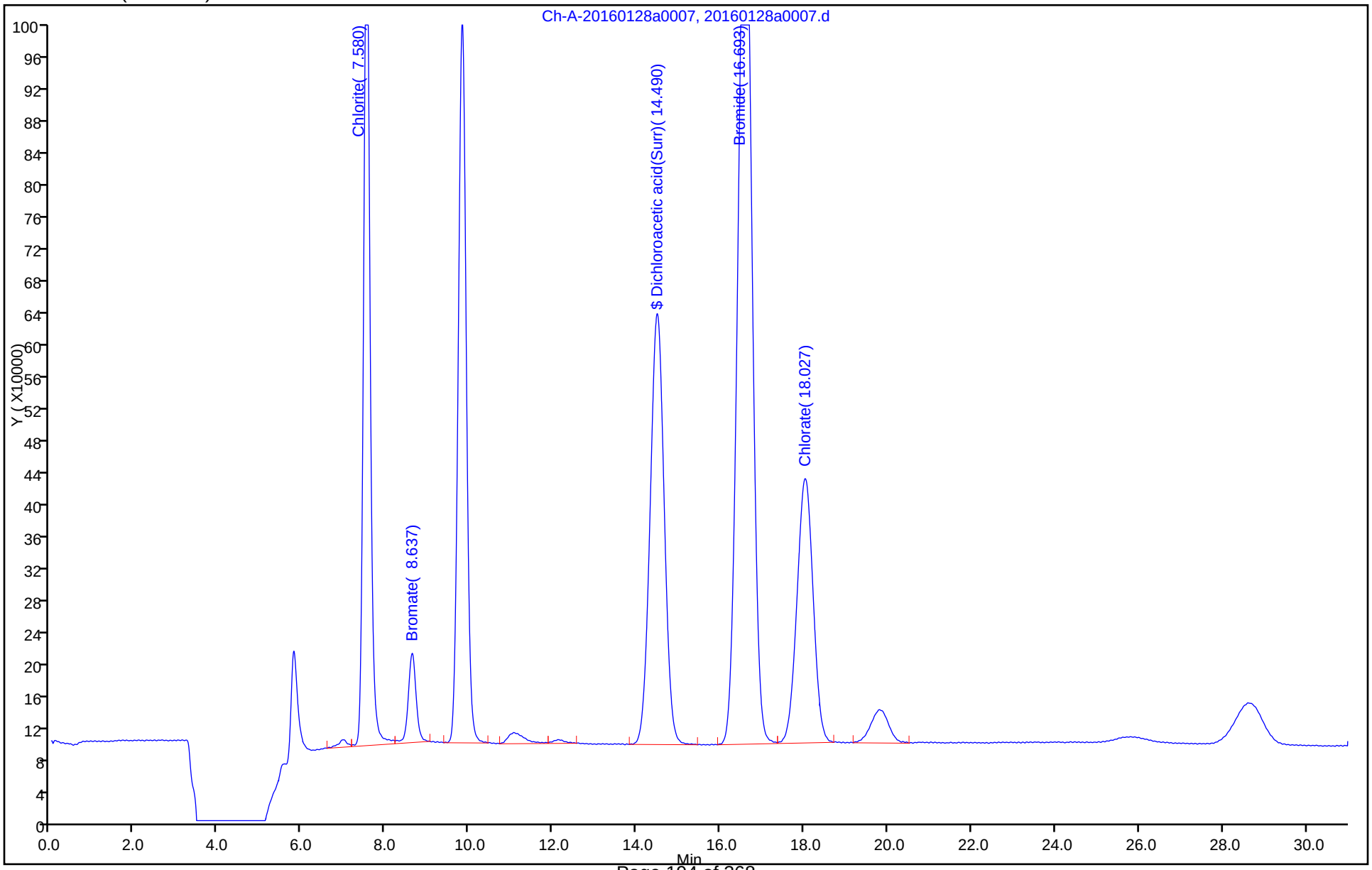
Report Date: 28-Jan-2016 12:05:34 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Injection Date:	28-Jan-2016 10:53:53	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std5			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		13546		27.7	30.0	-7.8	15.0
Bromide	Lin		25814		307	300	2.5	15.0
Chlorate	Lin		22301		119	120	-1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	12897		986	994	-0.8	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.62	8.01	9.22
Bromide	16.52	15.37	17.69
Chlorate	17.98	17.11	18.91
Dichloroacetic acid(Surr)	14.51	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 28-Jan-2016 11:30:56 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 68747 Name: 440-0068747-008
Operator ID: irvinstwet3 Instrument ID: IC-7
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 29-Jan-2016 05:10:00 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK019

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:08:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	3264833	NC	NC	
3 Bromate	8.623	8.617	0.006	406799	30.0	27.7	M
$ 6 Dichloroacetic acid(Surr)	14.510	14.513	-0.003	12815970	993.7	985.6	
4 Bromide	16.520	16.530	-0.010	7744059	300.0	307.4	
2 Chlorate	17.980	18.010	-0.030	2678751	120.1	119.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001ICV_00023 Amount Added: 150.00 Units: uL
WCDCA_00031 Amount Added: 10.00 Units: uL Run Reagent

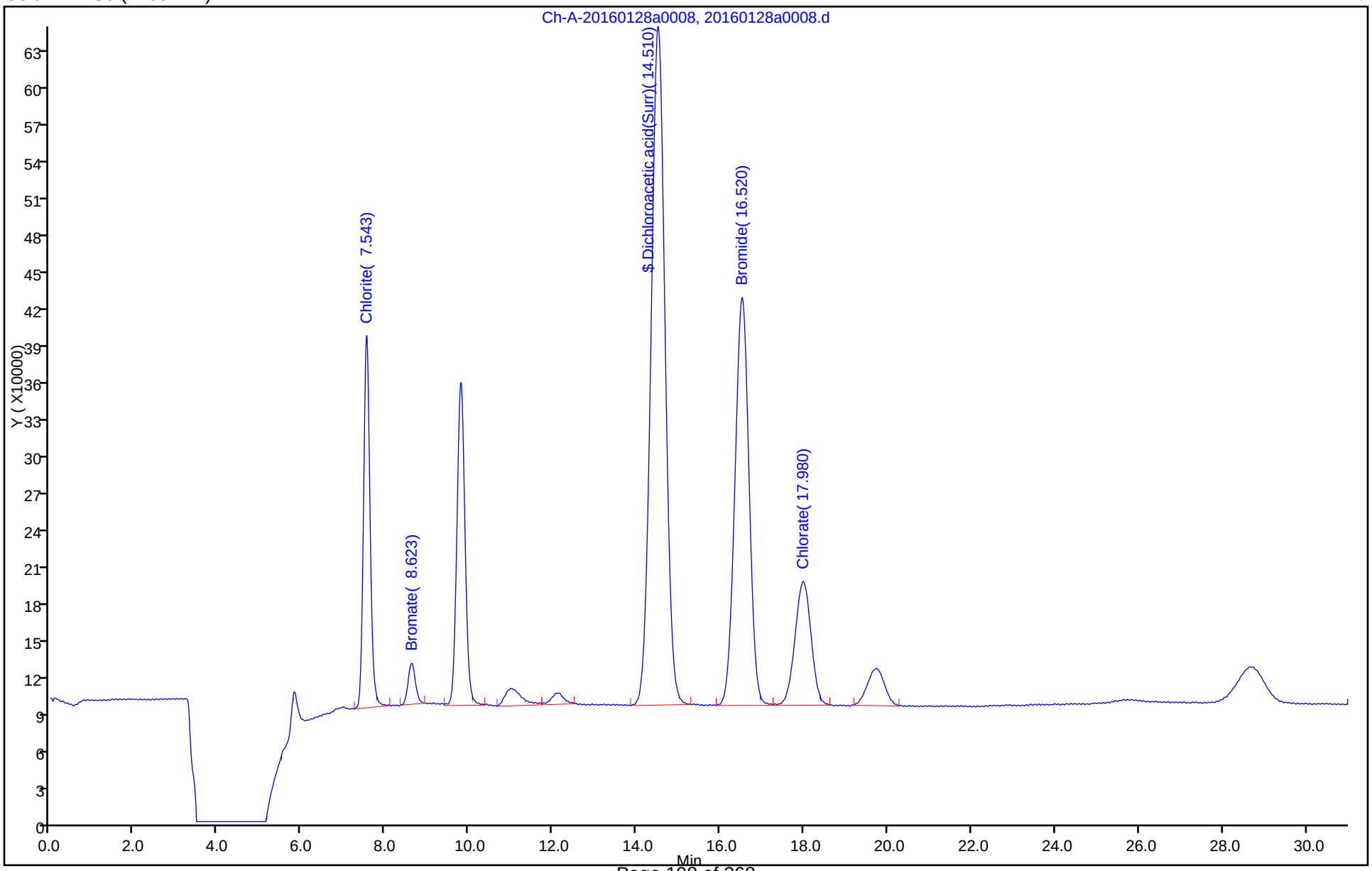
Report Date: 29-Jan-2016 05:10:43 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d

Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



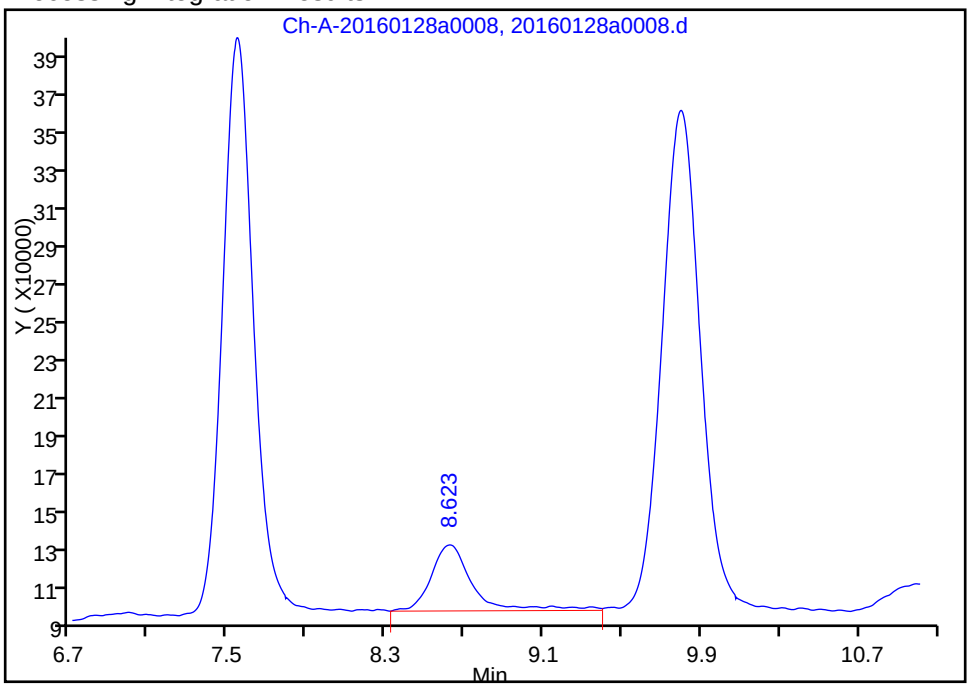
TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d				
Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7		
Lims ID:	ICV				
Client ID:					
Operator ID:	irvinstwet3	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

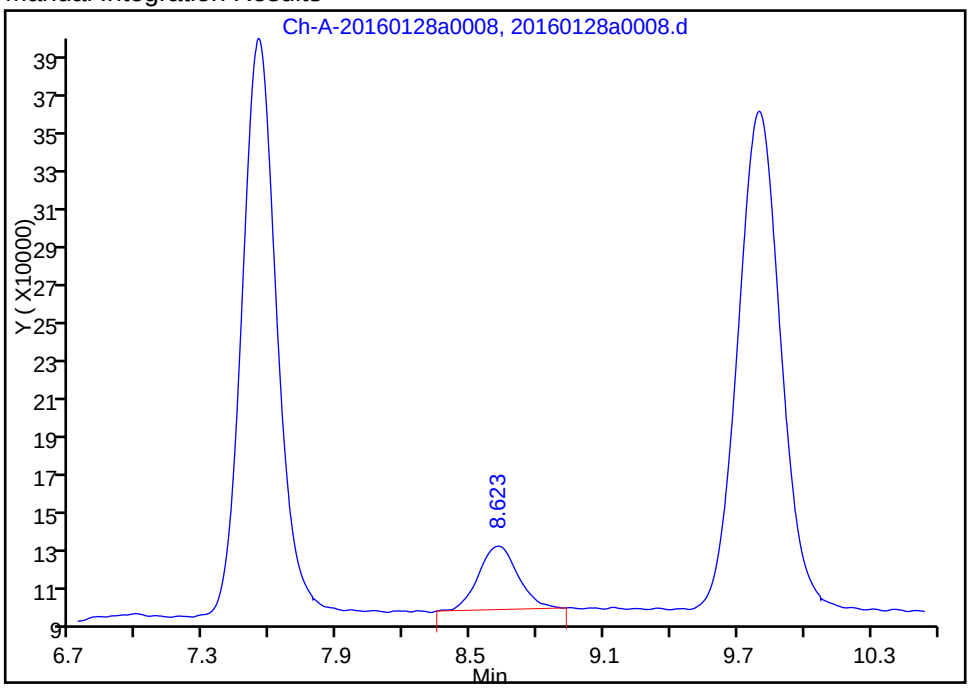
Processing Integration Results

RT: 8.62
Area: 504886
Amount: 34.401166
Amount Units: ug/l



Manual Integration Results

RT: 8.62
Area: 406799
Amount: 27.672709
Amount Units: ug/l



Reviewer: zakhrabovy, 28-Jan-2016 12:06:15
Audit Action: Manually Integrated
Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325632/15 Calibration Date: 04/21/2016 13:17

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a015.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14312		48.9	50.1	-2.3	15.0
Bromide	Lin		26496		530	500	6.1	15.0
Chlorate	Lin		22977		205	200	2.6	15.0
Dichloroacetic acid(Surr)	Ave	13004	13421		1030	994	3.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325632/15 Calibration Date: 04/21/2016 13:17

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a015.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.32	7.64	8.79
Bromide	15.32	14.00	16.10
Chlorate	16.48	15.42	17.04
Dichloroacetic acid(Surr)	13.54	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a015.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	21-Apr-2016 13:17:54	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-015				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:05:09	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:05:09

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.360	7.267	0.093	5551895	NC	NC	
3 Bromate	8.317	8.213	0.104	716303	50.1	48.9	
$ 6 Dichloroacetic acid(Surr)	13.537	13.370	0.167	13336542	993.7	1025.6	
4 Bromide	15.320	15.050	0.270	13247862	500.0	530.4	
2 Chlorate	16.480	16.230	0.250	4595374	200.0	205.2	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

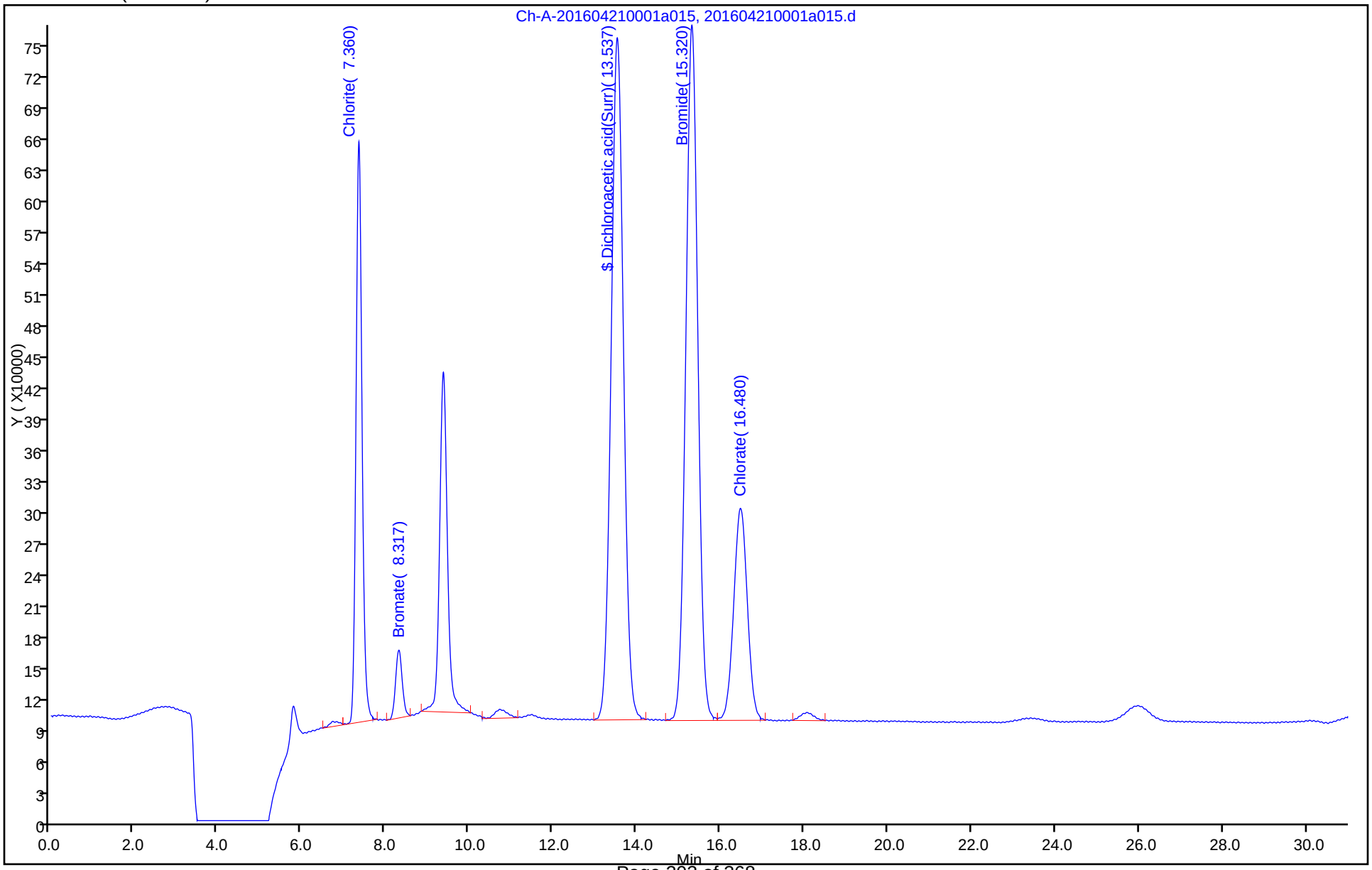
Report Date: 23-Apr-2016 07:05:11 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a015.d

Injection Date:	21-Apr-2016 13:17:54	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325632/27 Calibration Date: 04/21/2016 19:56

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a027.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14656		24.9	25.0	-0.4	15.0
Bromide	Lin		24590		243	250	-2.9	15.0
Chlorate	Lin		21467		95.0	100	-5.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	13566		1040	994	4.3	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325632/27 Calibration Date: 04/21/2016 19:56

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a027.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.36	7.64	8.79
Bromide	15.41	14.00	16.10
Chlorate	16.55	15.42	17.04
Dichloroacetic acid(Surr)	13.55	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a027.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	21-Apr-2016 19:56:03	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-027				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:07:52	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:07:52

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.387	7.267	0.120	2646343	NC	NC	
3 Bromate	8.357	8.213	0.144	366754	25.0	24.9	
$ 6 Dichloroacetic acid(Surr)	13.553	13.370	0.183	13480452	993.7	1036.7	
4 Bromide	15.413	15.050	0.363	6147510	250.0	242.6	
2 Chlorate	16.553	16.230	0.323	2146721	100.0	95.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

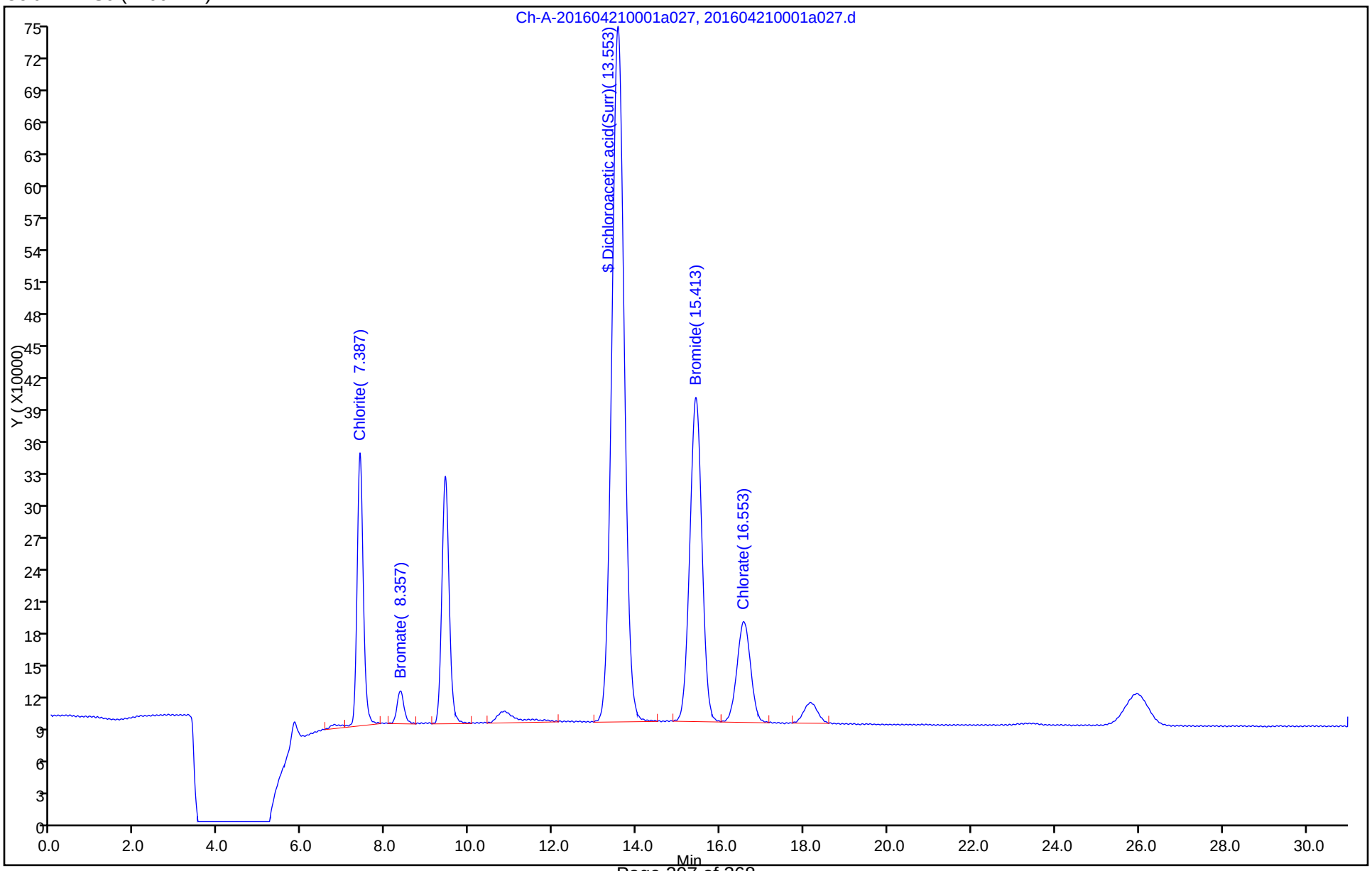
Report Date: 23-Apr-2016 07:07:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a027.d

Injection Date:	21-Apr-2016 19:56:03	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325632/43 Calibration Date: 04/22/2016 02:34

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a039.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14188		48.5	50.1	-3.1	15.0
Bromide	Lin		26077		522	500	4.4	15.0
Chlorate	Lin		22507		201	200	0.5	15.0
Dichloroacetic acid(Surr)	Ave	13004	13505		1030	994	3.9	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-325632/43 Calibration Date: 04/22/2016 02:34

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a039.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.34	7.64	8.79
Bromide	15.41	14.00	16.10
Chlorate	16.55	15.42	17.04
Dichloroacetic acid(Surr)	13.53	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a039.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	22-Apr-2016 02:34:13	ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-039				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:11:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:11:39

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.370	7.267	0.103	5647247	NC	NC	
3 Bromate	8.340	8.213	0.127	710125	50.1	48.5	M
$ 6 Dichloroacetic acid(Surr)	13.527	13.370	0.157	13419942	993.7	1032.0	
4 Bromide	15.407	15.050	0.357	13038356	500.0	521.9	
2 Chlorate	16.553	16.230	0.323	4501488	200.0	201.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

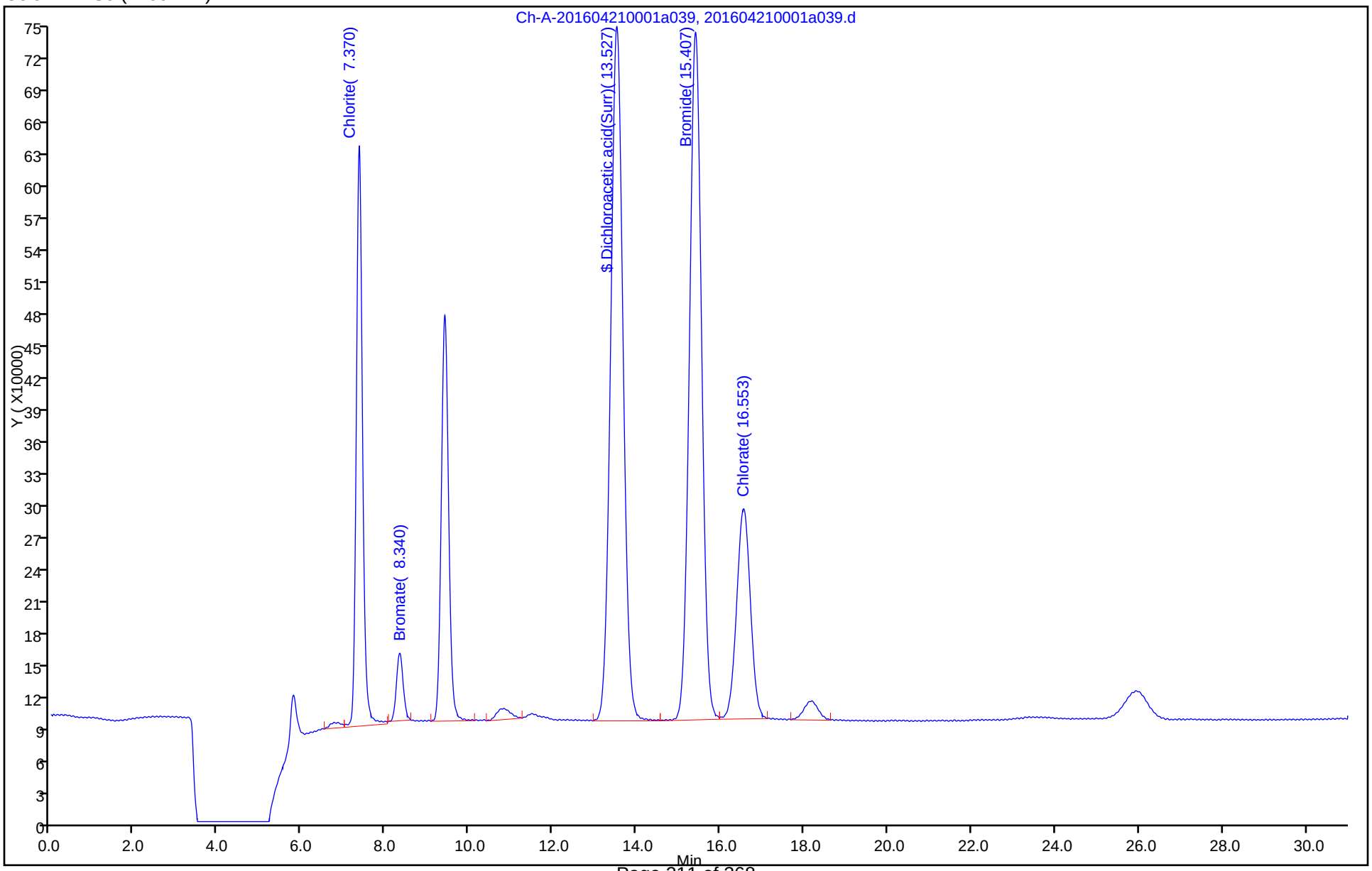
Report Date: 23-Apr-2016 07:11:40 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a039.d

Injection Date:	22-Apr-2016 02:34:13	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

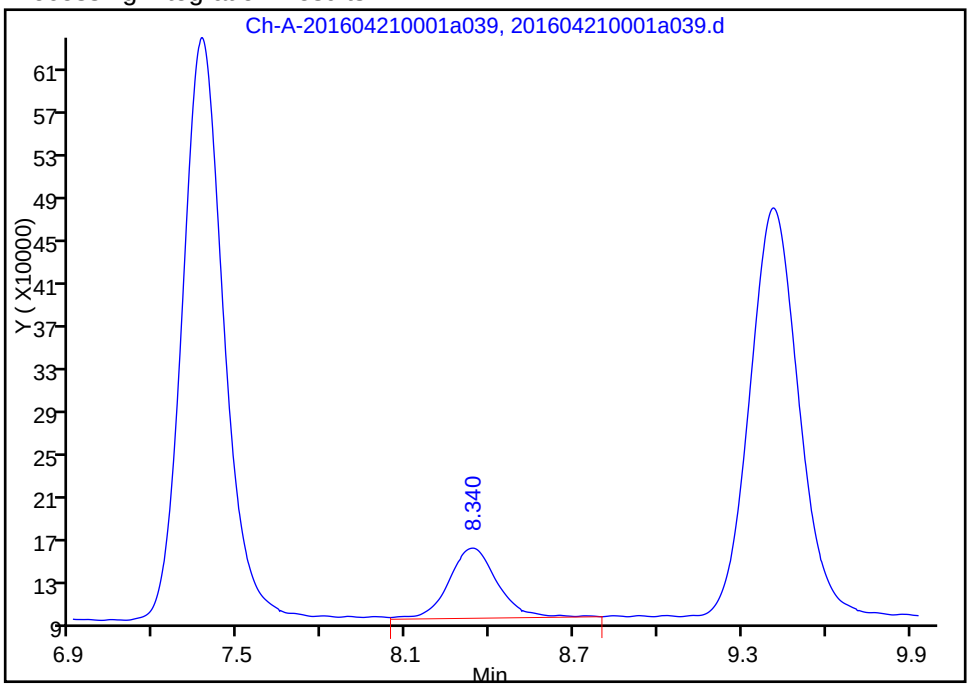
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a039.d				
Injection Date:	22-Apr-2016 02:34:13	Instrument ID:	IC-7		
Lims ID:	CCV				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

Signal: 1

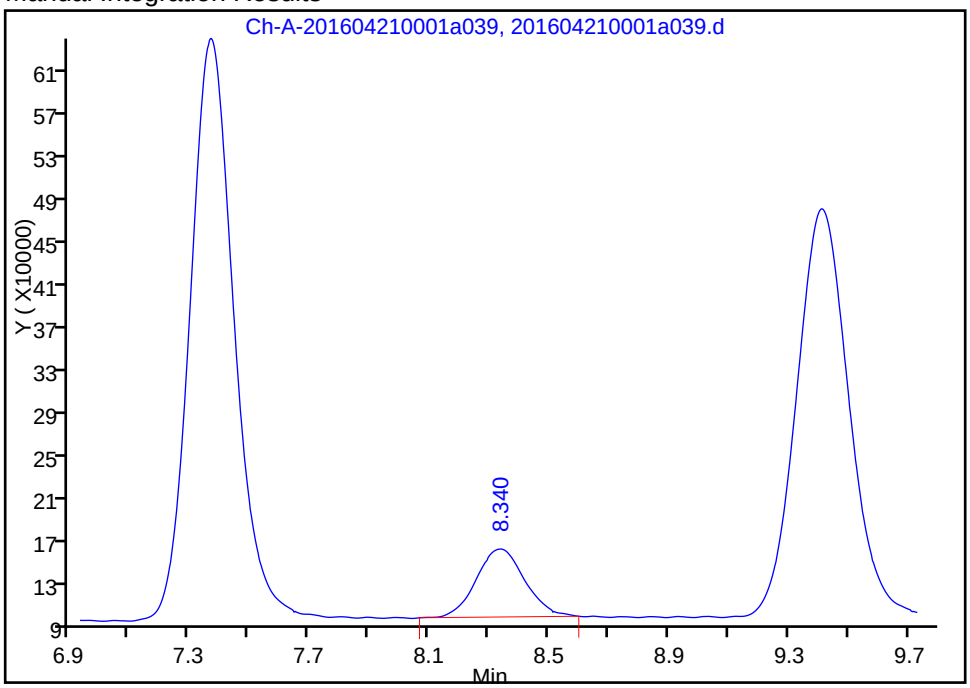
Processing Integration Results

RT: 8.34
Area: 788497
Amount: 53.855980
Amount Units: ug/l



Manual Integration Results

RT: 8.34
Area: 710125
Amount: 48.479910
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 07:11:39

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15365		52.5	50.1	4.9	15.0
Bromide	Lin		26519		531	500	6.2	15.0
Chlorate	Lin		22895		204	200	2.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	13554		1040	994	4.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.35	7.64	8.79
Bromide	15.40	14.00	16.10
Chlorate	16.57	15.42	17.04
Dichloroacetic acid(Surr)	13.57	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a016.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	23-Apr-2016 16:27:25	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-016				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:34	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:11:34

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.390	7.267	0.123	5519566	NC	NC	
3 Bromate	8.353	8.213	0.140	768996	50.1	52.5	
$ 6 Dichloroacetic acid(Surr)	13.570	13.370	0.200	13468399	993.7	1035.7	
4 Bromide	15.400	15.050	0.350	13259731	500.0	530.9	
2 Chlorate	16.567	16.230	0.337	4578974	200.0	204.5	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

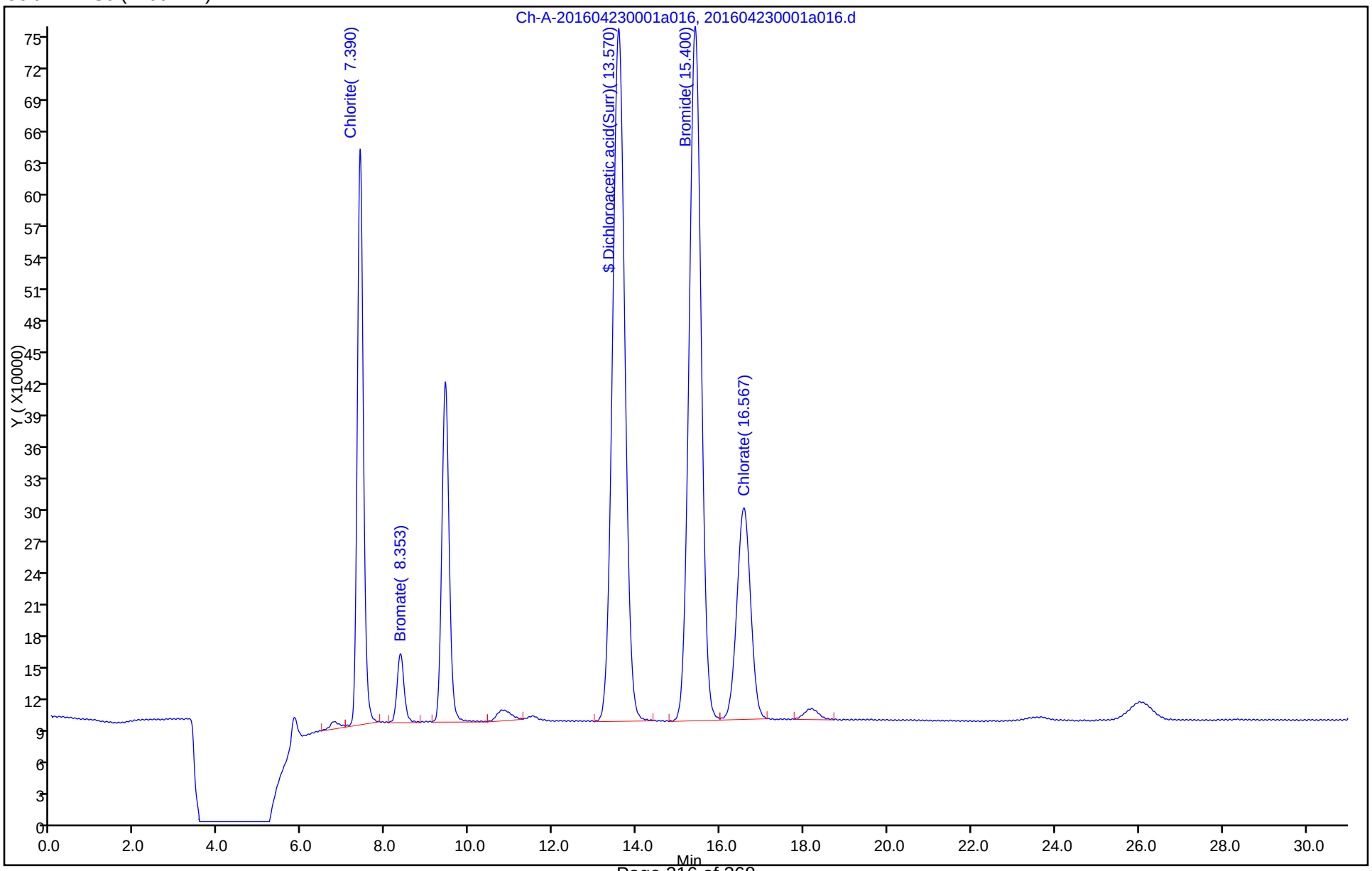
Report Date: 24-Apr-2016 05:11:35 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a016.d

Injection Date:	23-Apr-2016 16:27:25	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325632/4
Matrix: Water
Lab File ID: 201604210001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 07:12
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a004.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Apr-2016 07:12:56	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-004				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	21-Apr-2016 12:06:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.547	13.370	0.177	13266447	993.7	1020.2	
$ 1 Dichloroacetic acid	13.547	13.833	-0.286	13266447		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

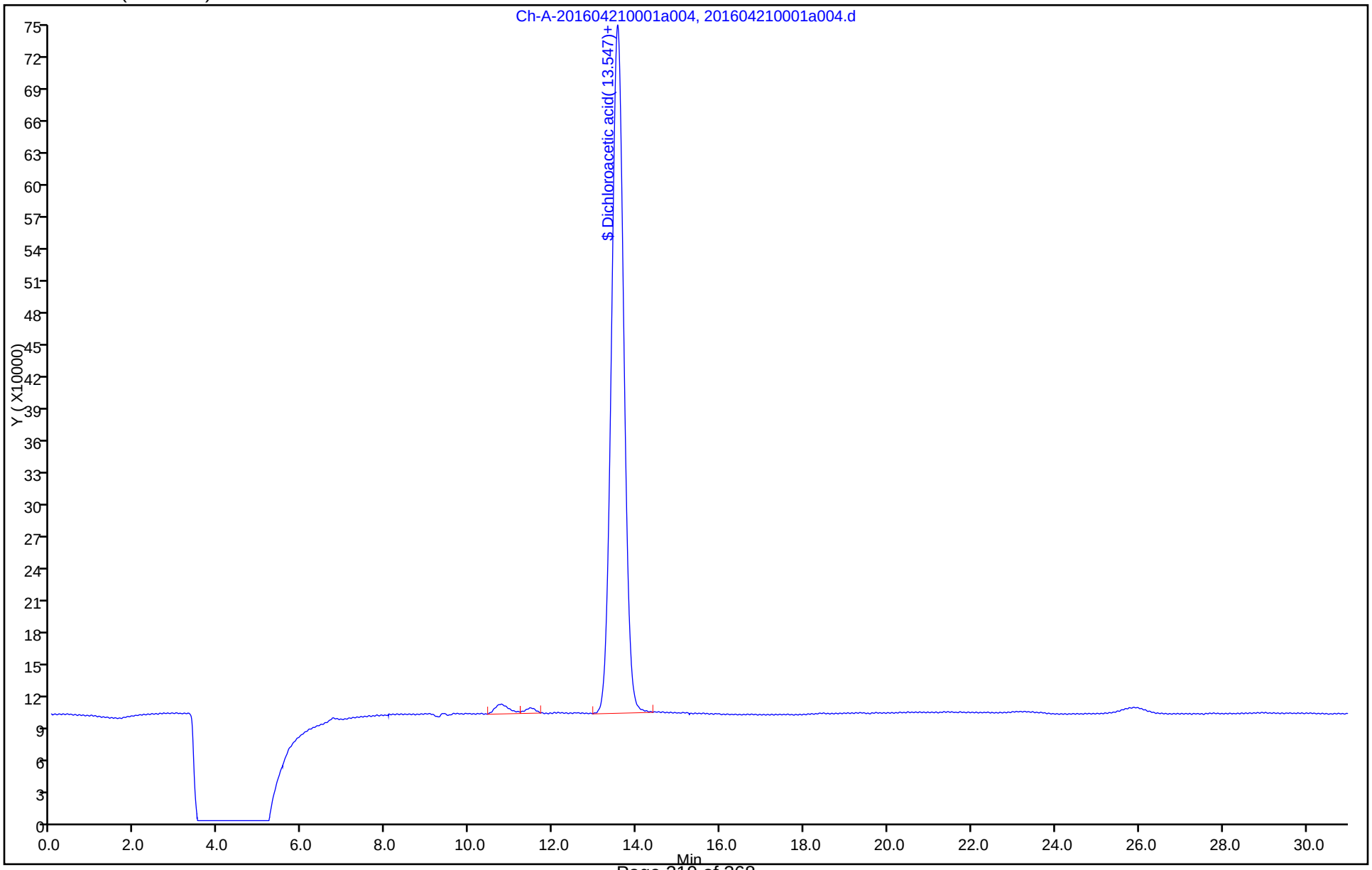
Report Date: 21-Apr-2016 11:11:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a004.d

Injection Date:	21-Apr-2016 07:12:56	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-326094/5
Matrix: Water
Lab File ID: 201604230001a005.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 10:22
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a005.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Apr-2016 10:22:27	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-005				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.527	13.370	0.157	13408777	993.7	1031.2	
$ 1 Dichloroacetic acid	13.527	13.833	-0.306	13408777		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

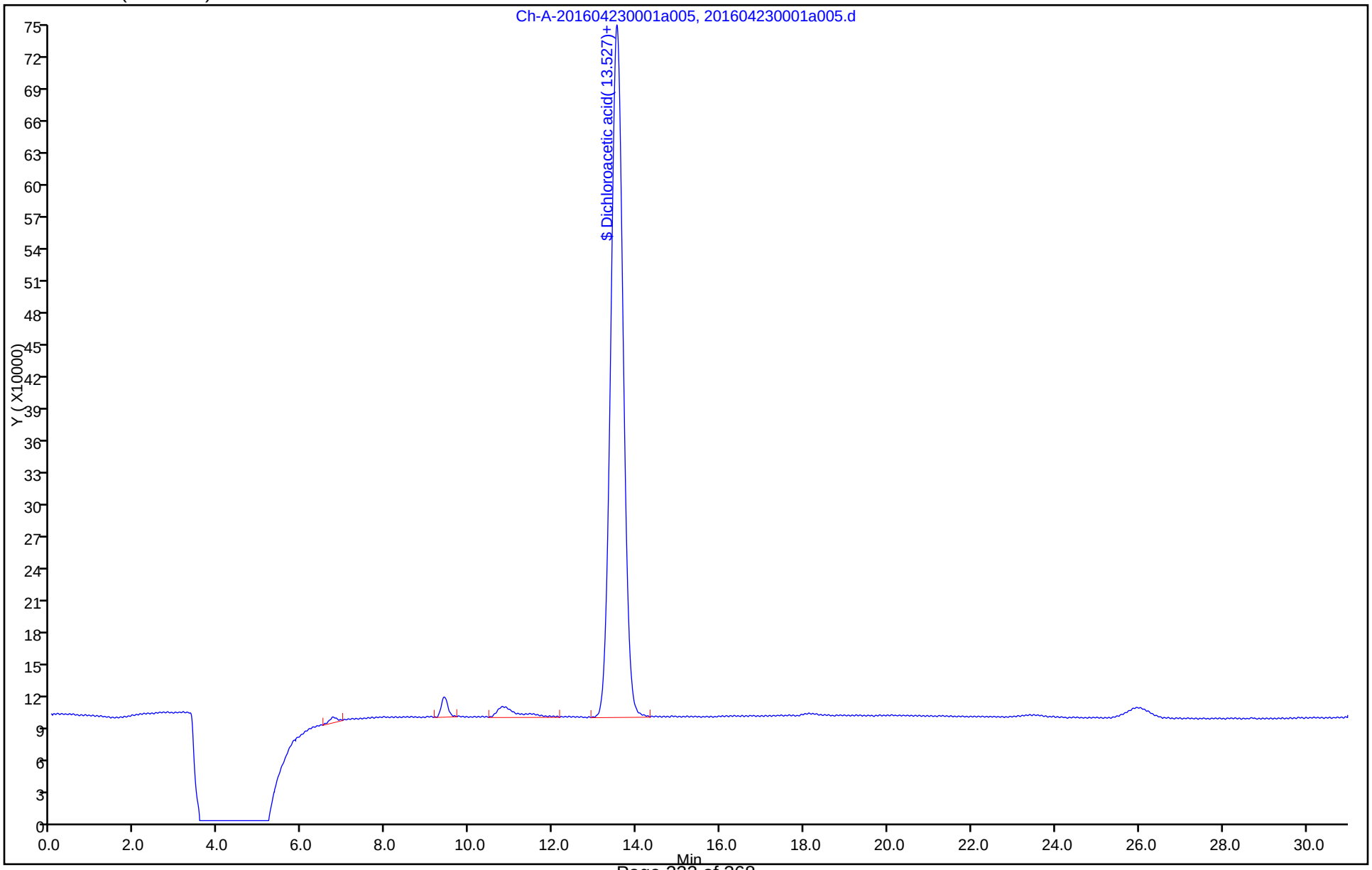
Report Date: 23-Apr-2016 12:25:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a005.d

Injection Date:	23-Apr-2016 10:22:27	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MB			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325632/16
Matrix: Water
Lab File ID: 201604210001a016.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 13:51
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	102		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a016.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 13:51:05	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-016				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:05:09	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:05:21		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.600	13.370	0.230	13242442	993.7	1018.4	
$ 1 Dichloroacetic acid	13.600	13.833	-0.233	13242442		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

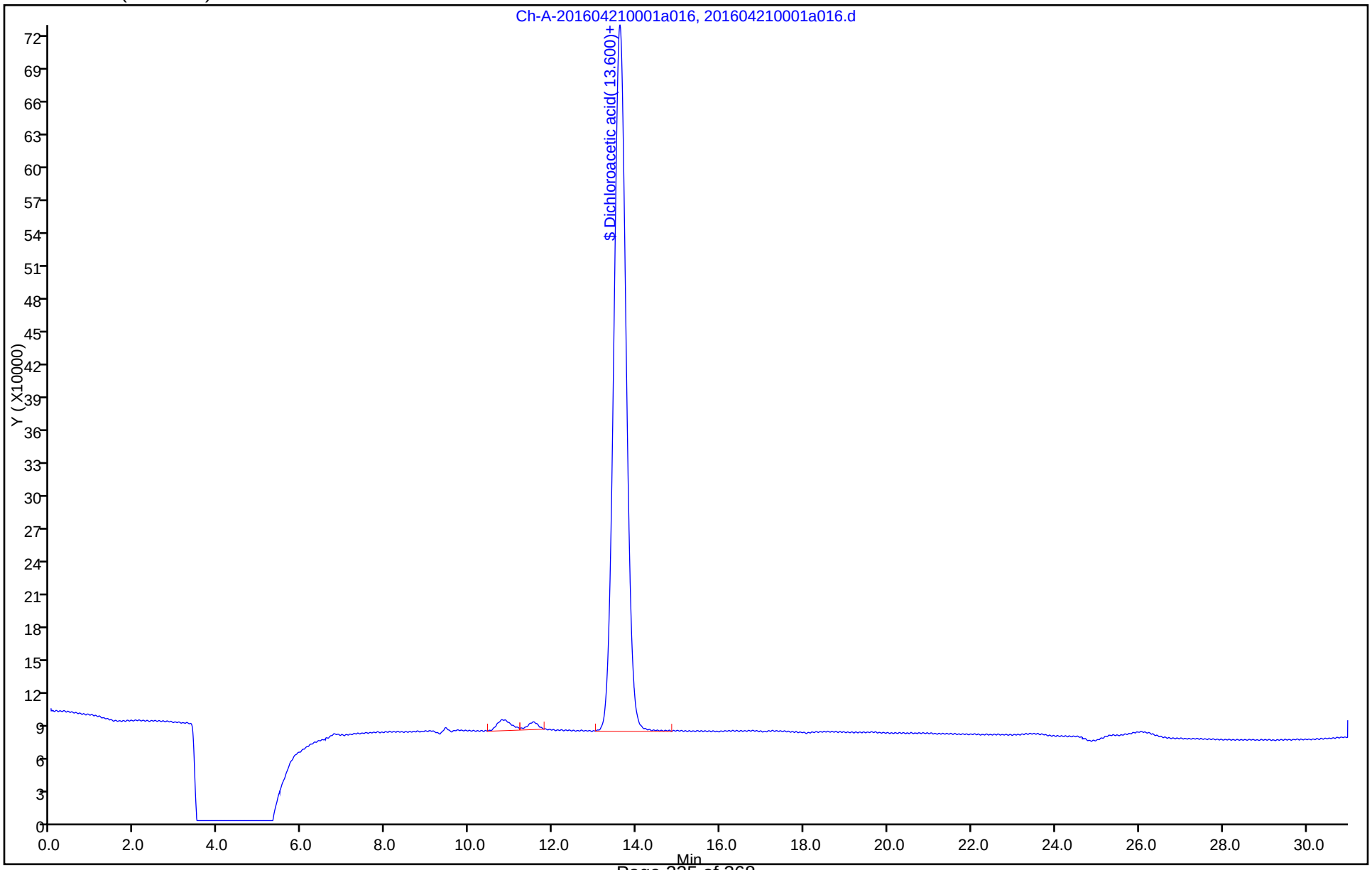
Report Date: 23-Apr-2016 07:05:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a016.d

Injection Date:	21-Apr-2016 13:51:05	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325632/28
Matrix: Water
Lab File ID: 201604210001a028.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 20:29
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a028.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 20:29:14	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-028				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:07:52	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:07:57		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.567	13.370	0.197	13390328	993.7	1029.7	
$ 1 Dichloroacetic acid	13.567	13.833	-0.266	13390328		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

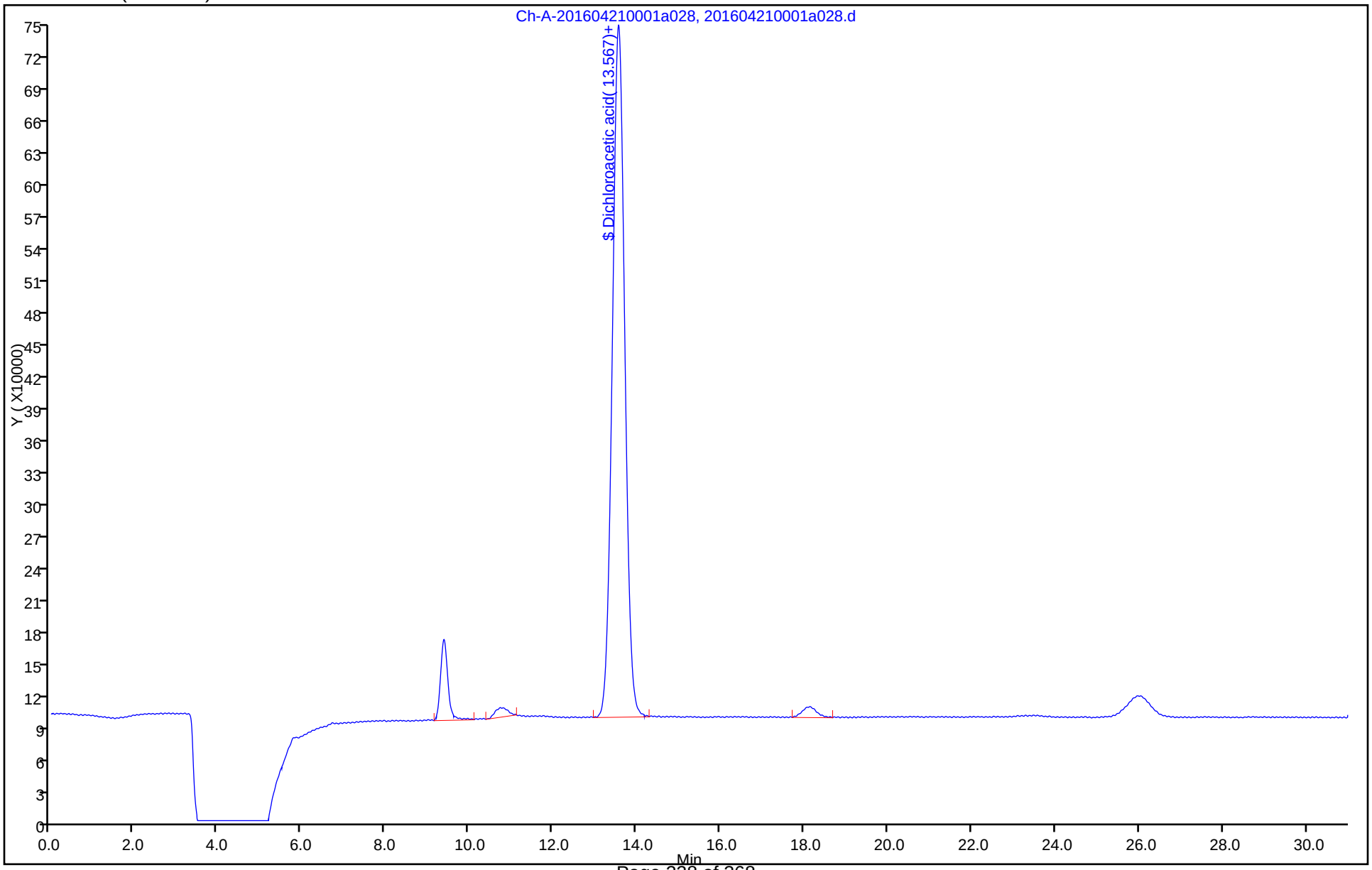
Report Date: 23-Apr-2016 07:07:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a028.d

Injection Date:	21-Apr-2016 20:29:14	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325632/44
Matrix: Water
Lab File ID: 201604210001a040.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 03:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a040.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	22-Apr-2016 03:07:23	ALS Bottle#:	0	Worklist Smp#:	44
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-040				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:11:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:11:47		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.503	13.370	0.133	13546313	993.7	1041.7	
$ 1 Dichloroacetic acid	13.503	13.833	-0.330	13546313		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

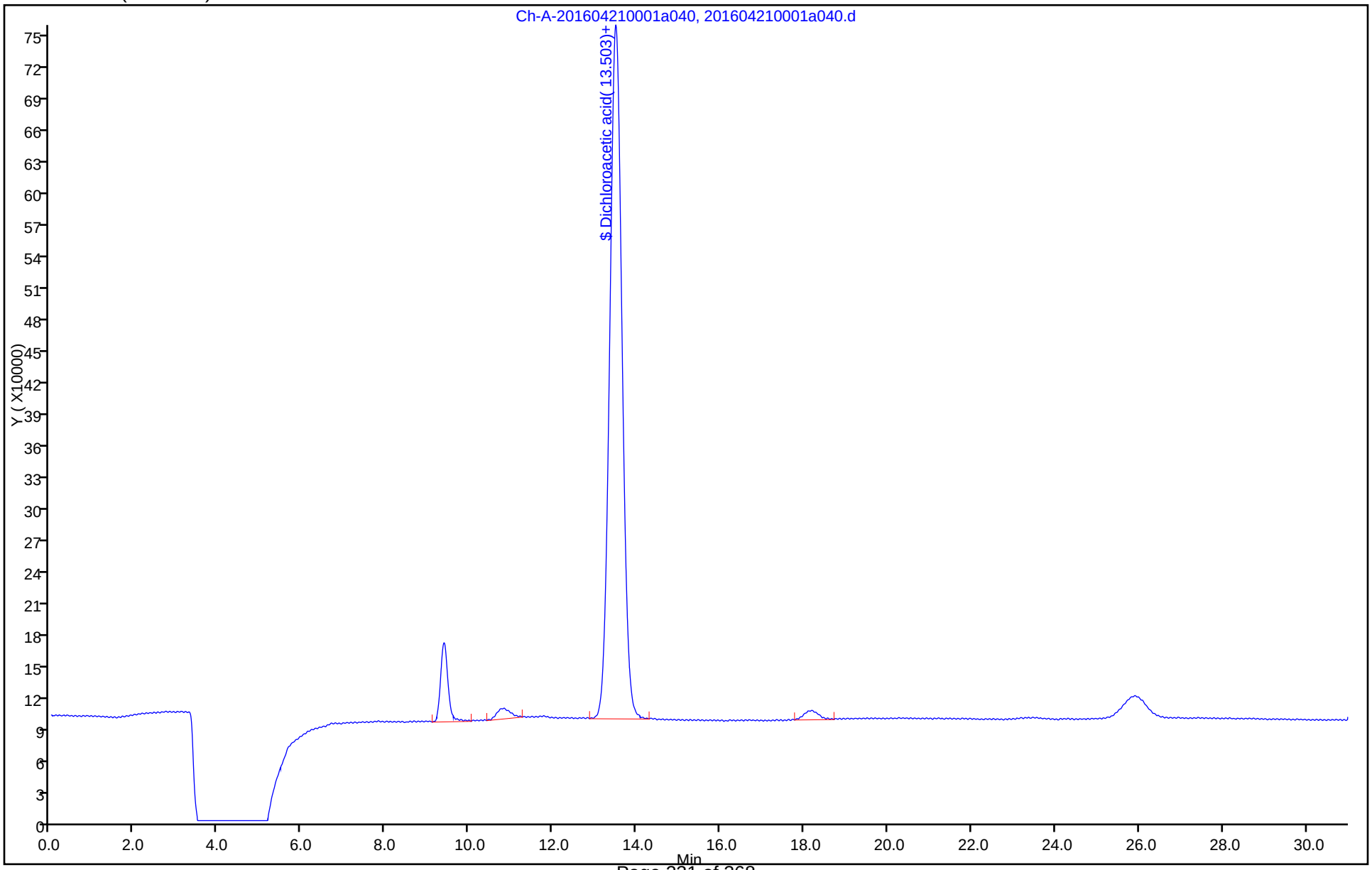
Report Date: 23-Apr-2016 07:11:47 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a040.d

Injection Date:	22-Apr-2016 03:07:23	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/17
Matrix: Water
Lab File ID: 201604230001a017.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 17:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a017.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	23-Apr-2016 17:00:36	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-017				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:45	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 05:11:45		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.460	13.370	0.090	13361097	993.7	1027.5	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

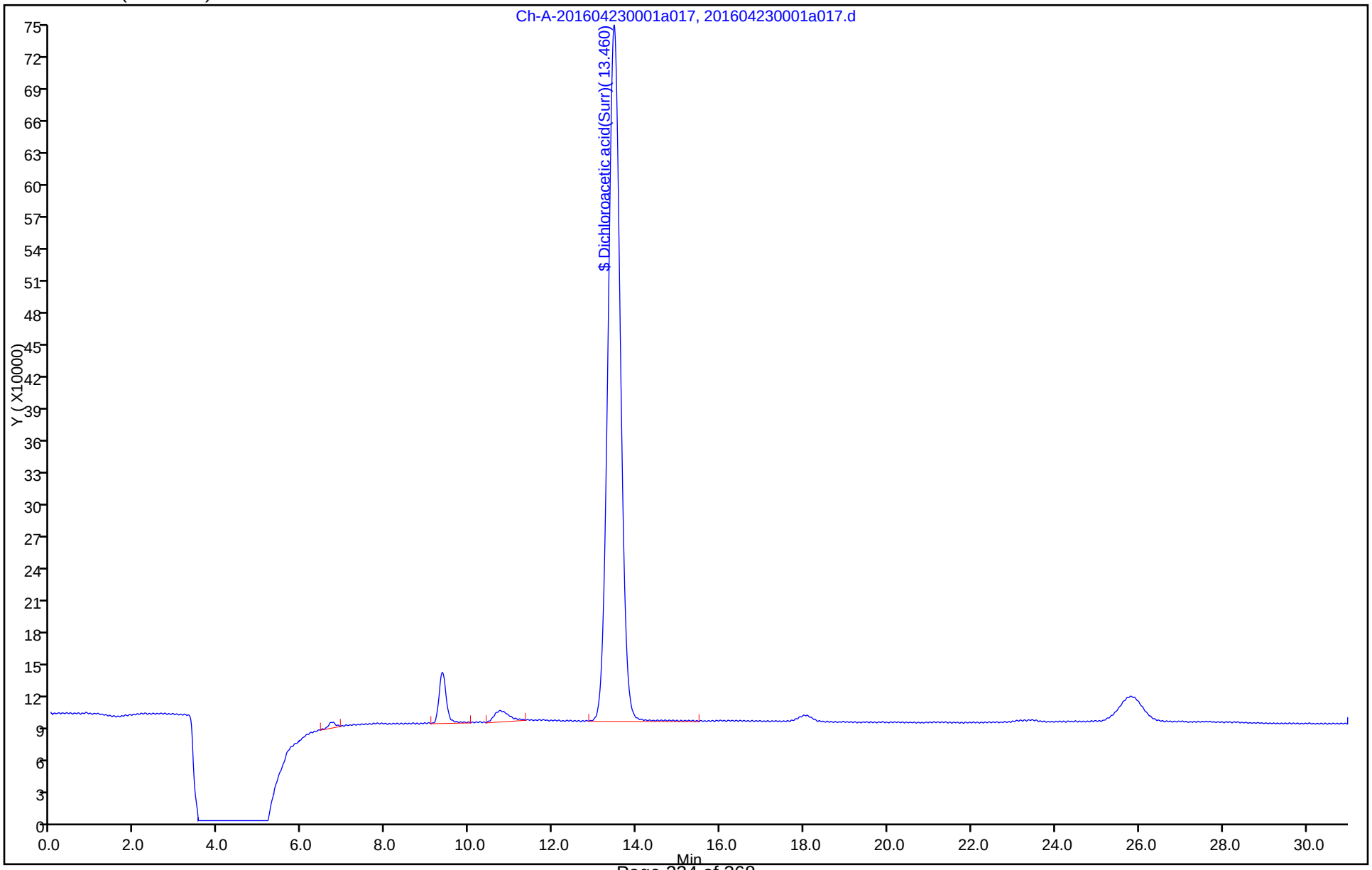
Report Date: 24-Apr-2016 05:11:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a017.d

Injection Date:	23-Apr-2016 17:00:36	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325632/3
Matrix: Water
Lab File ID: 201604210001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:39
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	107		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a003.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	21-Apr-2016 06:39:45	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-003				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	21-Apr-2016 12:06:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK027				
First Level Reviewer: zakhrabovy		Date:	21-Apr-2016 08:38:28		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.383	7.267	0.116	2839240	NC	NC	
3 Bromate	8.337	8.213	0.124	353356	25.0	24.0	M
$ 6 Dichloroacetic acid(Surr)	13.577	13.370	0.207	13553439	993.7	1042.3	
4 Bromide	15.327	15.050	0.277	6618665	250.0	261.7	
2 Chlorate	16.497	16.230	0.267	2415632	100.0	107.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

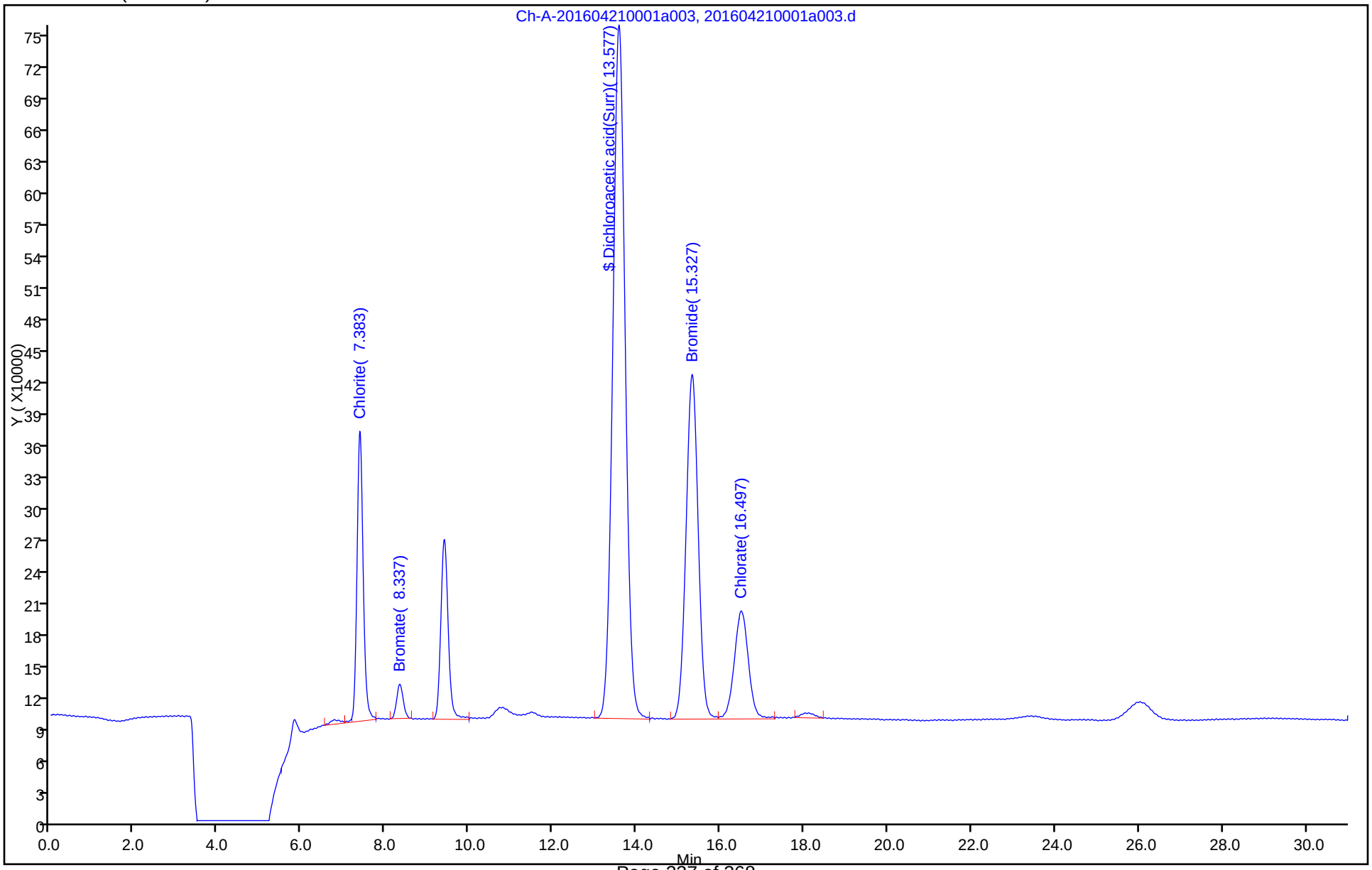
Report Date: 21-Apr-2016 11:11:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a003.d

Injection Date:	21-Apr-2016 06:39:45	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-326094/4
Matrix: Water
Lab File ID: 201604230001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	98.0		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a004.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Apr-2016 09:49:16	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-004				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 12:24:27		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.423	7.267	0.156	2651883	NC	NC	M
3 Bromate	8.393	8.213	0.180	343399	25.0	23.3	M
$ 6 Dichloroacetic acid(Surr)	13.633	13.370	0.263	13574777	993.7	1043.9	
4 Bromide	15.460	15.050	0.410	6355912	250.0	251.1	
2 Chlorate	16.613	16.230	0.383	2213018	100.0	98.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

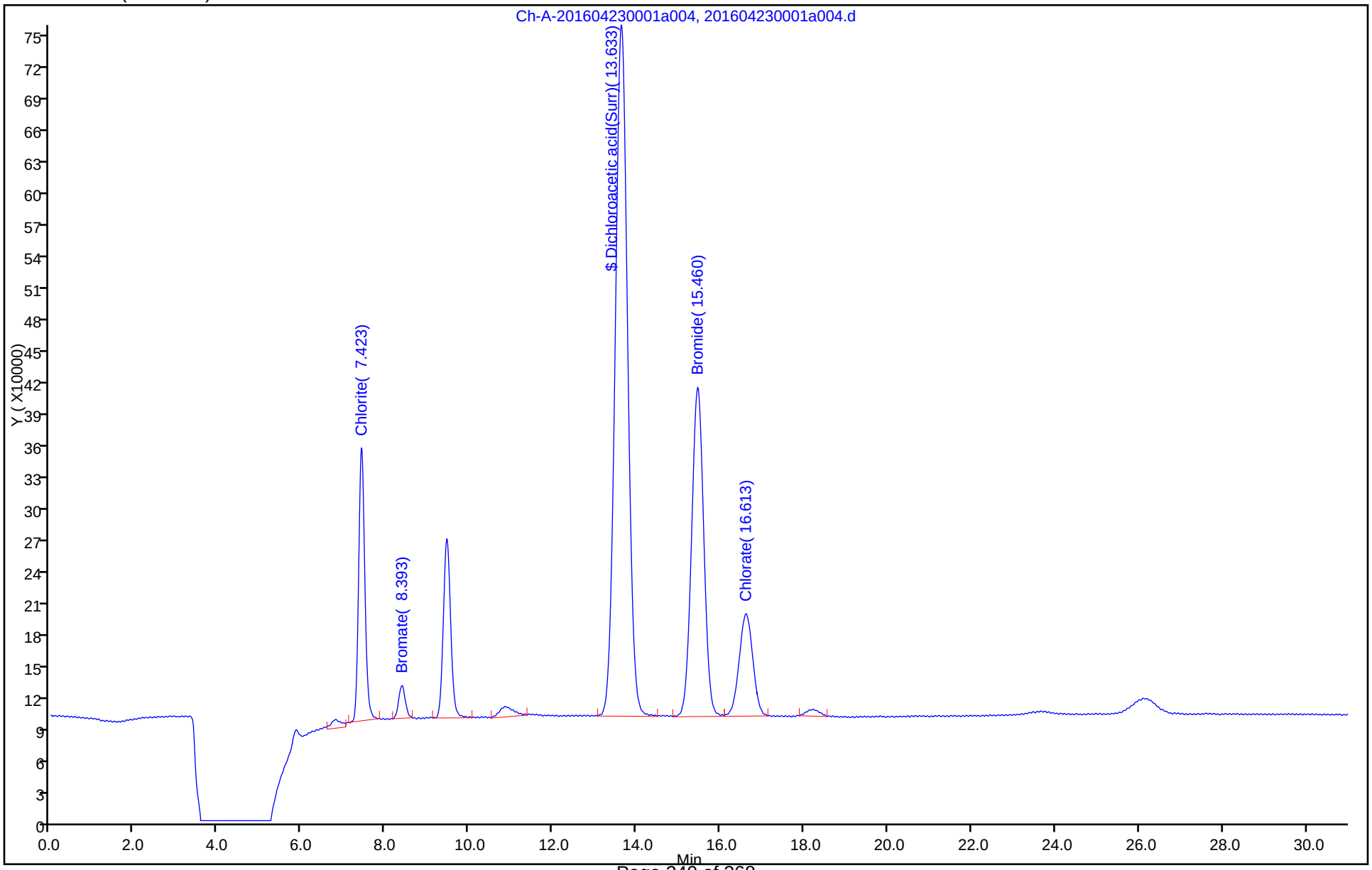
Report Date: 23-Apr-2016 12:25:18 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a004.d

Injection Date:	23-Apr-2016 09:49:16	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-325632/2
Matrix: Water
Lab File ID: 201604210001a002.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 05:39
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	20.7		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a002.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	21-Apr-2016 05:39:56	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-002				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	21-Apr-2016 12:06:07	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK027	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.347	7.267	0.080	602314	NC	NC	
3 Bromate	8.303	8.213	0.090	87844	5.01	5.79	
$ 6 Dichloroacetic acid(Surr)	13.513	13.370	0.143	13357125	993.7	1027.2	
$ 1 Dichloroacetic acid	13.513	13.833	-0.320	13357125		NC	
4 Bromide	15.217	15.050	0.167	1384940	50.0	49.6	
2 Chlorate	16.380	16.230	0.150	495471	20.0	20.7	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

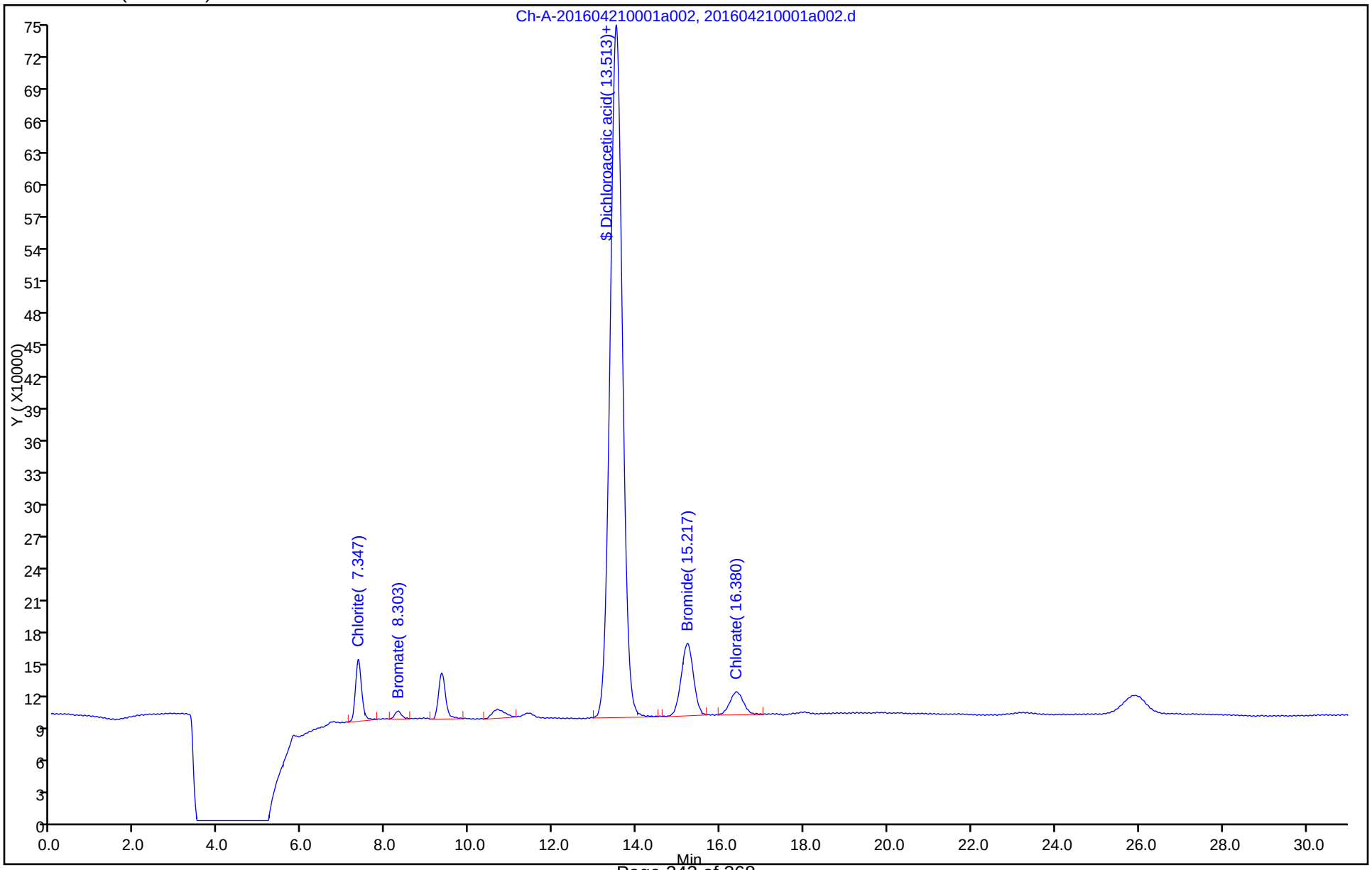
Report Date: 21-Apr-2016 11:11:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a002.d

Injection Date:	21-Apr-2016 05:39:56	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MRL			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-326094/3
Matrix: Water
Lab File ID: 201604230001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.0	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d
Lims ID: MRL
Client ID:
Sample Type: MRL
Inject. Date: 23-Apr-2016 09:16:05 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 440-0072215-003
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 23-Apr-2016 12:24:40 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK018

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 12:23:55

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.343	7.267	0.076	576282	NC	NC	M
3 Bromate	8.287	8.213	0.074	78404	5.01	5.15	
$ 6 Dichloroacetic acid(Surr)	13.520	13.370	0.150	13644290	993.7	1049.3	
$ 1 Dichloroacetic acid	13.520	13.833	-0.313	13644290		NC	
4 Bromide	15.320	15.050	0.270	1366163	50.0	48.9	
2 Chlorate	16.467	16.230	0.237	457537	20.0	19.0	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 25.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

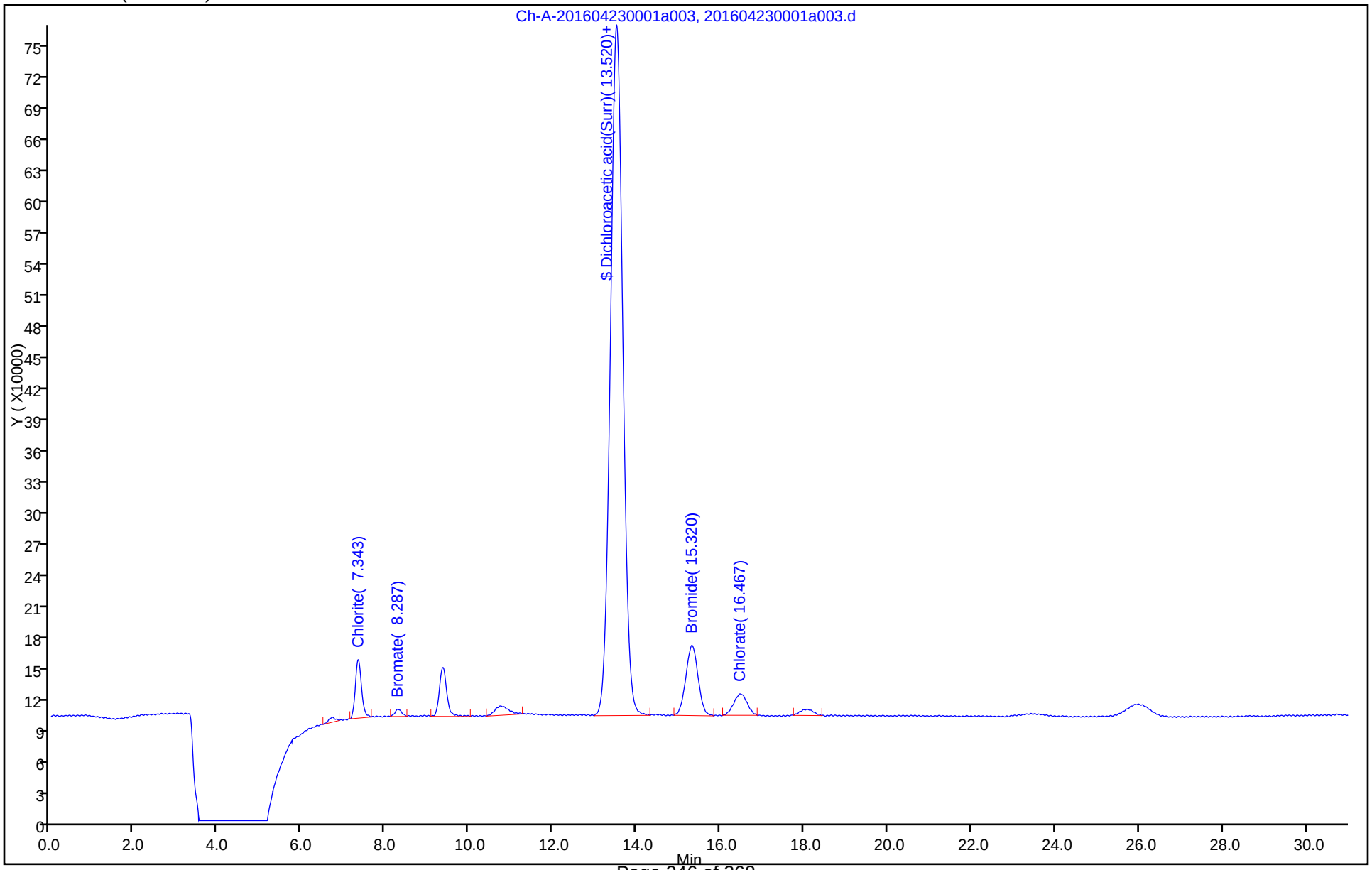
Report Date: 23-Apr-2016 12:25:17 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d

Injection Date:	23-Apr-2016 09:16:05	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

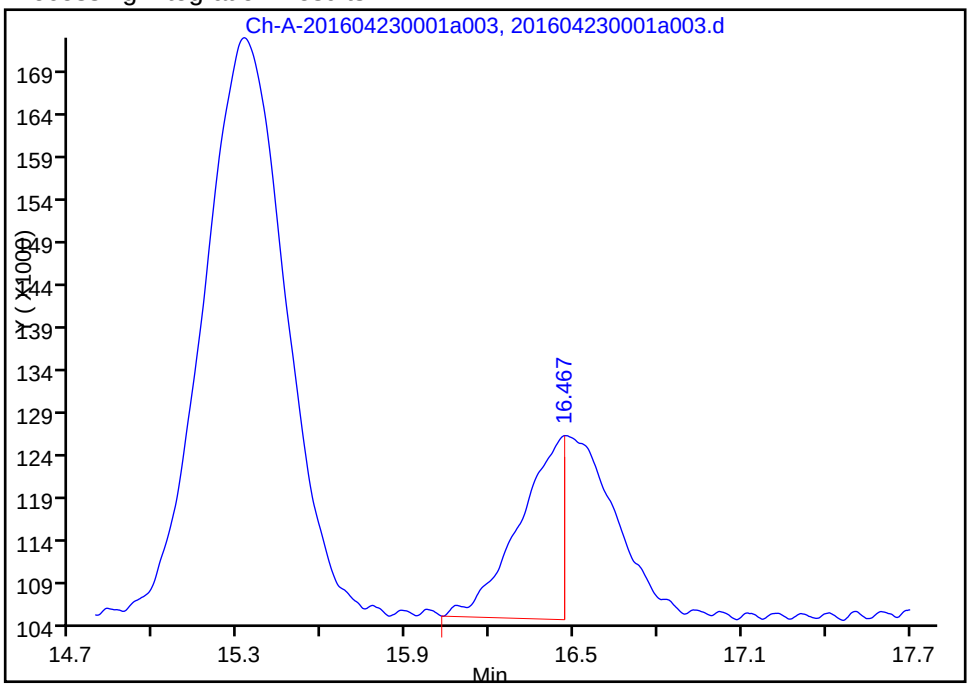
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d				
Injection Date:	23-Apr-2016 09:16:05	Instrument ID:	IC-7		
Lims ID:	MRL				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

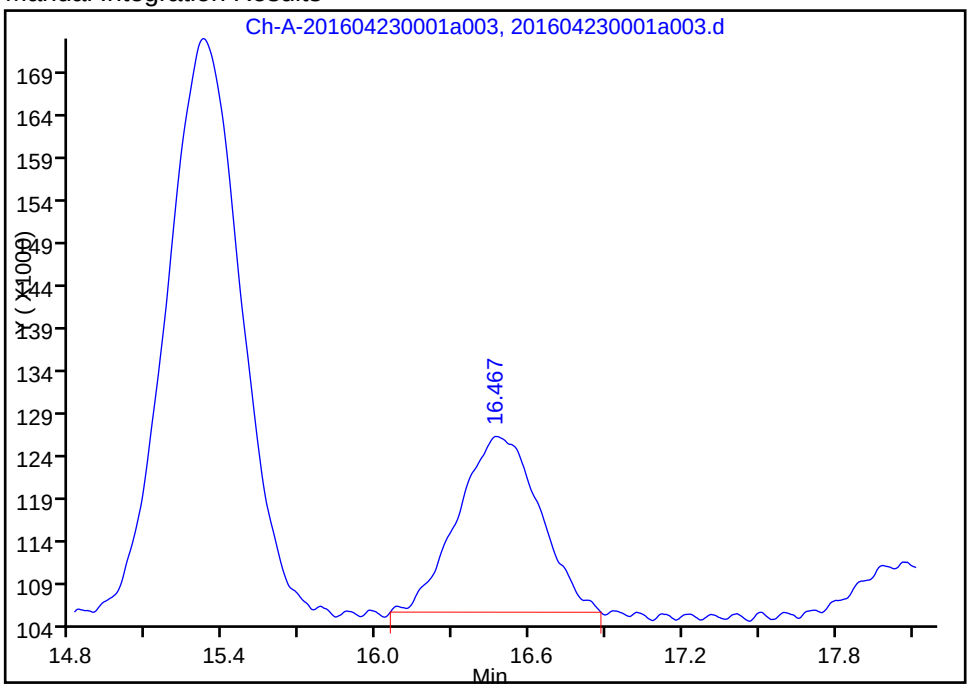
Processing Integration Results

RT: 16.47
Area: 230772
Amount: 8.800354
Amount Units: ug/l



Manual Integration Results

RT: 16.47
Area: 457537
Amount: 19.004167
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 12:23:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144899-A-2 MS
Matrix: Water
Lab File ID: 201604210001a018.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 08:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 14:57
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	430		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a018.d				
Lims ID:	440-144899-A-2 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	21-Apr-2016 14:57:27	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072110-018				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	23-Apr-2016 07:06:04	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK018	

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:06:04

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.313	7.267	0.046	2755596	NC	NC	
3 Bromate	8.320	8.213	0.107	223340	25.0	15.1	M
$ 6 Dichloroacetic acid(Surr)	13.533	13.370	0.163	13558980	496.9	1042.7	
$ 1 Dichloroacetic acid	13.533	13.833	-0.300	13558980		NC	
4 Bromide	15.297	15.050	0.247	9304627	250.0	370.6	
2 Chlorate	16.457	16.230	0.227	4808839	100.0	214.8	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

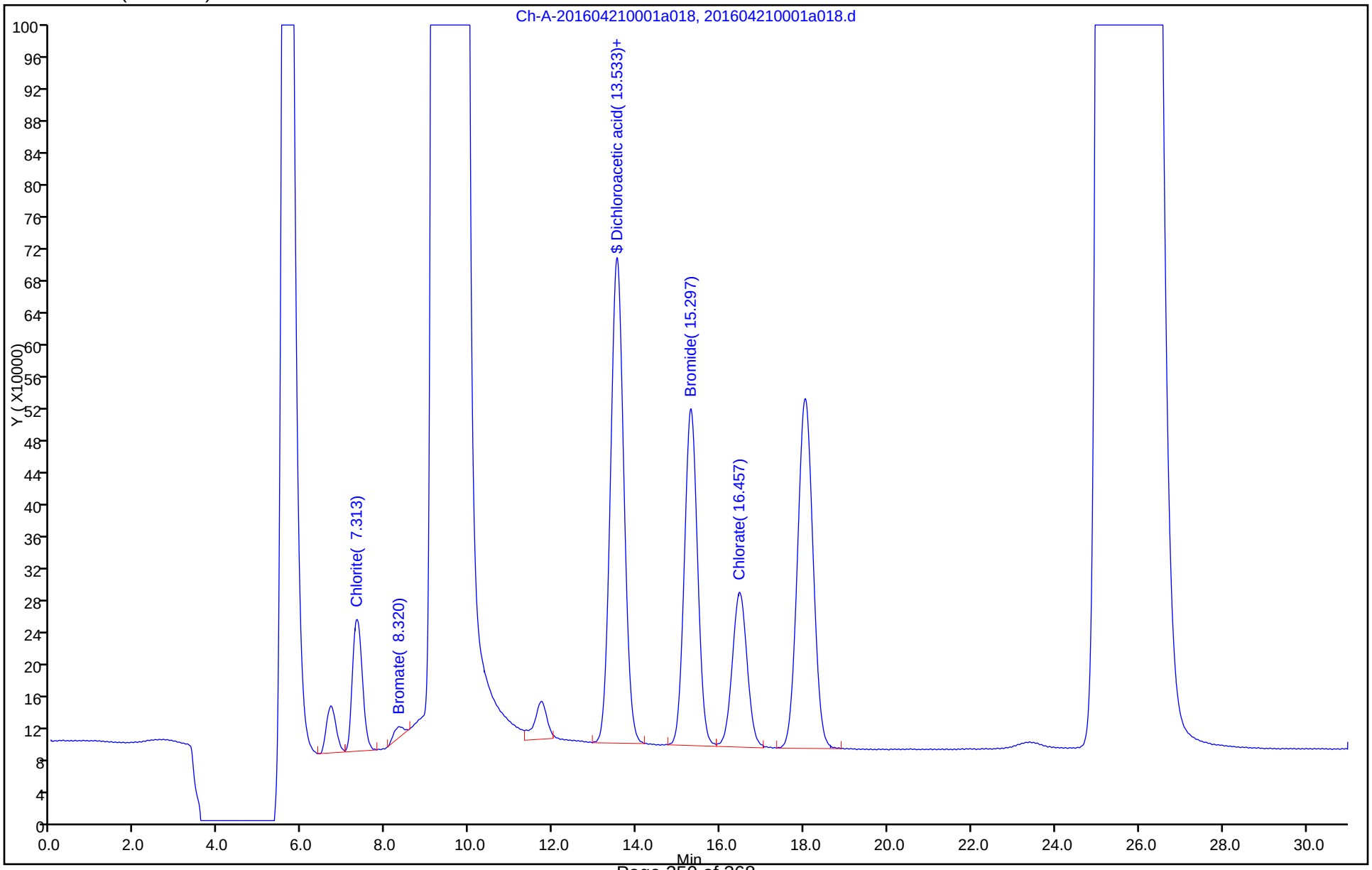
Report Date: 23-Apr-2016 07:06:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a018.d

Injection Date:	21-Apr-2016 14:57:27	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144899-A-2 MS			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-1 MS
Matrix: Water
Lab File ID: 201604230001a010.d
Analysis Method: 300.1B
Date Collected: 04/21/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 13:08
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	426		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a010.d				
Lims ID:	440-145185-A-1 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	23-Apr-2016 13:08:21	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072215-010				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	24-Apr-2016 05:09:26	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK005	

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:09:26

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.323	7.267	0.056	2654737	NC	NC	
3 Bromate	8.303	8.213	0.090	234163	25.0	15.8	M
$ 6 Dichloroacetic acid(Surr)	13.500	13.370	0.130	13379963	496.9	1028.9	
$ 1 Dichloroacetic acid	13.500	13.833	-0.333	13379963		NC	
4 Bromide	15.300	15.050	0.250	8878764	250.0	353.3	
2 Chlorate	16.453	16.230	0.223	4763487	100.0	212.8	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

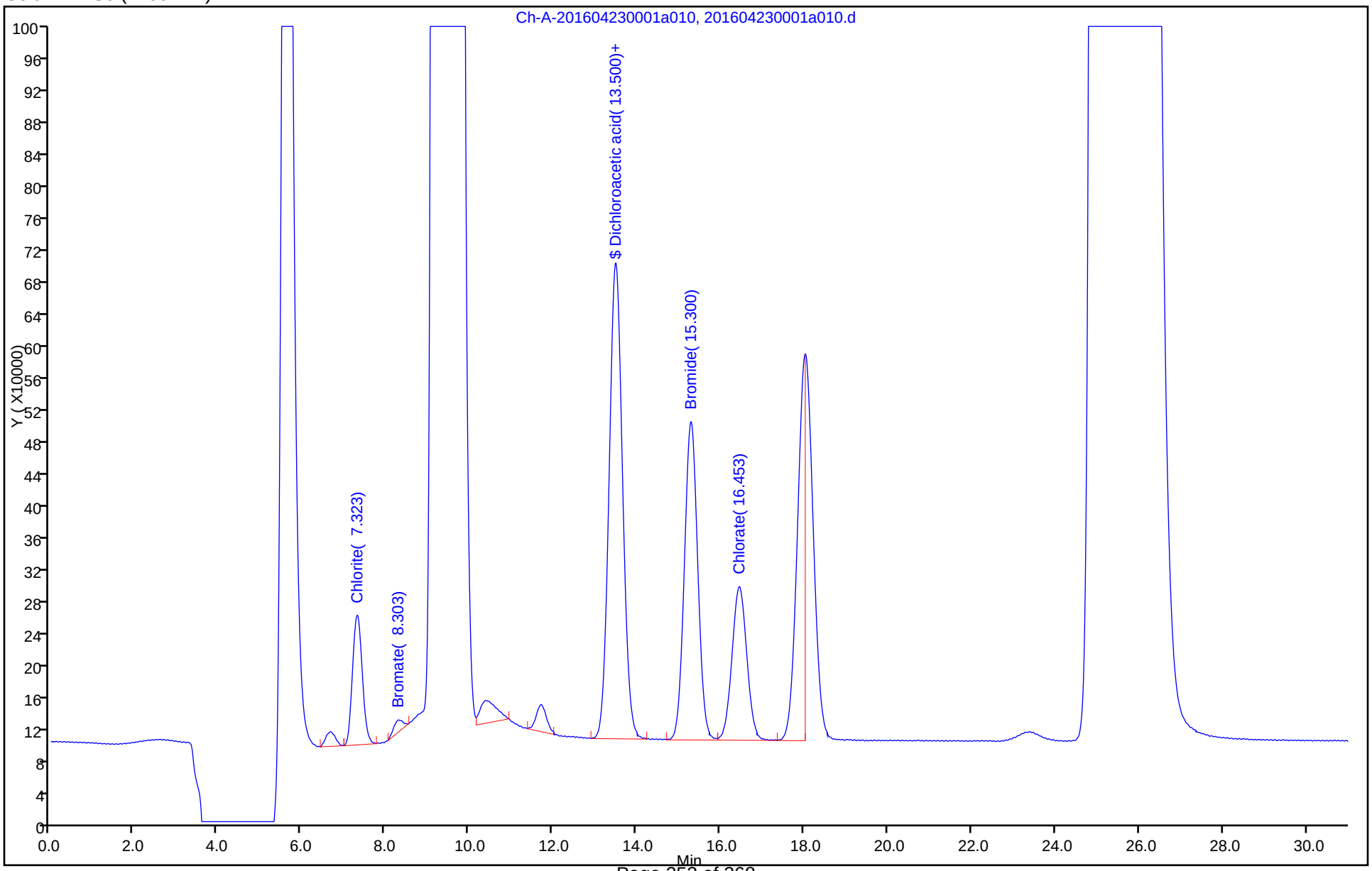
Report Date: 24-Apr-2016 05:09:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a010.d

Injection Date:	23-Apr-2016 13:08:21	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145185-A-1 MS			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144899-A-2 MSD
Matrix: Water
Lab File ID: 201604210001a019.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 08:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 15:30
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	433		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a019.d				
Lims ID:	440-144899-A-2 MSD				
Client ID:					
Sample Type:	MSD				
Inject. Date:	21-Apr-2016 15:30:37	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072110-019				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:06:25	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:06:25		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.337	7.267	0.070	2780052	NC	NC	
3 Bromate	8.357	8.213	0.144	248050	25.0	16.8	M
$ 6 Dichloroacetic acid(Surr)	13.547	13.370	0.177	13726090	496.9	1055.6	
$ 1 Dichloroacetic acid	13.547	13.833	-0.286	13726090		NC	
4 Bromide	15.320	15.050	0.270	9367591	250.0	373.2	
2 Chlorate	16.487	16.230	0.257	4844149	100.0	216.4	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

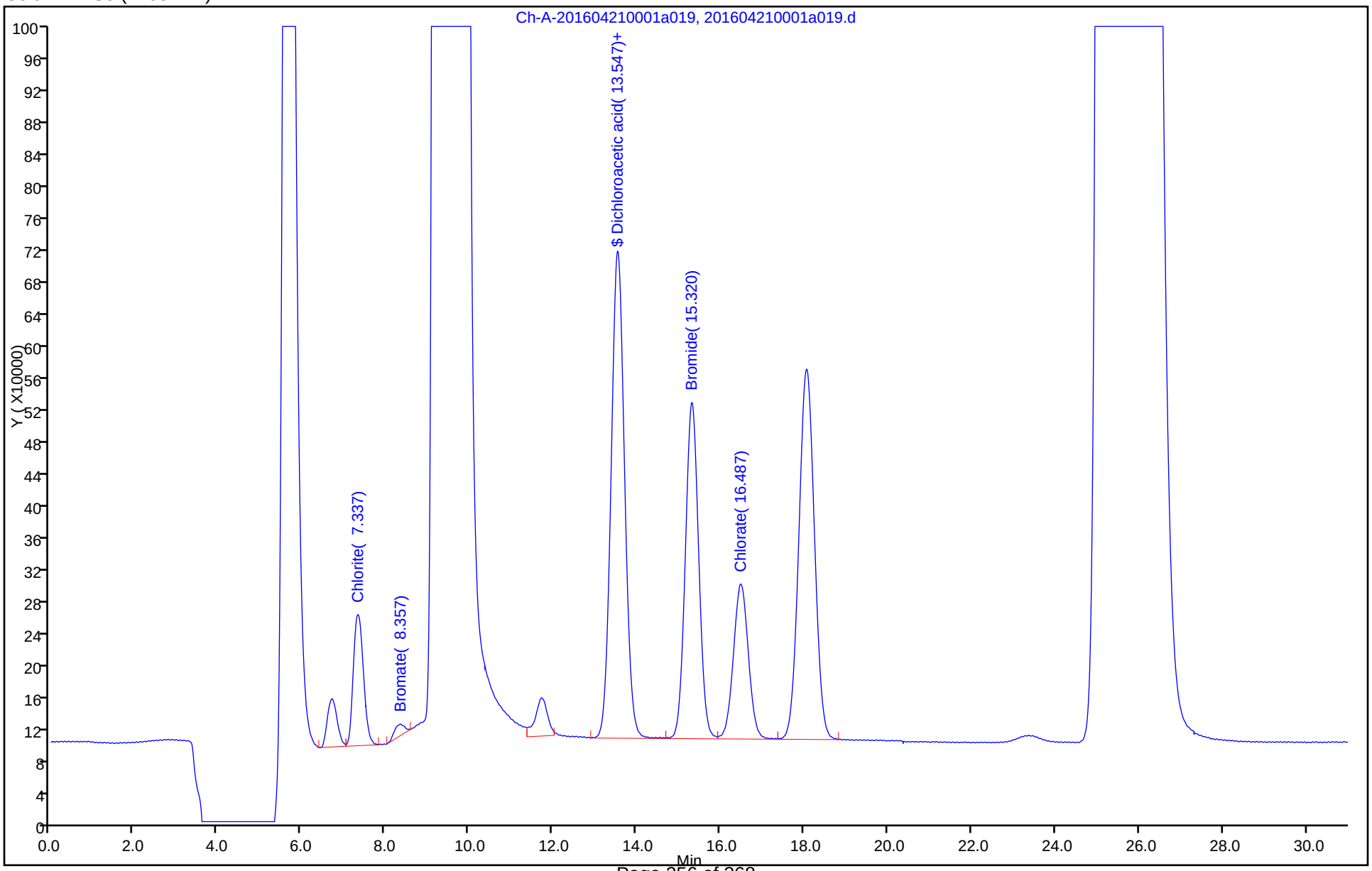
Report Date: 23-Apr-2016 07:06:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a019.d

Injection Date:	21-Apr-2016 15:30:37	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144899-A-2 MSD			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-1 MSD
Matrix: Water
Lab File ID: 201604230001a011.d
Analysis Method: 300.1B
Date Collected: 04/21/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 13:41
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	424		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a011.d
Lims ID: 440-145185-A-1 MSD
Client ID:
Sample Type: MSD
Inject. Date: 23-Apr-2016 13:41:31 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: #: 001 Name: 440-0072215-011
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 24-Apr-2016 05:09:44 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK005

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:09:44

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.310	7.267	0.043	2686815	NC	NC	
3 Bromate	8.300	8.213	0.087	233246	25.0	15.8	M
$ 6 Dichloroacetic acid(Surr)	13.487	13.370	0.117	13579579	496.9	1044.3	
$ 1 Dichloroacetic acid	13.487	13.833	-0.346	13579579		NC	
4 Bromide	15.297	15.050	0.247	8835279	250.0	351.6	
2 Chlorate	16.450	16.230	0.220	4743441	100.0	211.9	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 250.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

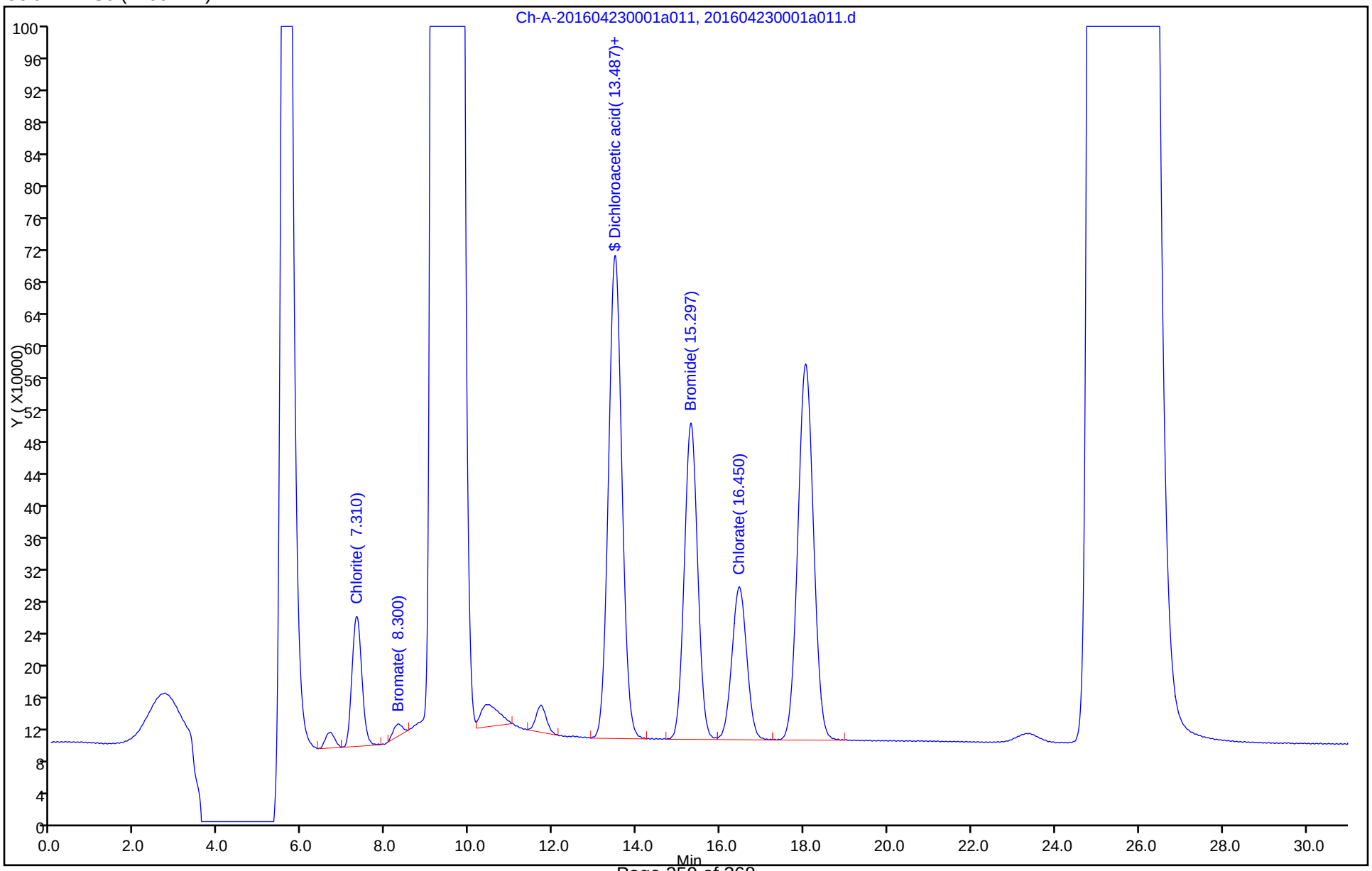
Report Date: 24-Apr-2016 05:09:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a011.d

Injection Date:	23-Apr-2016 13:41:31	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145185-A-1 MSD			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		01/28/2016 07:34	1		AS9-HC 4(mm)
STD0 440-308526/2 IC		01/28/2016 08:07	1	20160128a0002.d	AS9-HC 4(mm)
STD1 440-308526/3 IC		01/28/2016 08:41	1	20160128a0003.d	AS9-HC 4(mm)
STD2 440-308526/4 IC		01/28/2016 09:14	1	20160128a0004.d	AS9-HC 4(mm)
STD3 440-308526/5 IC		01/28/2016 09:47	1	20160128a0005.d	AS9-HC 4(mm)
STD4 440-308526/6 IC		01/28/2016 10:20	1	20160128a0006.d	AS9-HC 4(mm)
STD5 440-308526/7 IC		01/28/2016 10:53	1	20160128a0007.d	AS9-HC 4(mm)
ICV 440-308526/8		01/28/2016 11:30	1	20160128a0008.d	AS9-HC 4(mm)
ICB 440-308526/9		01/28/2016 12:04	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 12:37	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:10	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:43	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:16	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:50	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:23	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:56	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 16:29	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 17:02	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 18:42	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 19:15	5		AS9-HC 4(mm)
CCV 440-308526/23		01/28/2016 19:48	1		AS9-HC 4(mm)
CCB 440-308526/24		01/28/2016 20:21	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 20:54	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 21:28	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 22:01	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:20	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:53	1		AS9-HC 4(mm)
CCV 440-308526/35		01/29/2016 02:26	1		AS9-HC 4(mm)
CCB 440-308526/36		01/29/2016 02:59	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 03:33	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 04:09	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:01	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:34	10		AS9-HC 4(mm)
CCV 440-308526/47		01/29/2016 09:08	1		AS9-HC 4(mm)
CCB 440-308526/48		01/29/2016 09:41	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 10:14	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:20	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:54	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 12:27	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:00	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:33	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:06	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:39	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 15:13	10		AS9-HC 4(mm)
CCV 440-308526/59		01/29/2016 15:46	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 440-308526/60		01/29/2016 16:19	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/21/2016 05:06

Analysis Batch Number: 325632 End Date: 04/22/2016 03:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/21/2016 05:06	1		AS9-HC 4(mm)
MRL 440-325632/2		04/21/2016 05:39	1	201604210001a002.d	AS9-HC 4(mm)
LCS 440-325632/3		04/21/2016 06:39	1	201604210001a003.d	AS9-HC 4(mm)
MB 440-325632/4		04/21/2016 07:12	1	201604210001a004.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 07:46	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 08:19	1		AS9-HC 4(mm)
ZZZZZ		04/21/2016 08:52	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 09:25	1		AS9-HC 4(mm)
ZZZZZ		04/21/2016 09:58	2		AS9-HC 4(mm)
ZZZZZ		04/21/2016 10:32	2		AS9-HC 4(mm)
ZZZZZ		04/21/2016 11:05	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 11:38	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 12:11	100		AS9-HC 4(mm)
CCV 440-325632/15		04/21/2016 13:17	1	201604210001a015.d	AS9-HC 4(mm)
CCB 440-325632/16		04/21/2016 13:51	1	201604210001a016.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 14:24	1		AS9-HC 4(mm)
440-144899-A-2 MS		04/21/2016 14:57	2	201604210001a018.d	AS9-HC 4(mm)
440-144899-A-2 MSD		04/21/2016 15:30	2	201604210001a019.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 16:03	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 16:36	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 17:10	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 17:43	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 18:16	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 18:49	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 19:22	500		AS9-HC 4(mm)
CCV 440-325632/27		04/21/2016 19:56	1	201604210001a027.d	AS9-HC 4(mm)
CCB 440-325632/28		04/21/2016 20:29	1	201604210001a028.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 21:02	100		AS9-HC 4(mm)
440-144933-2		04/21/2016 21:35	100	201604210001a030.d	AS9-HC 4(mm)
440-144933-3		04/21/2016 22:08	100	201604210001a031.d	AS9-HC 4(mm)
440-144933-4		04/21/2016 22:41	100	201604210001a032.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 23:15	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 23:48	100		AS9-HC 4(mm)
ZZZZZ		04/22/2016 00:21	100		AS9-HC 4(mm)
ZZZZZ		04/22/2016 00:54	100		AS9-HC 4(mm)
ZZZZZ		04/22/2016 01:27	100		AS9-HC 4(mm)
ZZZZZ		04/22/2016 02:01	500		AS9-HC 4(mm)
CCV 440-325632/43		04/22/2016 02:34	1	201604210001a039.d	AS9-HC 4(mm)
CCB 440-325632/44		04/22/2016 03:07	1	201604210001a040.d	AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/23/2016 08:09

Analysis Batch Number: 326094 End Date: 04/24/2016 10:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/23/2016 08:09	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 08:42	1		AS9-HC 4(mm)
MRL 440-326094/3		04/23/2016 09:16	1	201604230001a003.d	AS9-HC 4(mm)
LCS 440-326094/4		04/23/2016 09:49	1	201604230001a004.d	AS9-HC 4(mm)
MB 440-326094/5		04/23/2016 10:22	1	201604230001a005.d	AS9-HC 4(mm)
440-144933-1		04/23/2016 10:55	500	201604230001a006.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 11:28	5		AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:01	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:35	1		AS9-HC 4(mm)
440-145185-A-1 MS		04/23/2016 13:08	2	201604230001a010.d	AS9-HC 4(mm)
440-145185-A-1 MSD		04/23/2016 13:41	2	201604230001a011.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 14:14	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 14:47	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 15:21	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 15:54	1000		AS9-HC 4(mm)
CCV 440-326094/16		04/23/2016 16:27	1	201604230001a016.d	AS9-HC 4(mm)
CCB 440-326094/17		04/23/2016 17:00	1	201604230001a017.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 17:33	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 18:06	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 18:40	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 20:52	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:26	10		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:59	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 22:32	10		AS9-HC 4(mm)
CCV 440-326094/28		04/23/2016 23:05	10		AS9-HC 4(mm)
CCB 440-326094/29		04/23/2016 23:38	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 00:45	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 01:51	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 02:57	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:04	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:37	1000		AS9-HC 4(mm)
ZZZZZ		04/24/2016 05:19	10000		AS9-HC 4(mm)
CCV 440-326094/40		04/24/2016 05:53	1		AS9-HC 4(mm)
CCB 440-326094/41		04/24/2016 06:26	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 07:32	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 08:39	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 09:12	1		AS9-HC 4(mm)
CCV 440-326094/47		04/24/2016 09:45	1		AS9-HC 4(mm)
CCB 440-326094/55		04/24/2016 10:18	1		AS9-HC 4(mm)

300.1B

Method 314

Perchlorate (IC) by Method 314

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_2.d

Lab ID: LCS 440-327049/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	24.7	99	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_5.d

Lab ID: MRL 440-327049/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Perchlorate	4.00	3.84 J	96	75-125	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_10.d

Lab ID: 440-144937-C-3 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	25.0	9000	8560	-1647	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_11.d

Lab ID: 440-144937-C-3 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perchlorate	25.0	8640	-1332	1	20	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_4.d

Lab ID: INF 440-327049/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	25.0	23.1	93	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab File ID: 20160428_3.d Lab Sample ID: MB 440-327049/3

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 04/28/2016 08:33

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-327049/2	20160428_2.d	04/28/2016 08:16
	CCB 440-327049/1003	20160428_3-CCB.d	04/28/2016 08:33
	440-144937-C-3 MS	20160428_10.d	04/28/2016 10:26
	440-144937-C-3 MSD	20160428_11.d	04/28/2016 10:43
	CCB 440-327049/17	20160428_17.d	04/28/2016 12:24
AA-23R-20160418	440-144933-1	20160428_19.d	04/28/2016 12:57
DBMW-8-20160418	440-144933-2	20160428_20.d	04/28/2016 13:14
DBMW-7-20160418	440-144933-3	20160428_21.d	04/28/2016 13:31
DBMW-7-20160418-FD	440-144933-4	20160428_22.d	04/28/2016 13:48
	CCB 440-327049/27	20160428_27.d	04/28/2016 15:12

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: AA-23R-20160418
Lab Sample ID: 440-144933-1
Matrix: Water
Lab File ID: 20160428_19.d
Analysis Method: 314.0
Date Collected: 04/18/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 12:57
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	5500		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_19.d				
Lims ID:	440-144933-C-1				
Client ID:	AA-23R-20160418				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 12:57:00	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-019				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 14:49:28	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	11.991	12.074	-0.083	10011783	54.9	

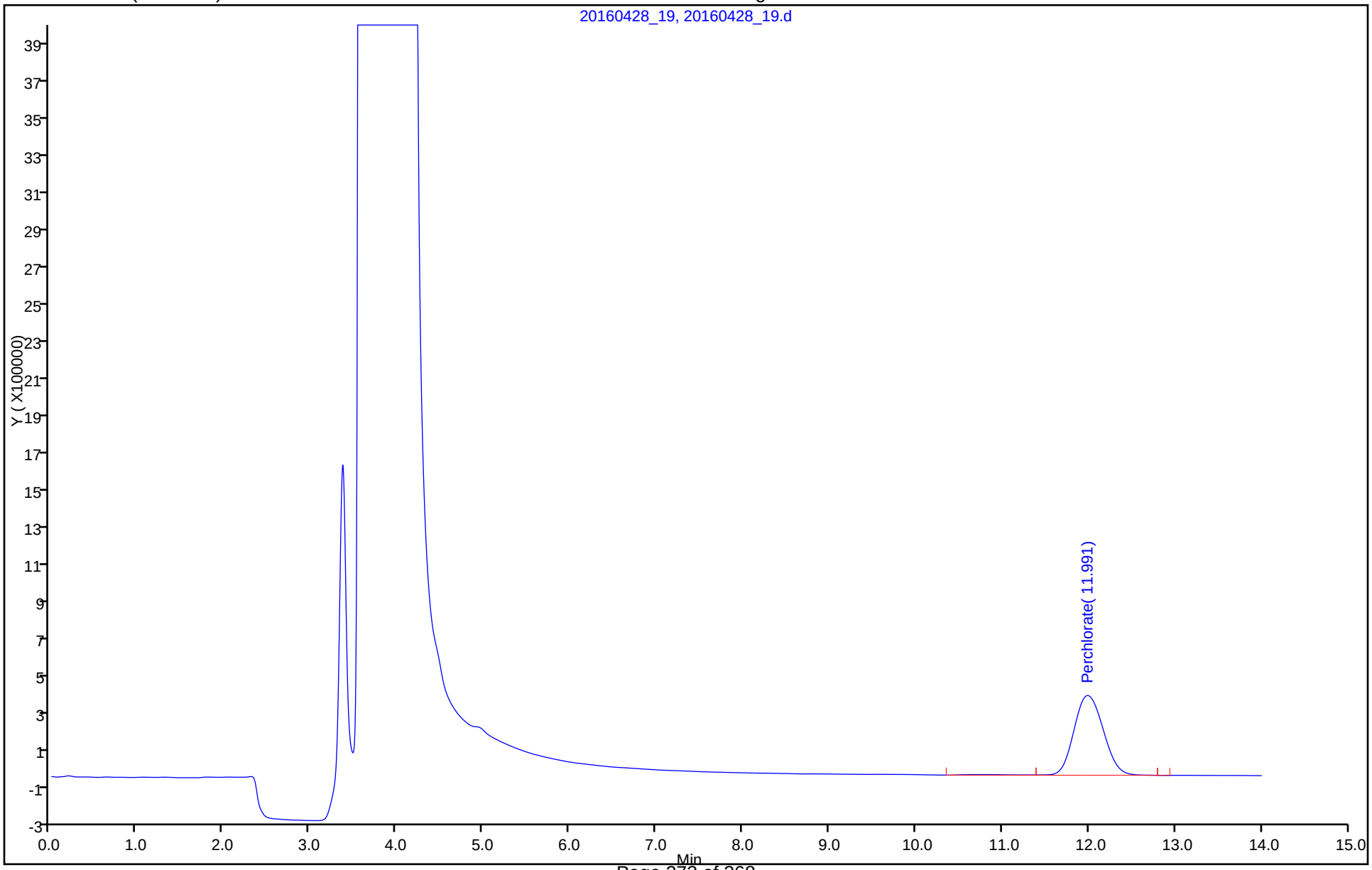
Report Date: 28-Apr-2016 13:52:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_19.d

Injection Date:	28-Apr-2016 12:57:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144933-C-1	Lab Sample ID:	440-144933-1	Worklist Smp#:	19
Client ID:	AA-23R-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-8-20160418
Lab Sample ID: 440-144933-2
Matrix: Water
Lab File ID: 20160428_20.d
Analysis Method: 314.0
Date Collected: 04/18/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 13:14
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	7000		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_20.d				
Lims ID:	440-144933-C-2				
Client ID:	DBMW-8-20160418				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 13:14:00	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-020				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 14:49:28	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

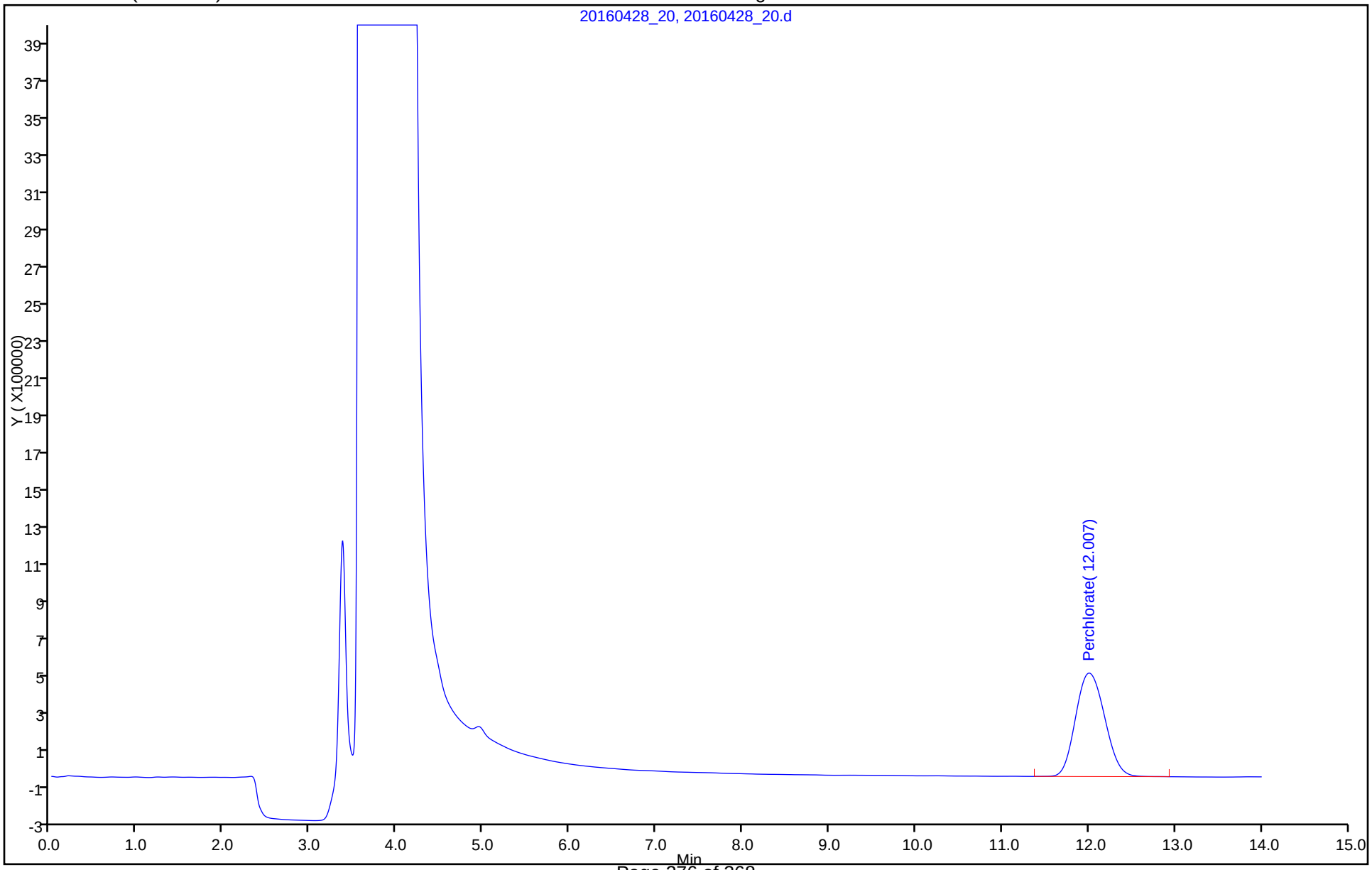
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.007	12.074	-0.067	12922832	69.9	

Report Date: 28-Apr-2016 13:52:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_20.d				
Injection Date:	28-Apr-2016 13:14:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144933-C-2	Lab Sample ID:	440-144933-2	Worklist Smp#:	20
Client ID:	DBMW-8-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418
Lab Sample ID: 440-144933-3
Matrix: Water
Lab File ID: 20160428_21.d
Analysis Method: 314.0
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 13:31
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	4400		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_21.d				
Lims ID:	440-144933-C-3				
Client ID:	DBMW-7-20160418				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 13:31:00	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-021				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 14:49:28	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.047	12.074	-0.027	8000898	44.3	

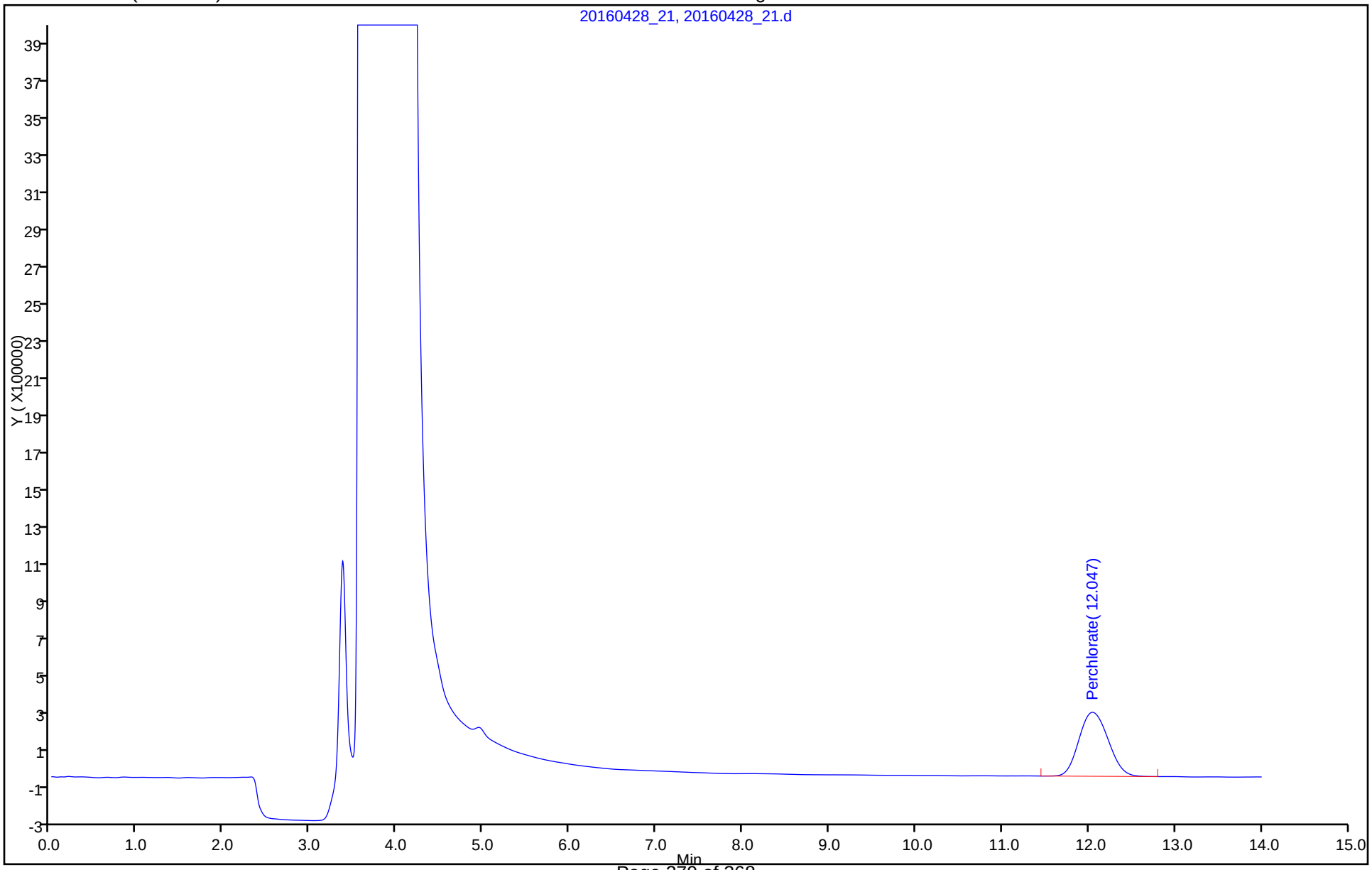
Report Date: 28-Apr-2016 13:52:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_21.d

Injection Date:	28-Apr-2016 13:31:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144933-C-3	Lab Sample ID:	440-144933-3	Worklist Smp#:	21
Client ID:	DBMW-7-20160418				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID: DBMW-7-20160418-FD
Lab Sample ID: 440-144933-4
Matrix: Water
Lab File ID: 20160428_22.d
Analysis Method: 314.0
Date Collected: 04/18/2016 14:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 13:48
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	4600		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_22.d				
Lims ID:	440-144933-C-4				
Client ID:	DBMW-7-20160418-FD				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 13:48:00	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-022				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 14:53:18	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.034	12.074	-0.040	8366773	46.2	

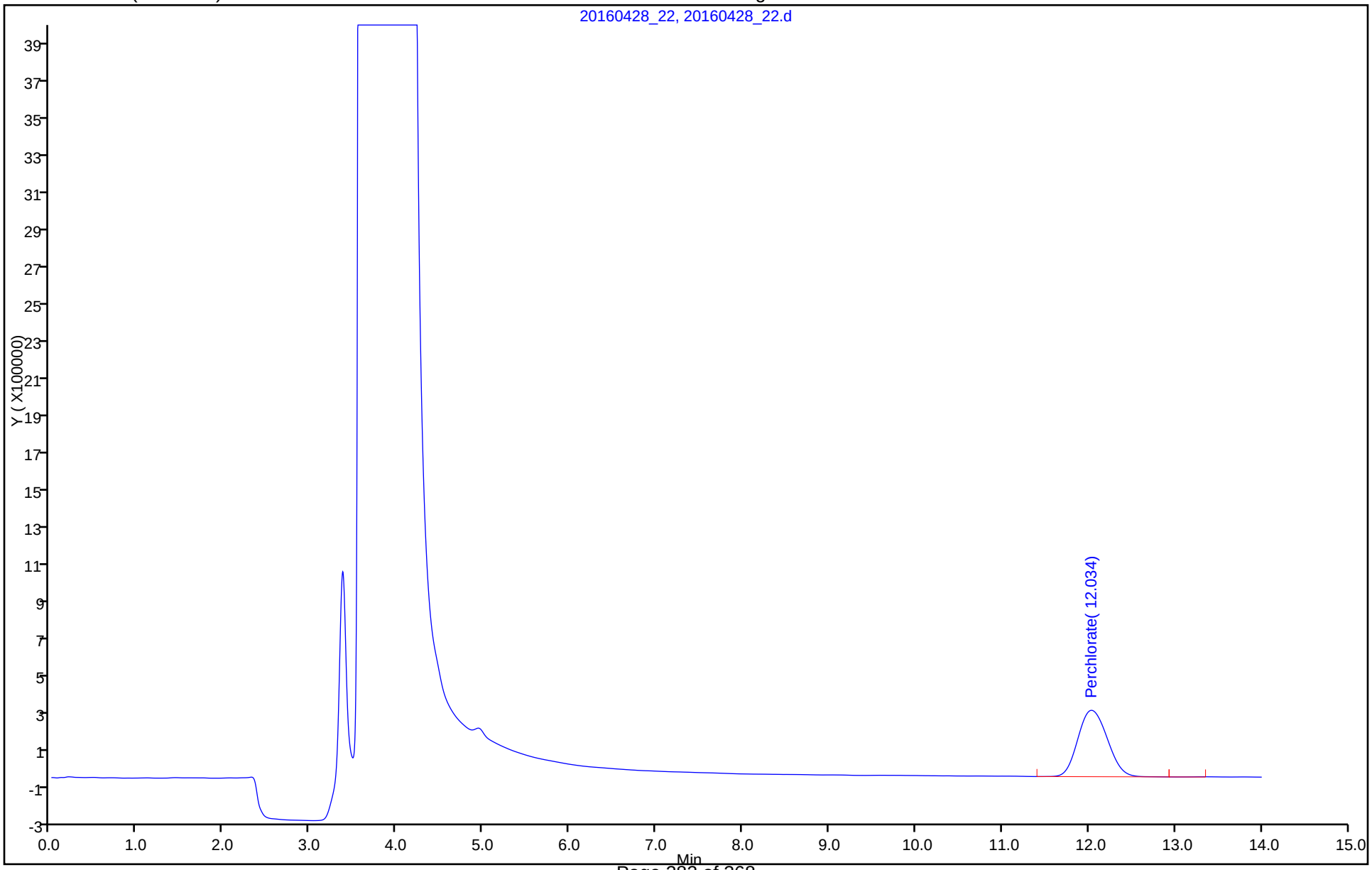
Report Date: 28-Apr-2016 14:53:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_22.d

Injection Date:	28-Apr-2016 13:48:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144933-C-4	Lab Sample ID:	440-144933-4	Worklist Smp#:	22
Client ID:	DBMW-7-20160418-FD				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Perchlorate	12.640	12.654	12.647	12.651	12.621	12.594	12.571				12.008 - 13.272	12.625

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Perchlorate	201999 176880	208422 181735	193440 189815	178617	Qua	43397.2609	171899.532	174.932115						1.0000		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144933-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perchlorate	Qua	201999 9086740	416844 18981540	773758	1786170	4421988	1.00 50.0	2.00 100	4.00	10.0	25.0

Curve Type Legend:

Qua = Quadratic

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	22-Apr-2016 15:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:54	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:23		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.640	12.640	0.000	201999	1.00	0.9218	

Reagents:

WCCLO41st-10_00001 Amount Added: 10.00 Units: uL

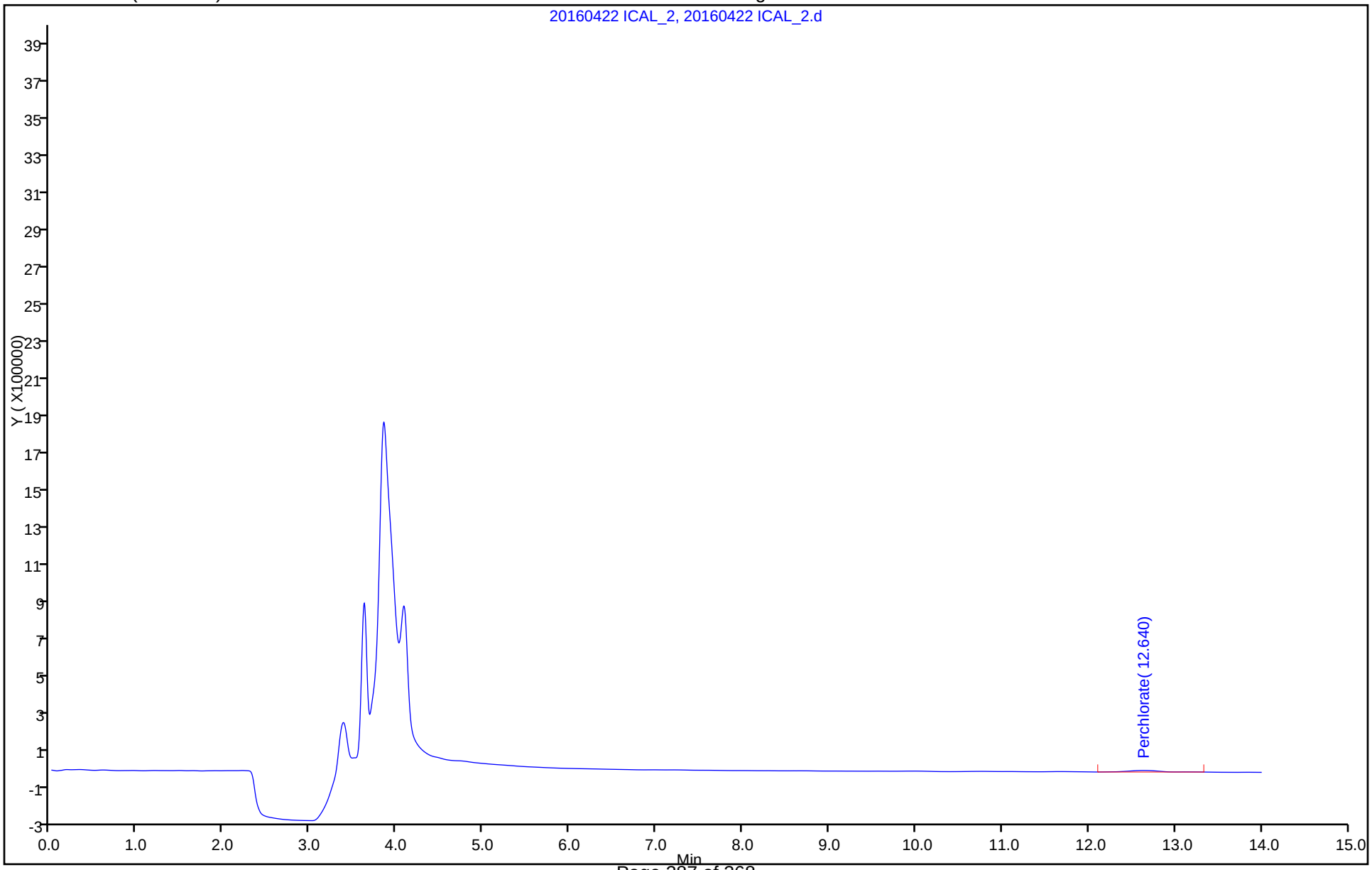
Report Date: 25-Apr-2016 05:36:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d

Injection Date:	22-Apr-2016 15:16:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std2			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	22-Apr-2016 15:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.654	12.640	0.014	416844	2.00	2.17	

Reagents:

WCCLO41st-10_00001 Amount Added: 20.00 Units: uL

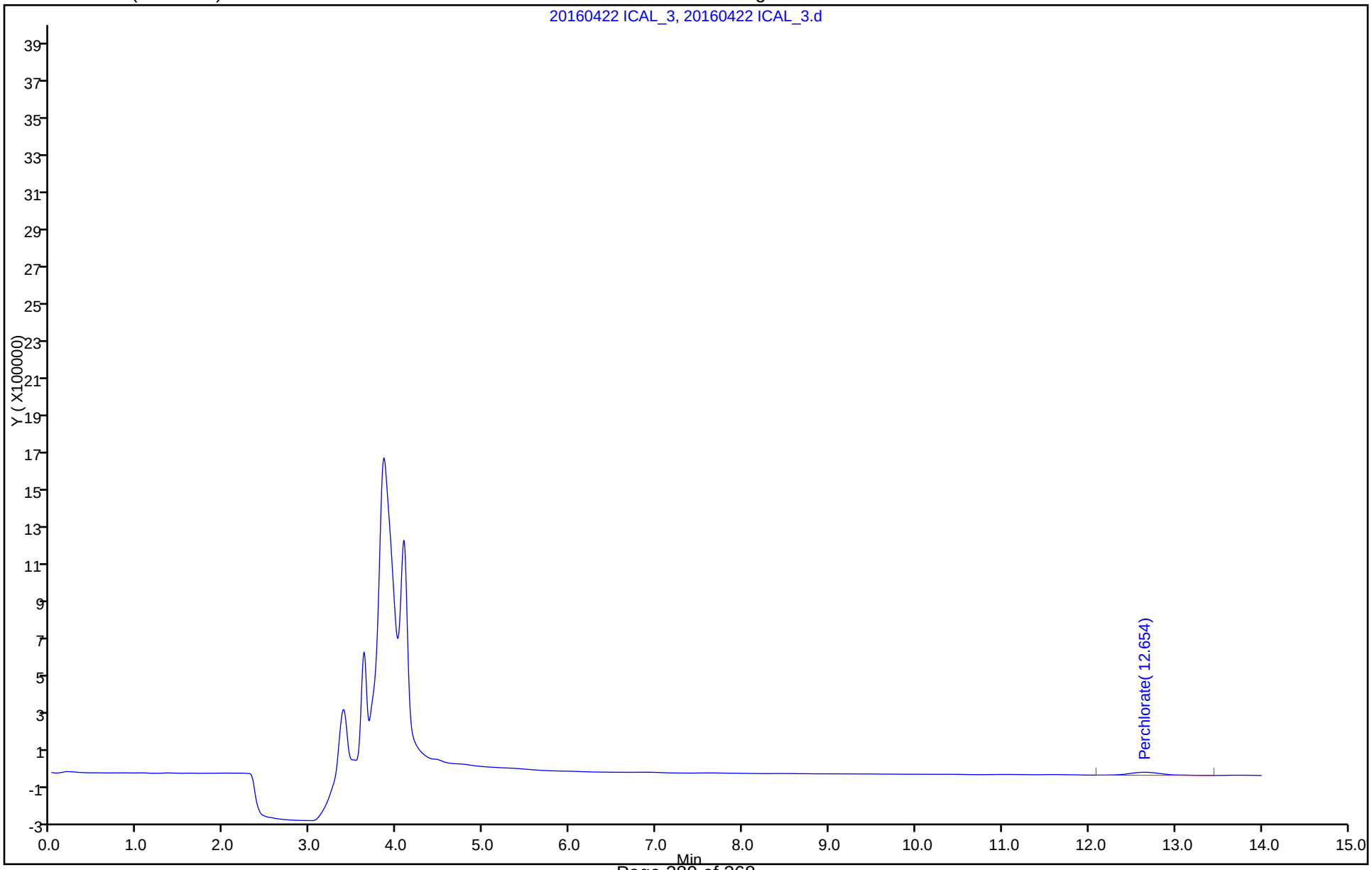
Report Date: 25-Apr-2016 05:36:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d

Injection Date:	22-Apr-2016 15:33:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std3			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	22-Apr-2016 15:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:49		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.647	12.640	0.007	773758	4.00	4.23	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

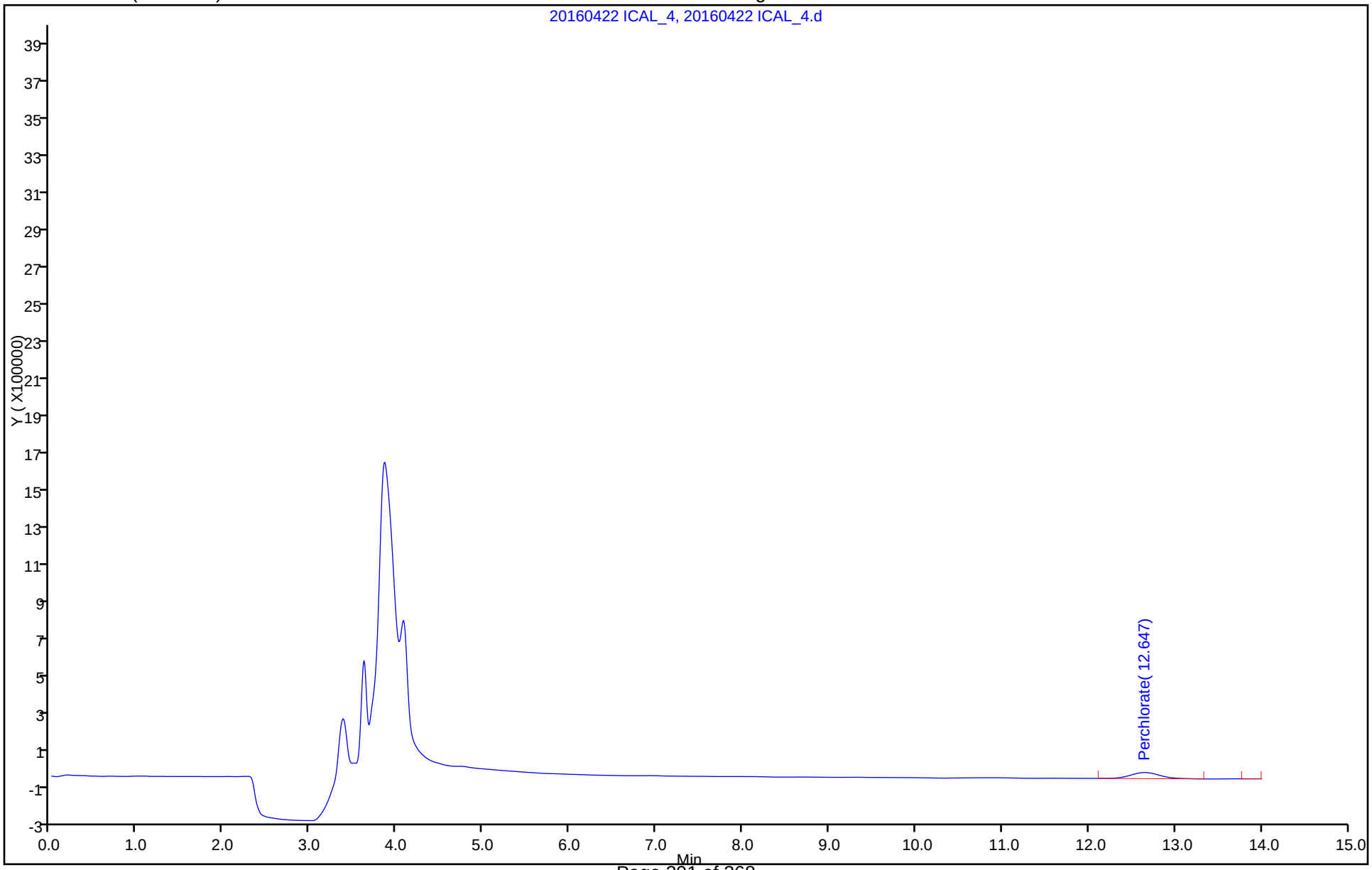
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d

Injection Date:	22-Apr-2016 15:50:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std4			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	22-Apr-2016 16:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:02		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.651	12.640	0.011	1786170	10.0	10.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 100.00 Units: uL

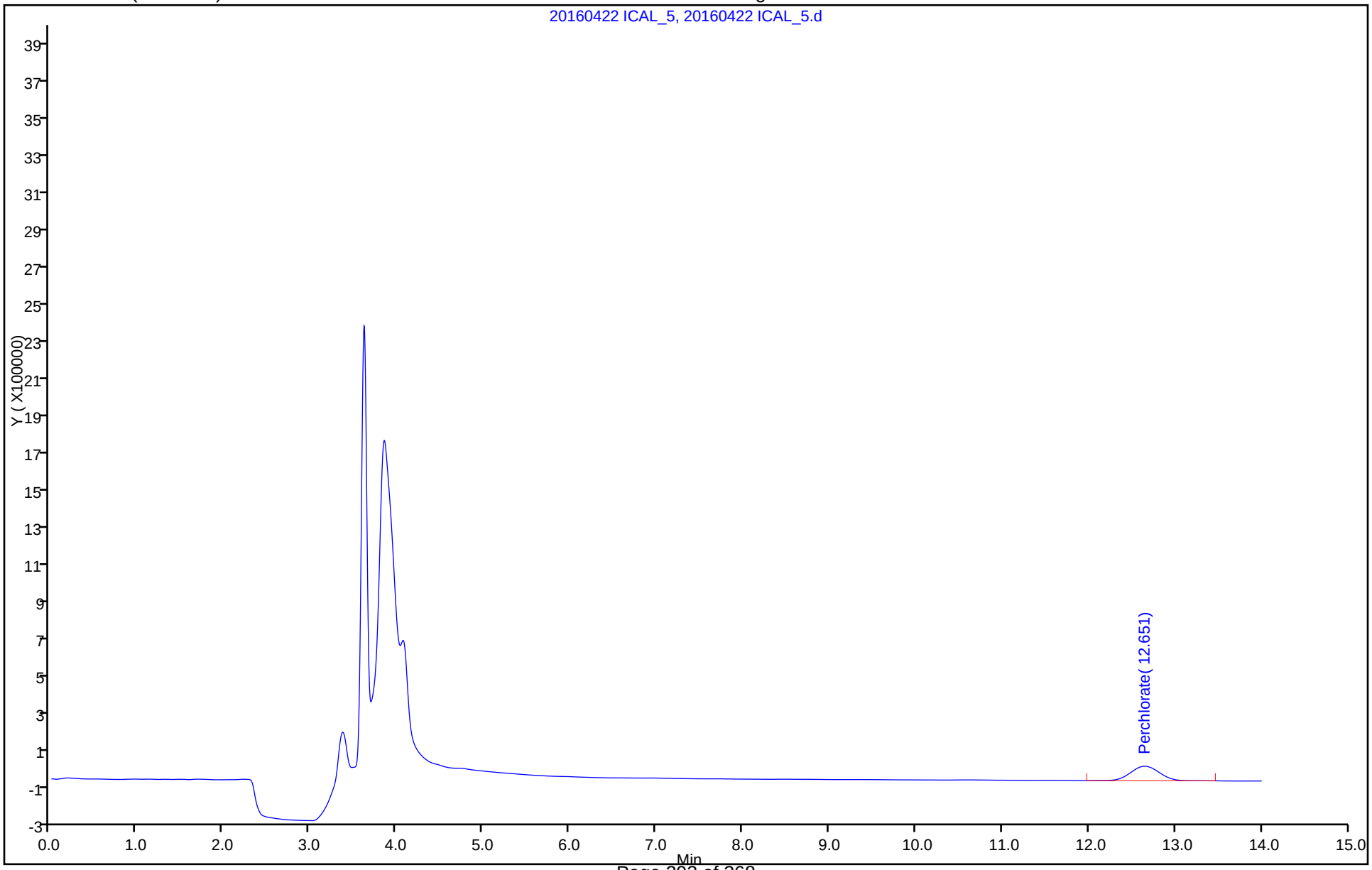
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d

Injection Date:	22-Apr-2016 16:07:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std5			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	22-Apr-2016 16:24:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-006				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:15		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.621	12.640	-0.019	4421988	25.0	24.8	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

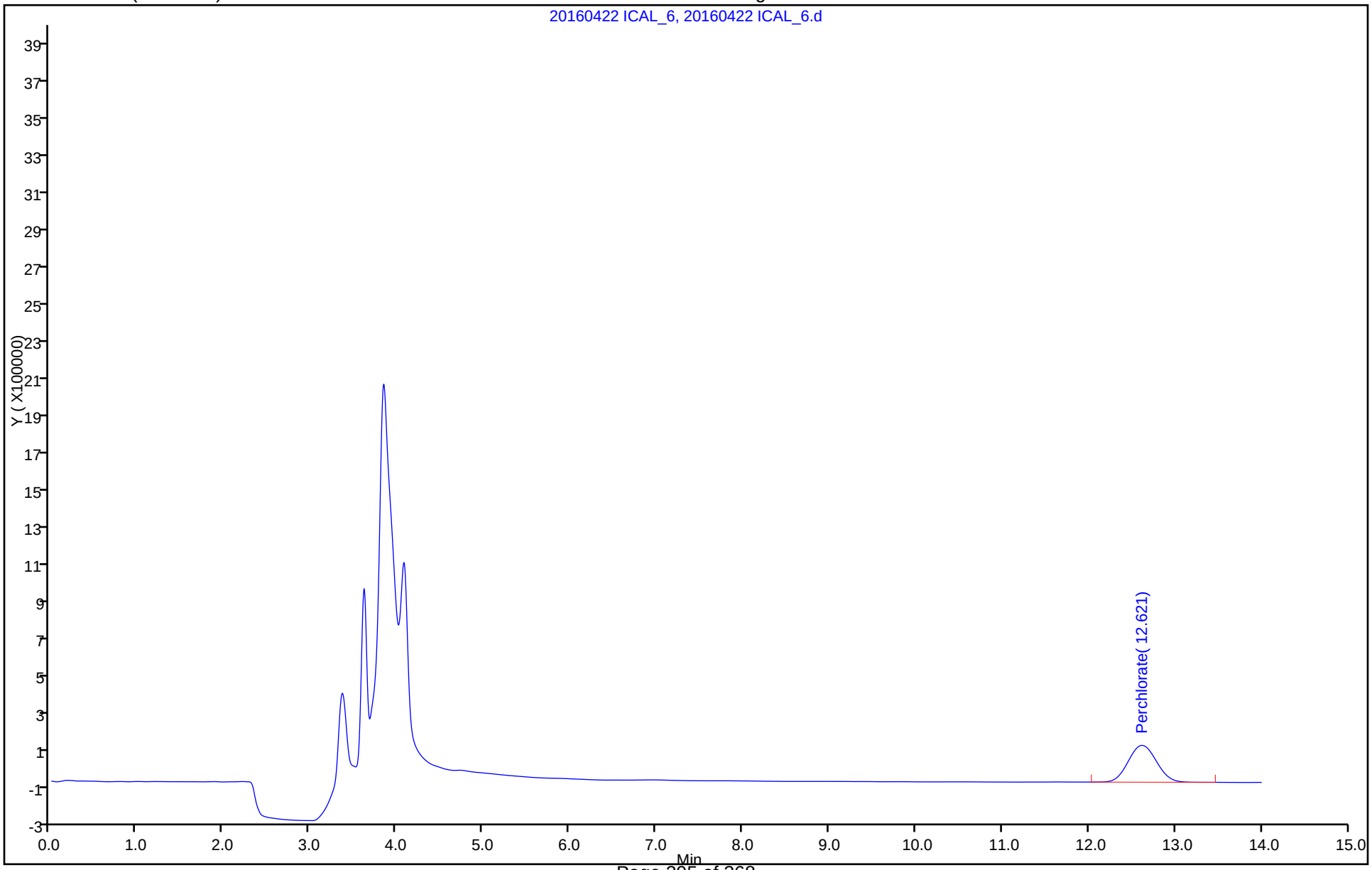
Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d

Injection Date:	22-Apr-2016 16:24:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std6			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	22-Apr-2016 16:41:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-007				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:57	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:26		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.594	12.640	-0.046	9086740	50.0	50.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 500.00 Units: uL

Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d

Injection Date: 22-Apr-2016 16:41:00 Instrument ID: IC-25 Operator ID:

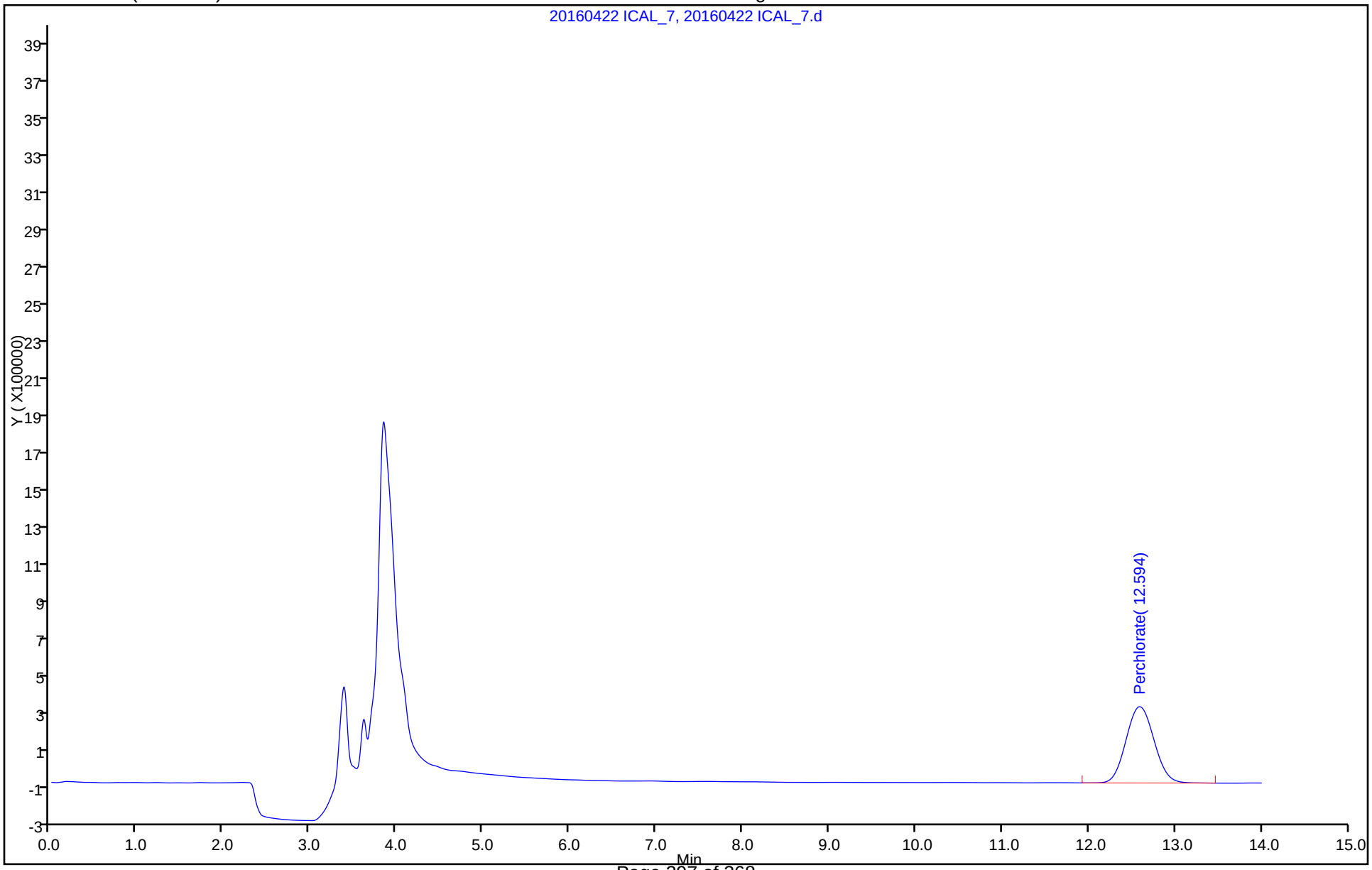
Lims ID: std7 Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	22-Apr-2016 16:58:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-008				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:58	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:38		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.571	12.640	-0.069	18981540	100.0	100.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 1000.00 Units: uL

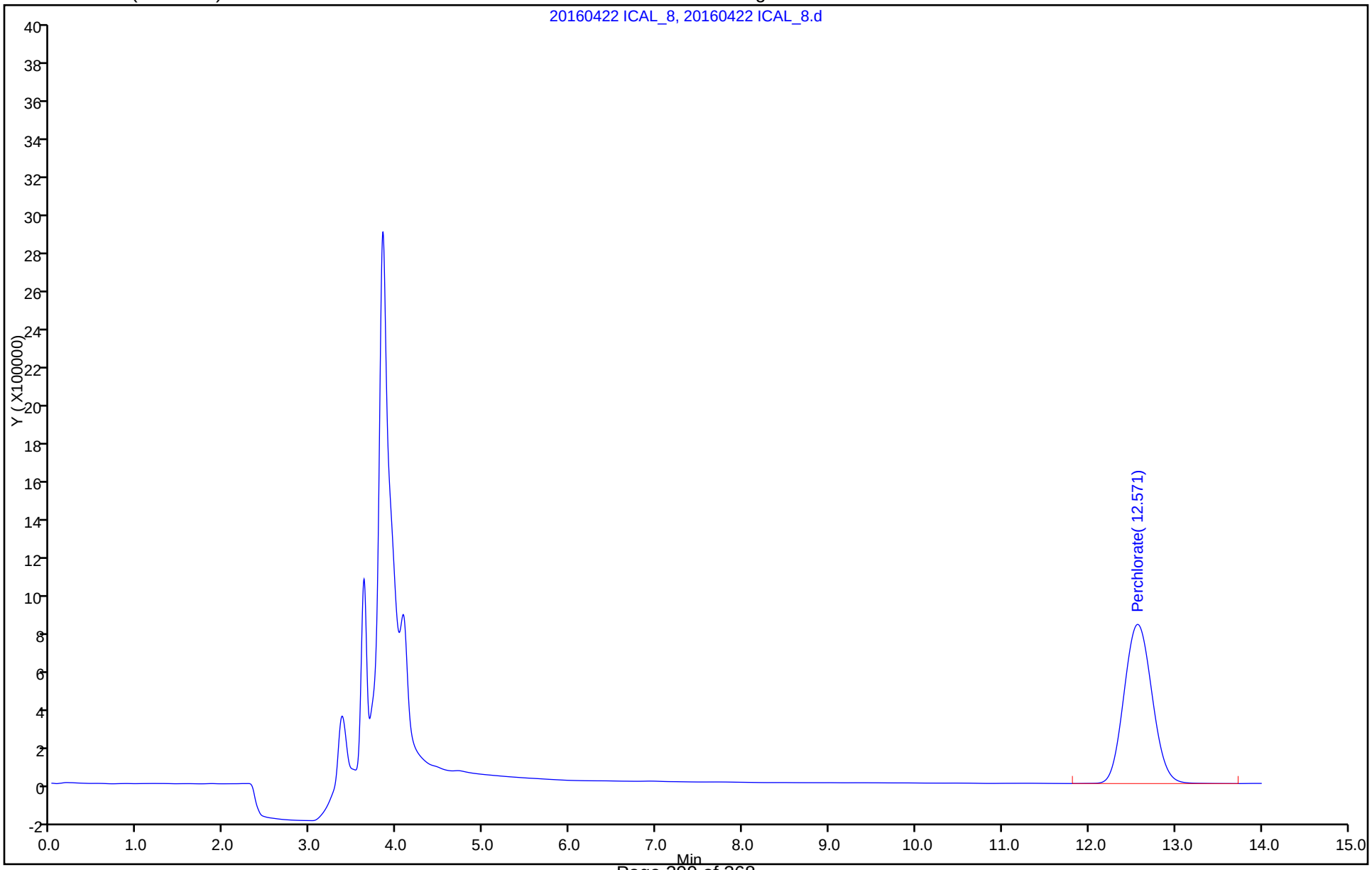
Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Injection Date:	22-Apr-2016 16:58:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std8			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				49.8	50.0	100	90-110

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.58	12.01	13.27

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 22-Apr-2016 17:14:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072202-009
Misc. Info.: ch
Operator ID: Instrument ID: IC-25
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m
Limit Group: IC-314
Method Label: PERCHLORATE
Last Update: 25-Apr-2016 05:36:58 Calib Date: 22-Apr-2016 16:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Column 1 : AS16 (4.00 mm) Det: Ch-A-20111003029
Process Host: XAWRK009

First Level Reviewer: hoangch Date: 25-Apr-2016 05:34:50

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.581	12.640	-0.059	9029765	50.0	49.8	

Reagents:

WCCLO4ICV10_00019 Amount Added: 500.00 Units: uL

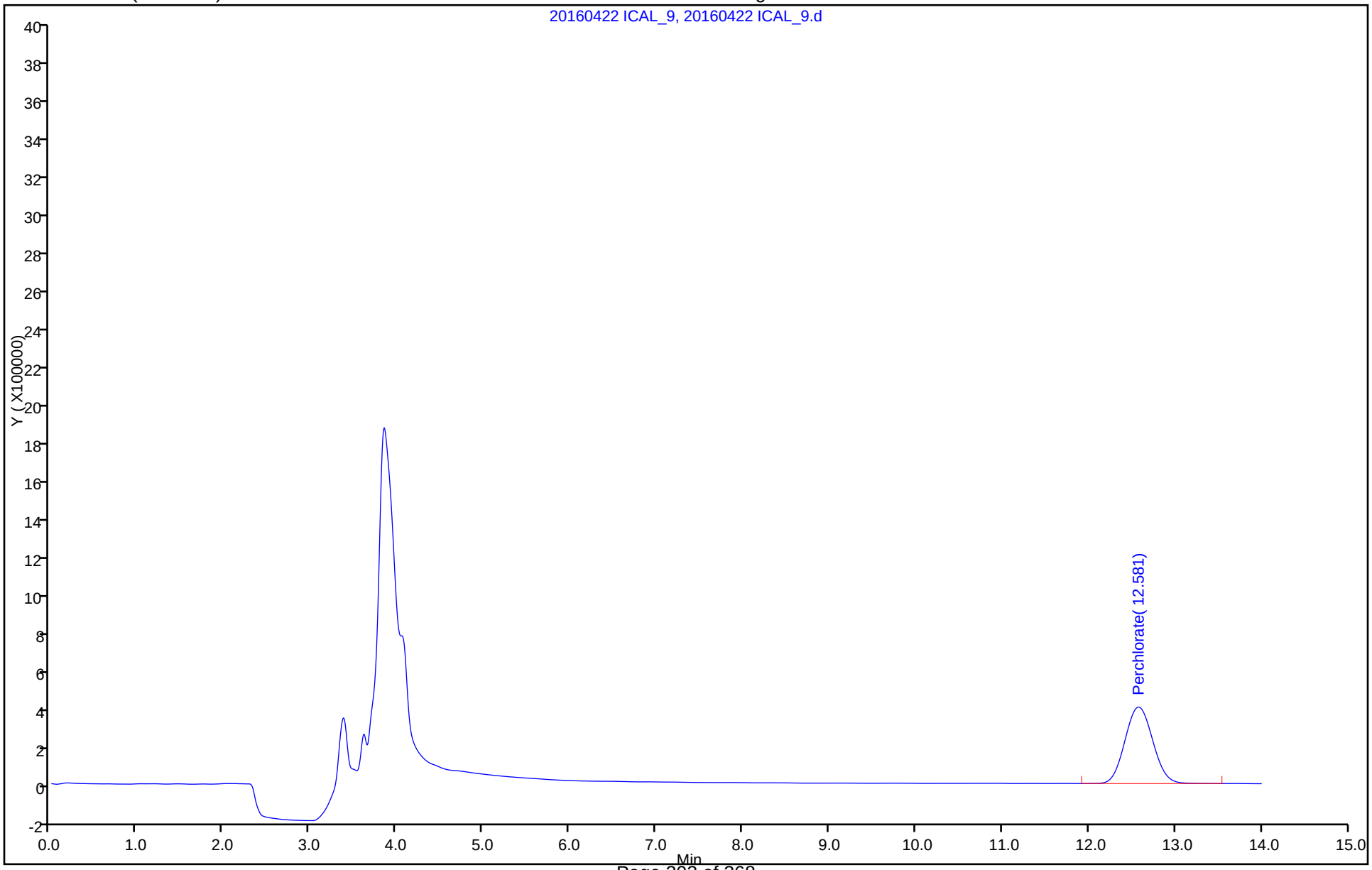
Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d

Injection Date:	22-Apr-2016 17:14:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	icv			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-327049/1002 Calibration Date: 04/28/2016 08:16

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_2-CCV.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.7	25.0	99	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-327049/1002 Calibration Date: 04/28/2016 08:16

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_2-CCV.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.07	11.46	12.66

Form VII 314.0

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 08:16:00	ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 08:51:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.071	12.061	0.010	4391606	25.0	24.7	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d

Injection Date: 28-Apr-2016 08:16:00 Instrument ID: IC-25 Operator ID:

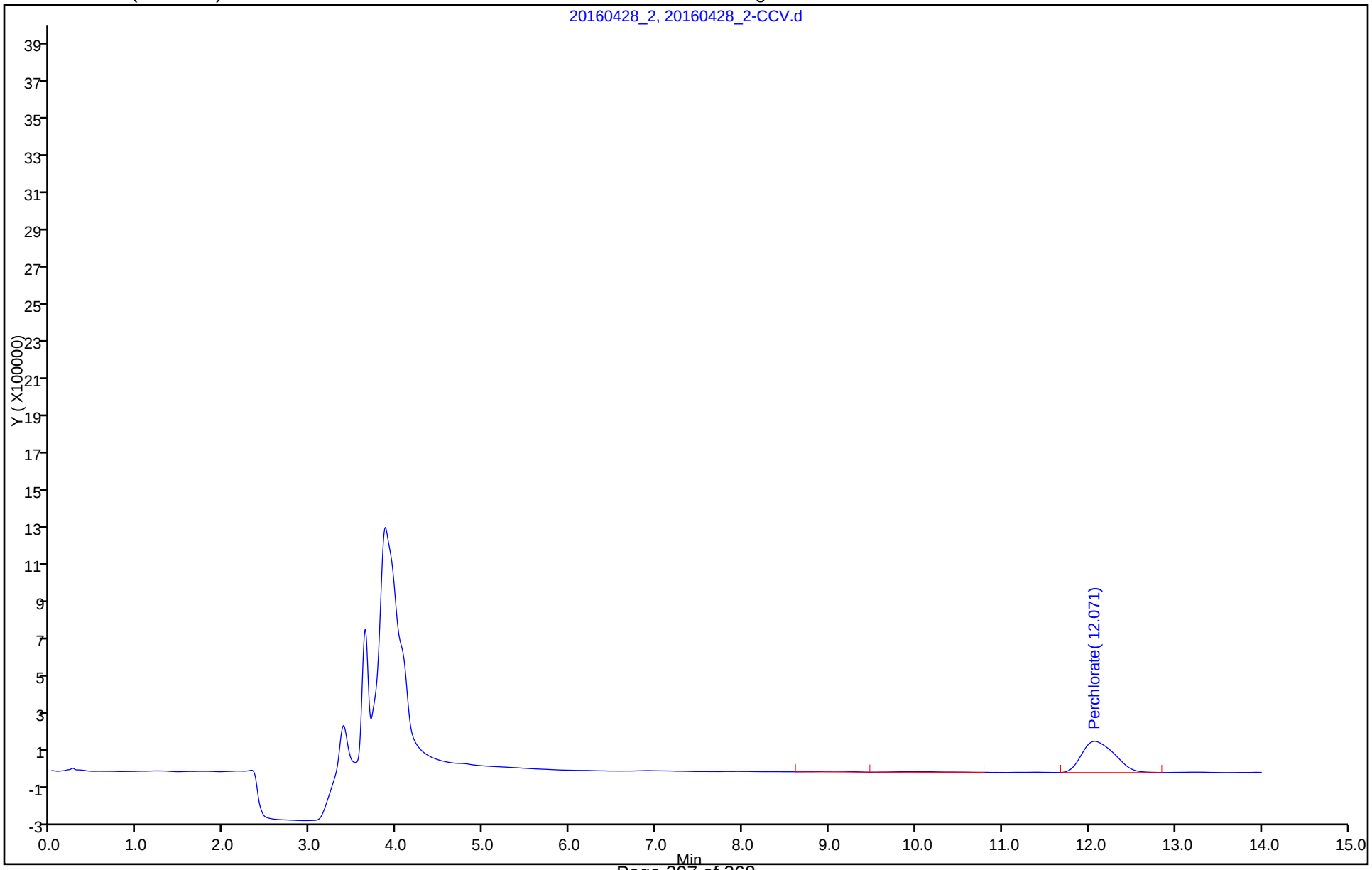
Lims ID: CCV Worklist Smp#: 1002

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Laboratories

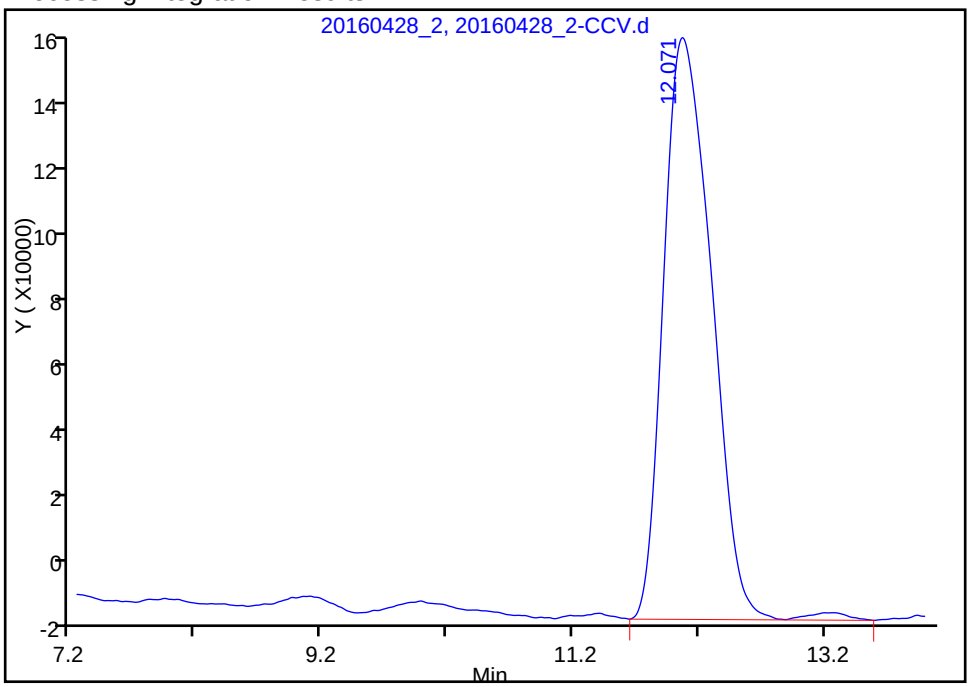
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d				
Injection Date:	28-Apr-2016 08:16:00	Instrument ID:	IC-25		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

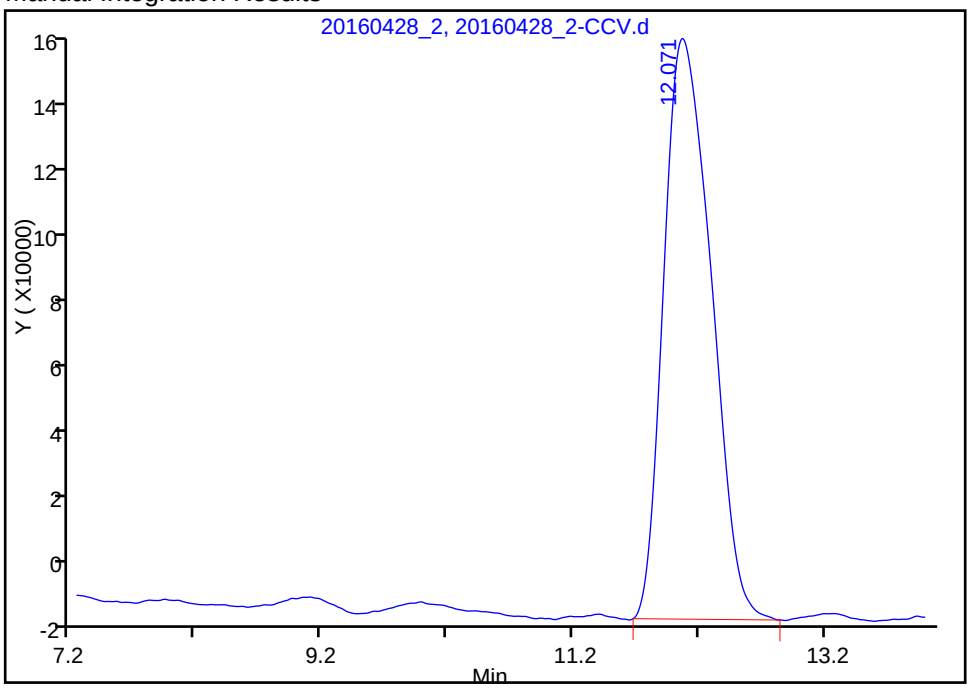
Processing Integration Results

RT: 12.07
Area: 4461649
Amount: 25.063274
Amount Units: ug/l



Manual Integration Results

RT: 12.07
Area: 4391606
Amount: 24.675440
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 08:51:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-327049/16 Calibration Date: 04/28/2016 12:07

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_16.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.7	25.0	103	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-327049/16 Calibration Date: 04/28/2016 12:07

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_16.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.07	11.47	12.68

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_16.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 12:07:00	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-016				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:44:27	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.074	12.074	0.000	4575447	25.0	25.7	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 12:44:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_16.d

Injection Date: 28-Apr-2016 12:07:00 Instrument ID: IC-25 Operator ID:

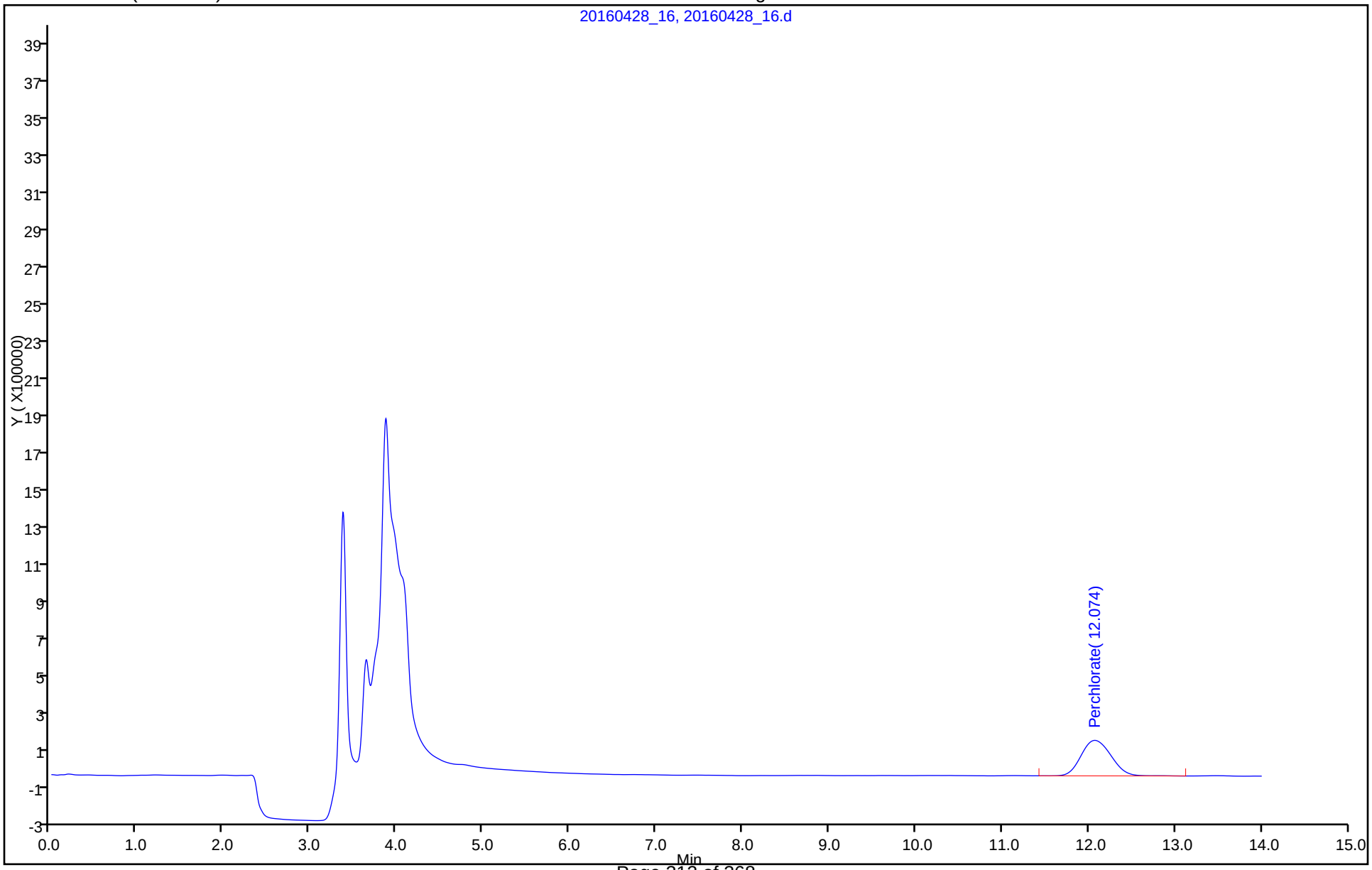
Lims ID: ccv 25 Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-327049/26 Calibration Date: 04/28/2016 14:55

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_26.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				75.8	75.0	101	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Lab Sample ID: CCV 440-327049/26 Calibration Date: 04/28/2016 14:55

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_26.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.00	11.40	12.60

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_26.d				
Lims ID:	ccv 75				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 14:55:00	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-026				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 15:24:25	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				
First Level Reviewer: hoangch		Date:	28-Apr-2016 15:23:48		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.004	12.004	0.000	14073764	75.0	75.8	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 750.00 Units: uL

Report Date: 28-Apr-2016 15:24:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_26.d

Injection Date: 28-Apr-2016 14:55:00 Instrument ID: IC-25 Operator ID:

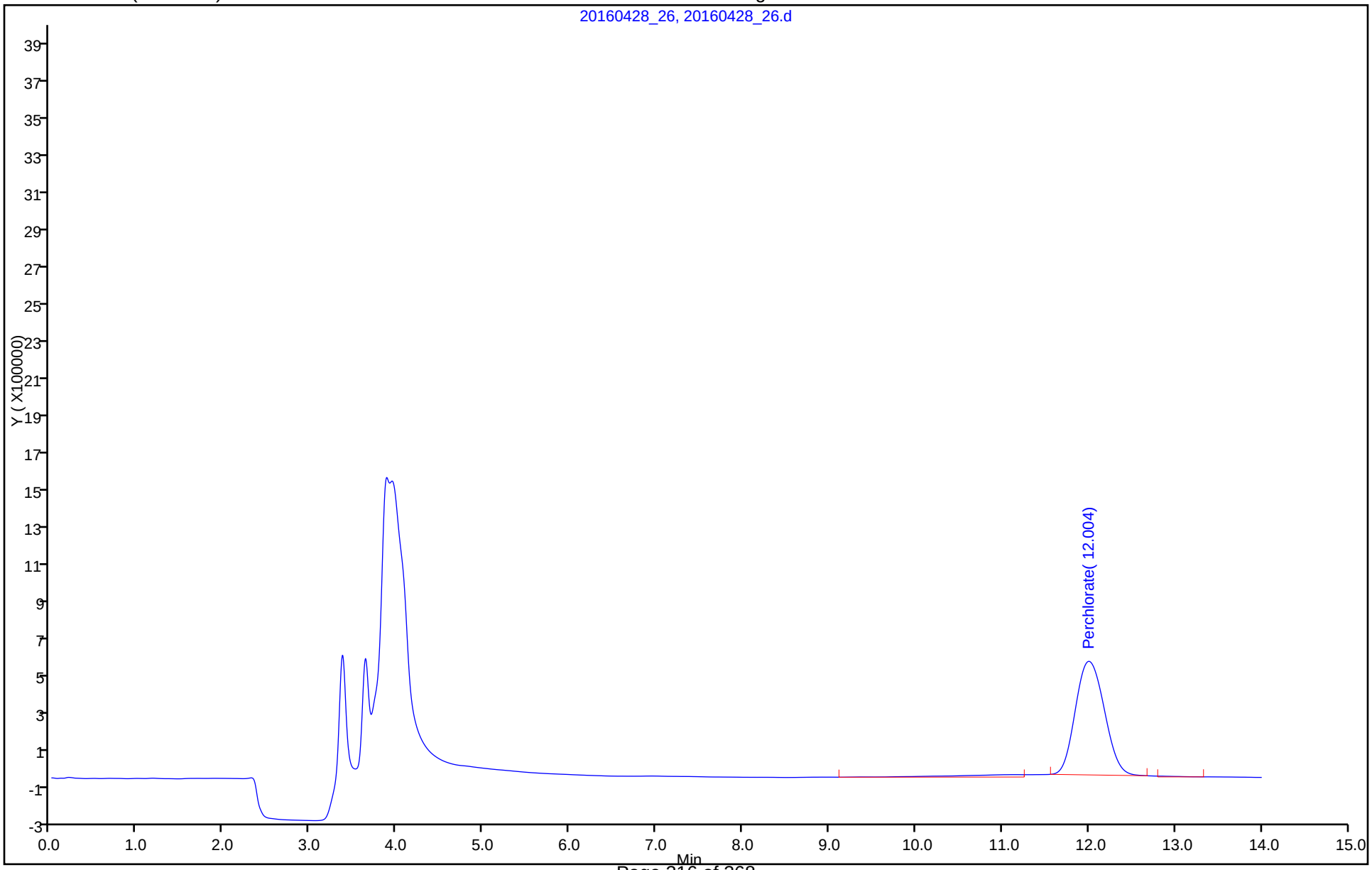
Lims ID: ccv 75 Worklist Smp#: 26

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

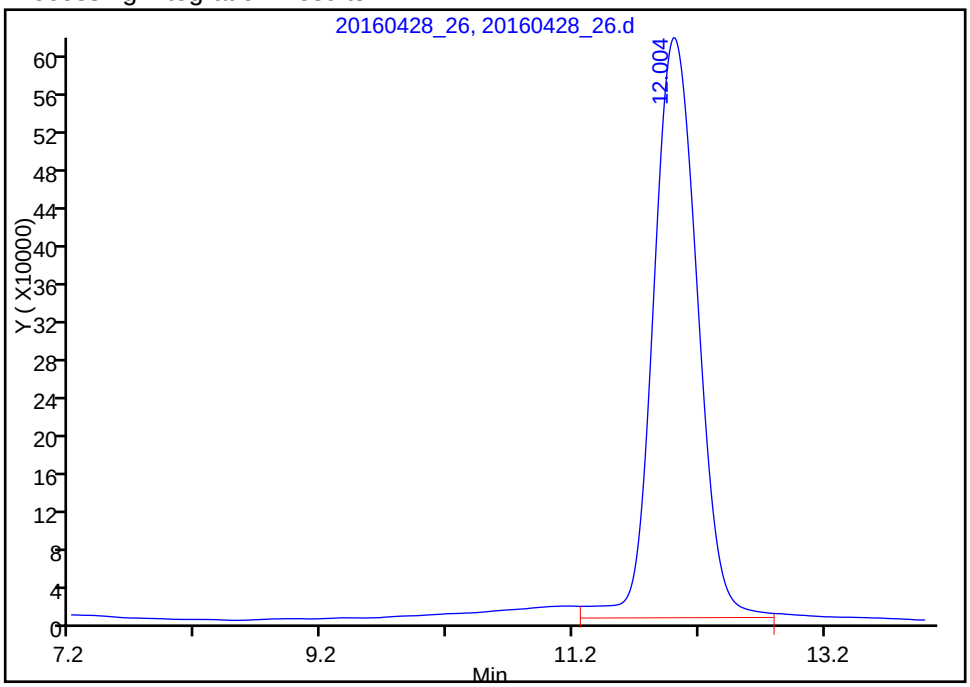
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_26.d				
Injection Date:	28-Apr-2016 14:55:00	Instrument ID:	IC-25		
Lims ID:	ccv 75				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

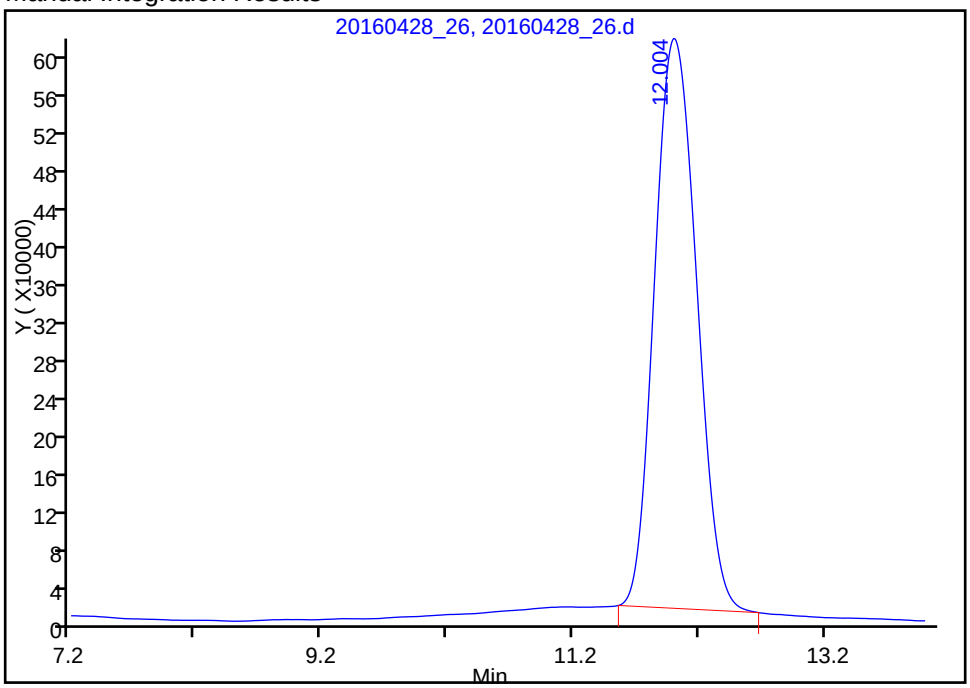
Processing Integration Results

RT: 12.00
Area: 15020225
Amount: 80.526549
Amount Units: ug/l



Manual Integration Results

RT: 12.00
Area: 14073764
Amount: 75.776238
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 15:23:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327049/3
Matrix: Water
Lab File ID: 20160428_3.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:33
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	28-Apr-2016 08:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 11:58:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3.d

Injection Date: 28-Apr-2016 08:33:00 Instrument ID: IC-25 Operator ID:

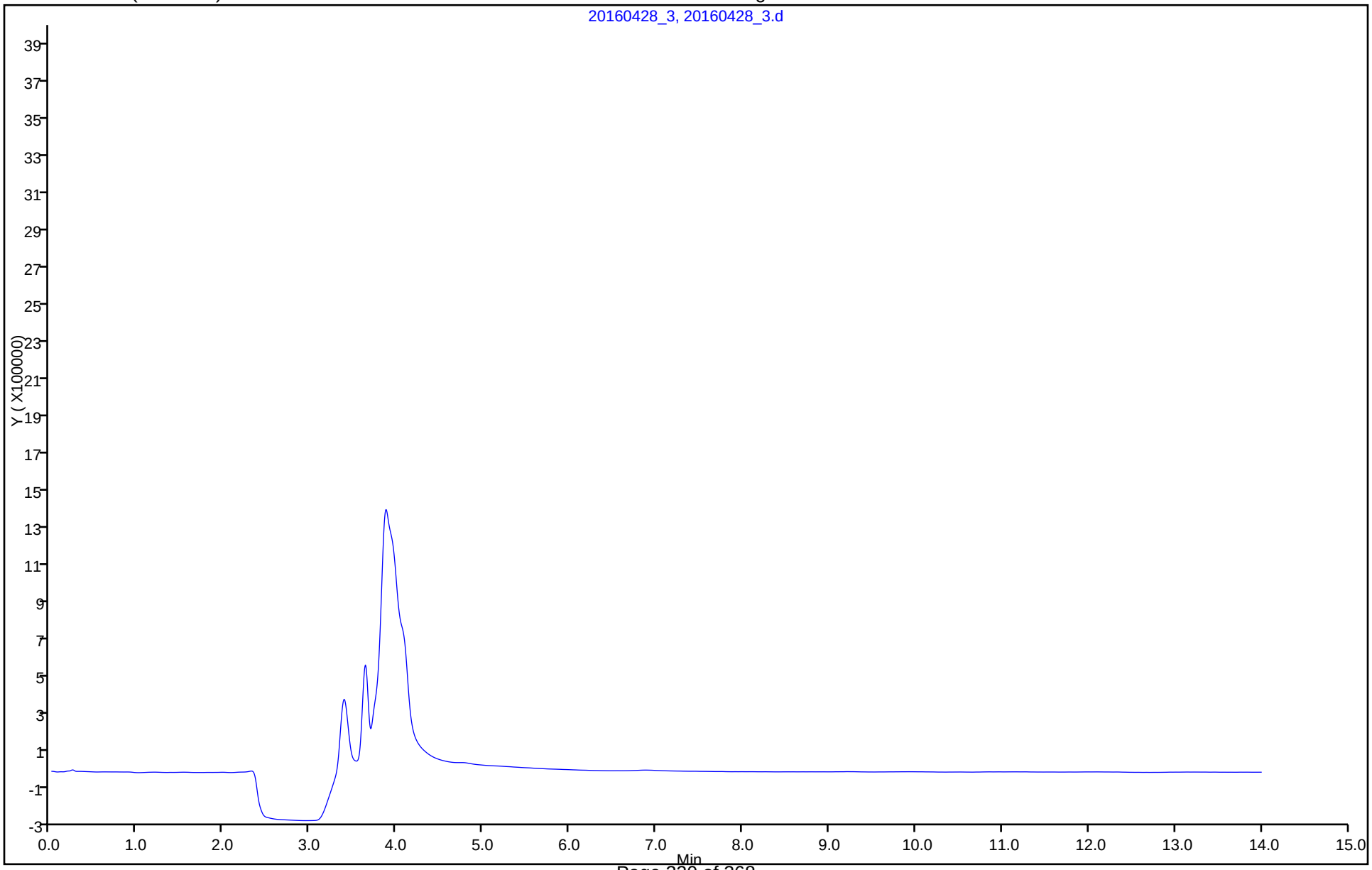
Lims ID: MB Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/17
Matrix: Water
Lab File ID: 20160428_17.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 12:24
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_17.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 12:24:00	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-017				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 12:44:27	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

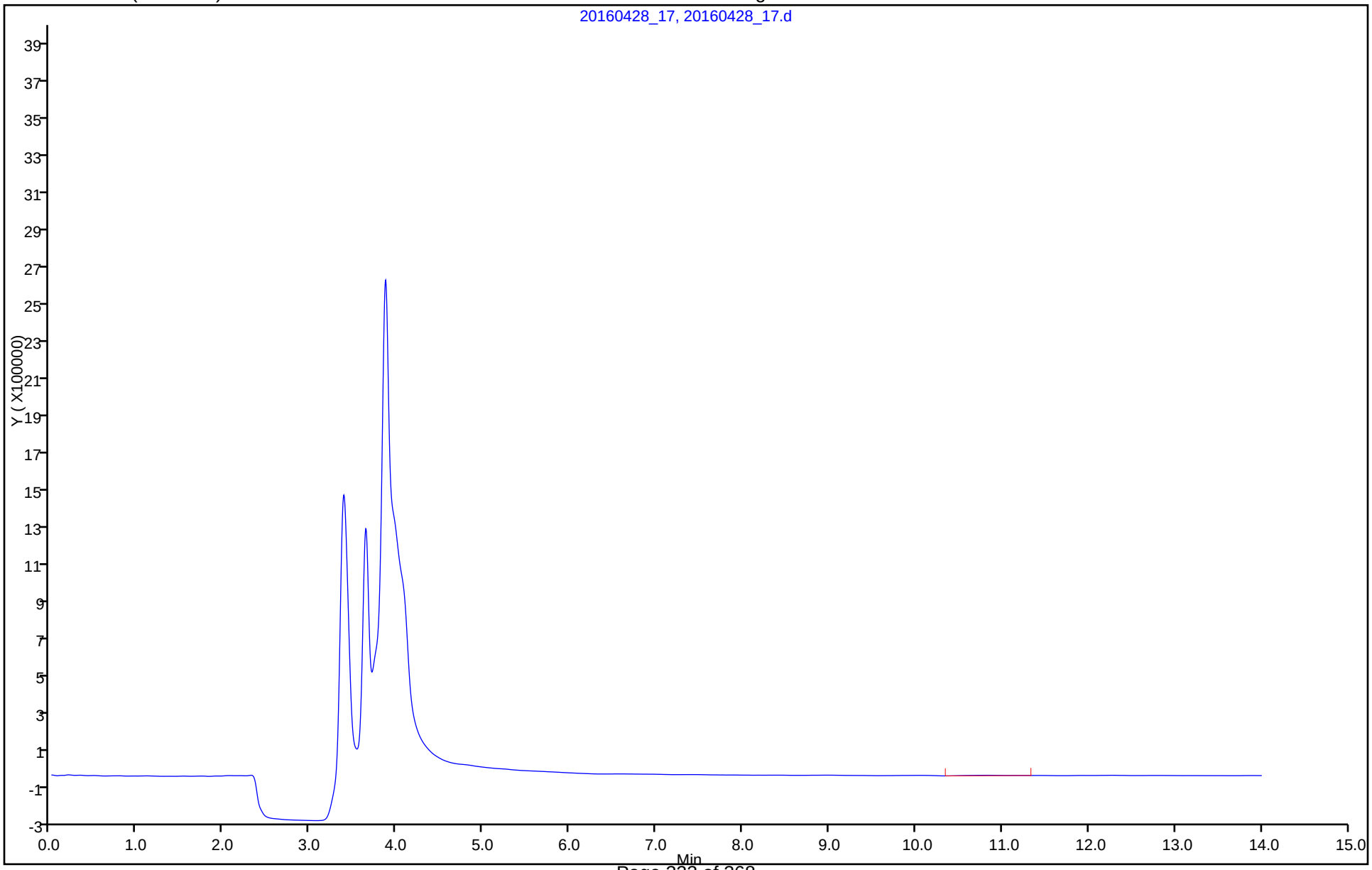
Report Date: 28-Apr-2016 12:44:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_17.d

Injection Date:	28-Apr-2016 12:24:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/27
Matrix: Water
Lab File ID: 20160428_27.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 15:12
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_27.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 15:12:00	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-027				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 16:31:16	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

First Level Reviewer: hoangch Date: 28-Apr-2016 15:40:50

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 15:41:38 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_27.d

Injection Date: 28-Apr-2016 15:12:00 Instrument ID: IC-25 Operator ID:

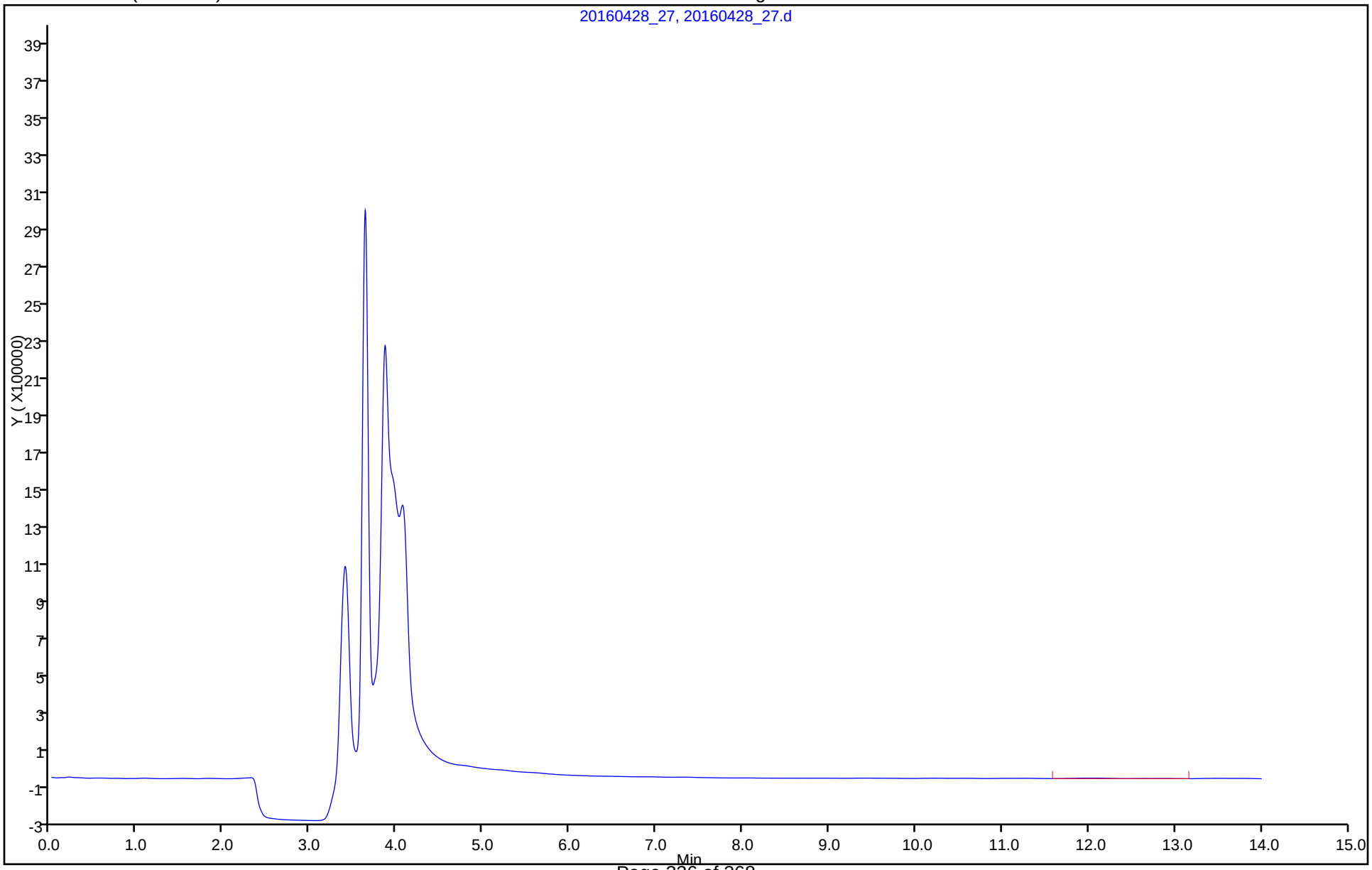
Lims ID: ccb Worklist Smp#: 27

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/1003
Matrix: Water
Lab File ID: 20160428_3-CCB.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:33
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3-CCB.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 08:33:00	ALS Bottle#:	0	Worklist Smp#:	1003
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3-CCB.d

Injection Date: 28-Apr-2016 08:33:00 Instrument ID: IC-25 Operator ID:

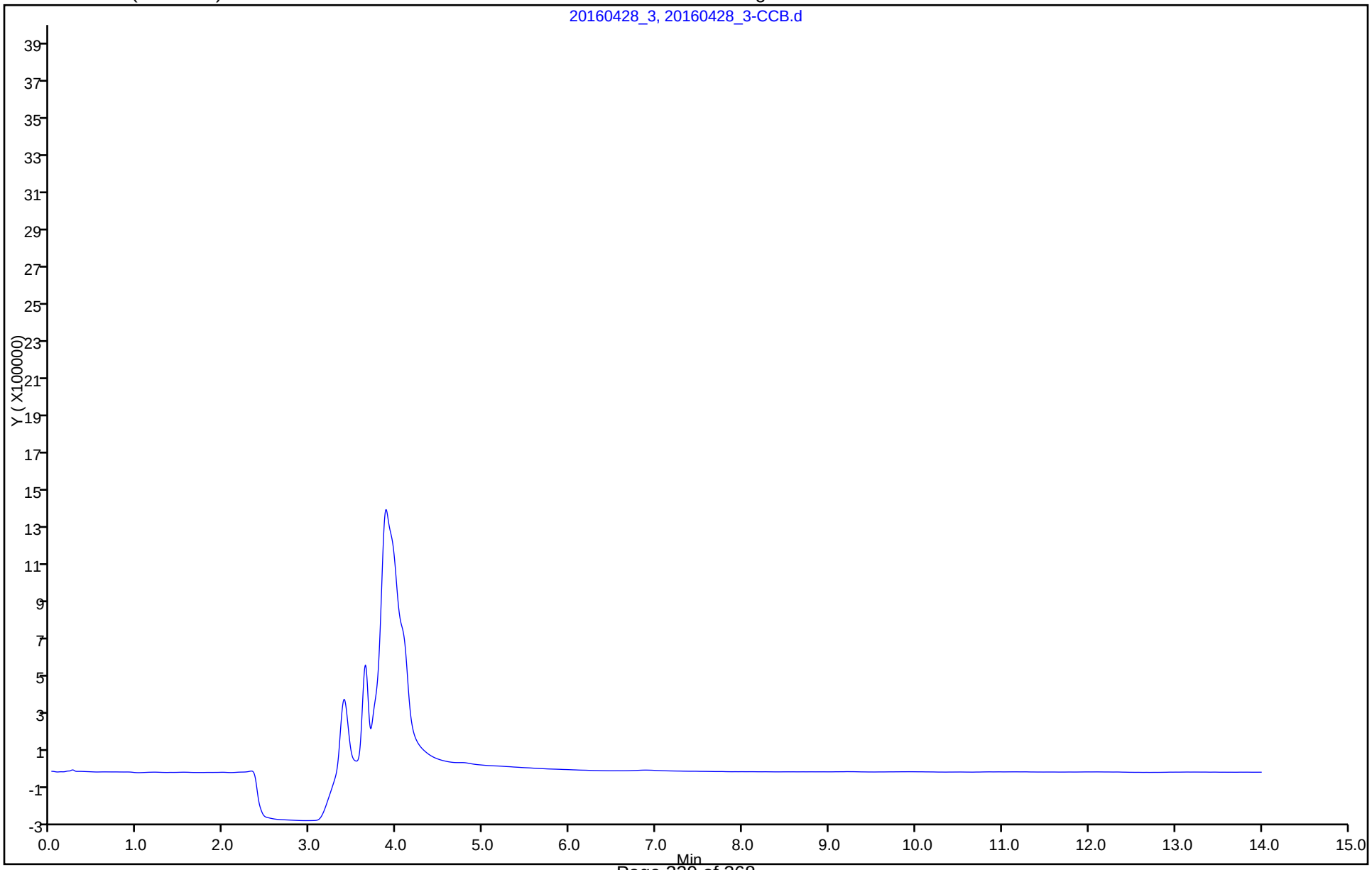
Lims ID: CCB Worklist Smp#: 1003

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327049/2
Matrix: Water
Lab File ID: 20160428_2.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	24.7		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	28-Apr-2016 08:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 08:51:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.071	12.061	0.010	4391606	25.0	24.7	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:29 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d

Injection Date: 28-Apr-2016 08:16:00 Instrument ID: IC-25 Operator ID:

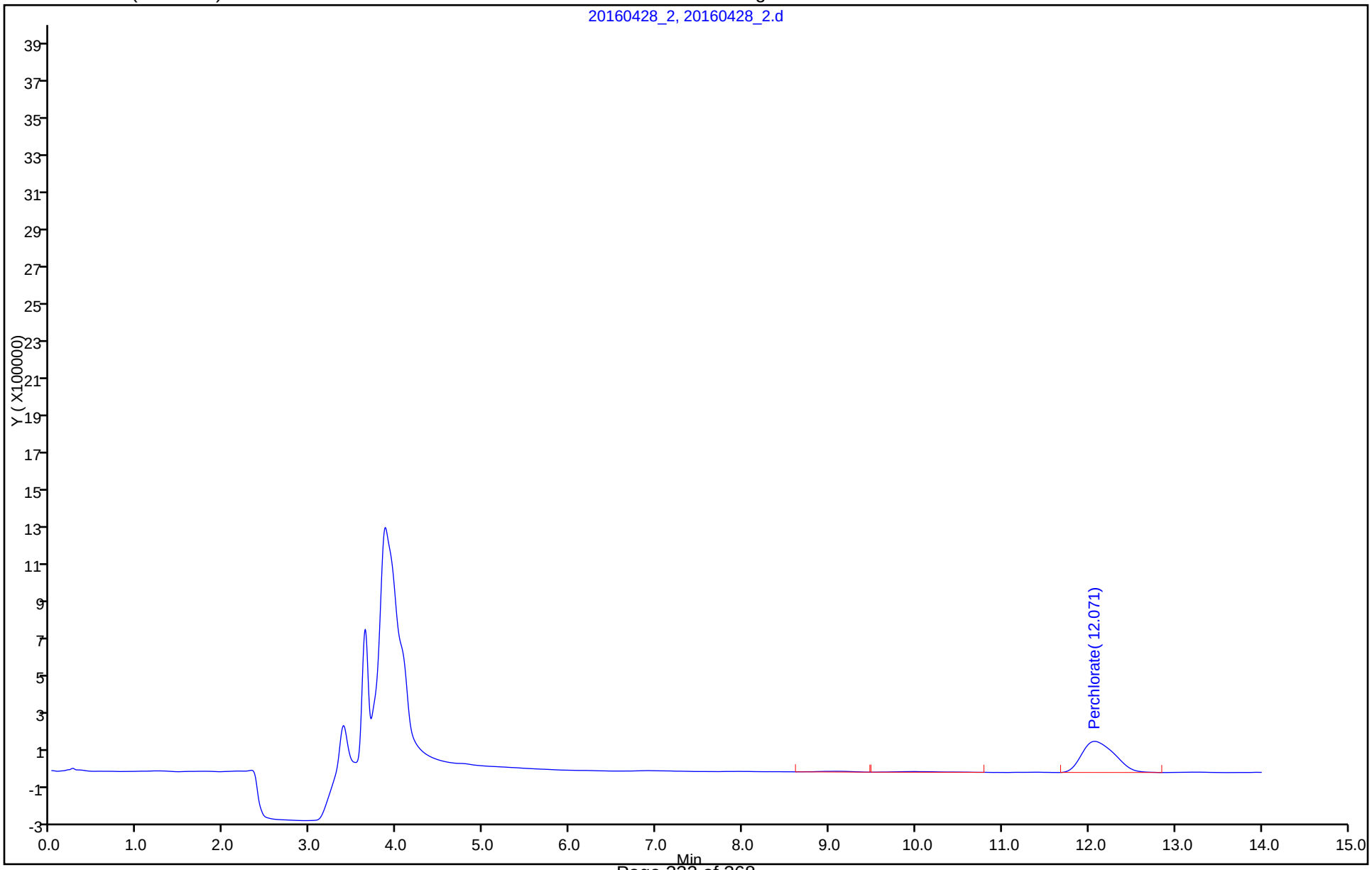
Lims ID: LCS Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

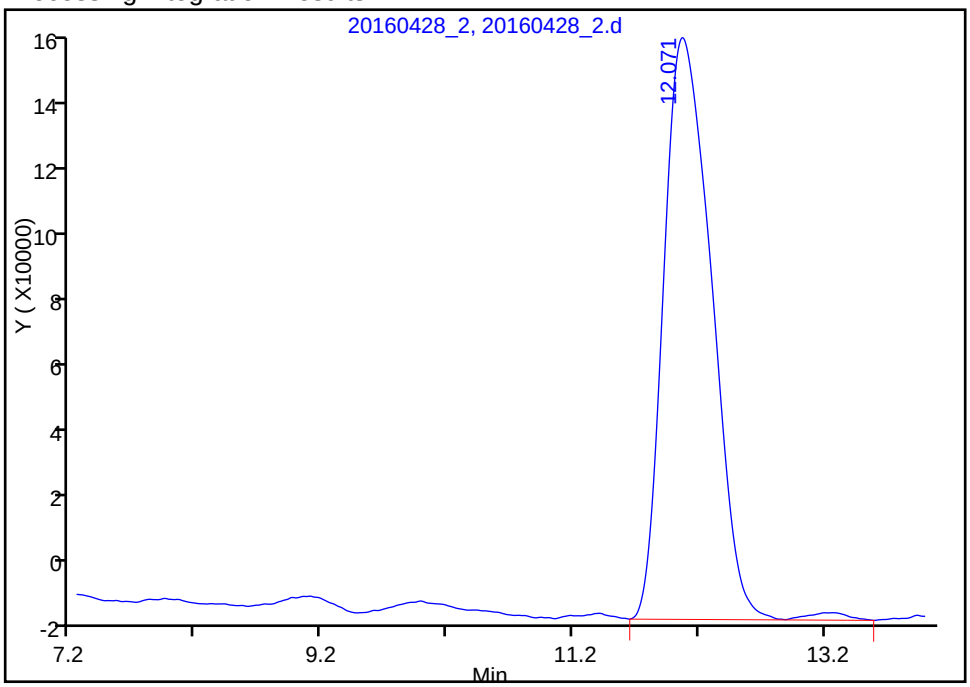
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d				
Injection Date:	28-Apr-2016 08:16:00	Instrument ID:	IC-25		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

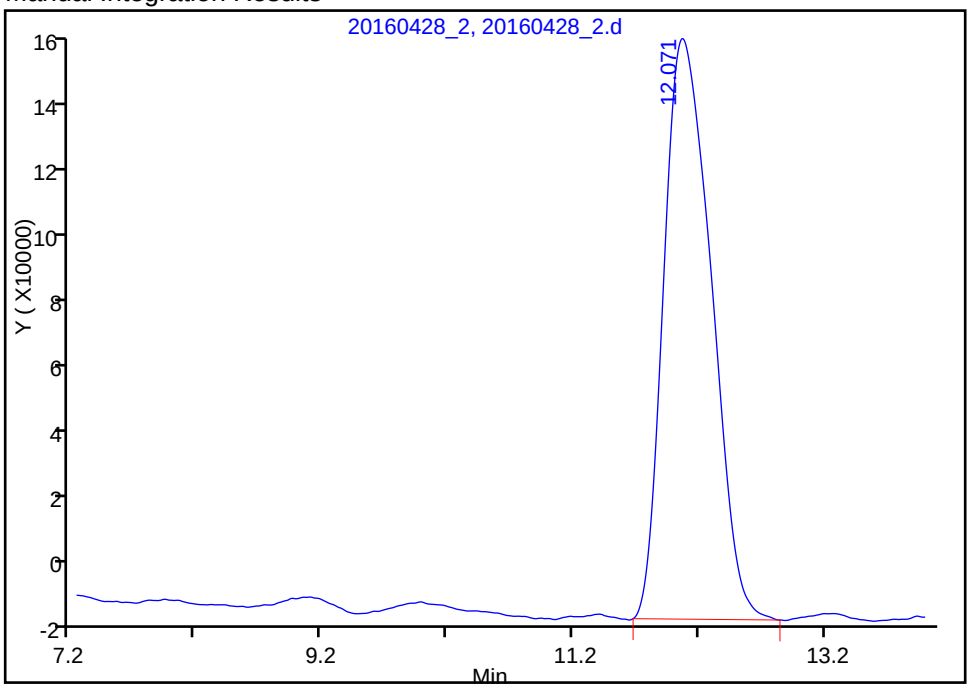
Processing Integration Results

RT: 12.07
Area: 4461649
Amount: 25.063274
Amount Units: ug/l



Manual Integration Results

RT: 12.07
Area: 4391606
Amount: 24.675440
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 08:51:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-327049/5
Matrix: Water
Lab File ID: 20160428_5.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 09:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	3.84	J	4.0	0.95

FORM I 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_5.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	28-Apr-2016 09:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.017	12.061	-0.044	706268	4.00	3.84	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_5.d

Injection Date: 28-Apr-2016 09:07:00 Instrument ID: IC-25 Operator ID:

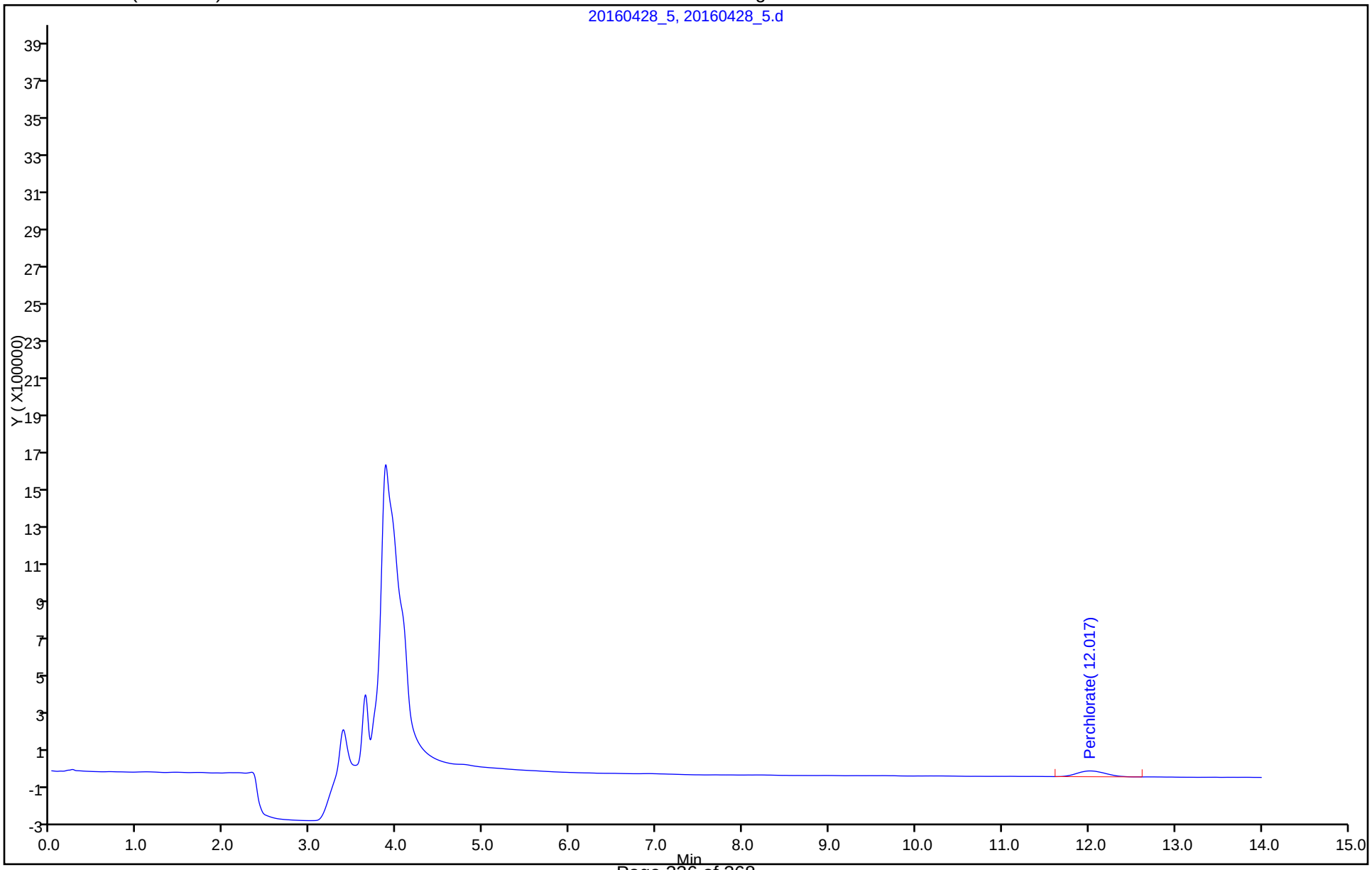
Lims ID: MRL Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: INF 440-327049/4
Matrix: Water
Lab File ID: 20160428_4.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:50
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	23.1		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_4.d				
Lims ID:	INF				
Client ID:					
Sample Type:	INF				
Inject. Date:	28-Apr-2016 08:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	11.961	12.061	-0.100	4113123	25.0	23.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_4.d

Injection Date: 28-Apr-2016 08:50:00 Instrument ID: IC-25 Operator ID:

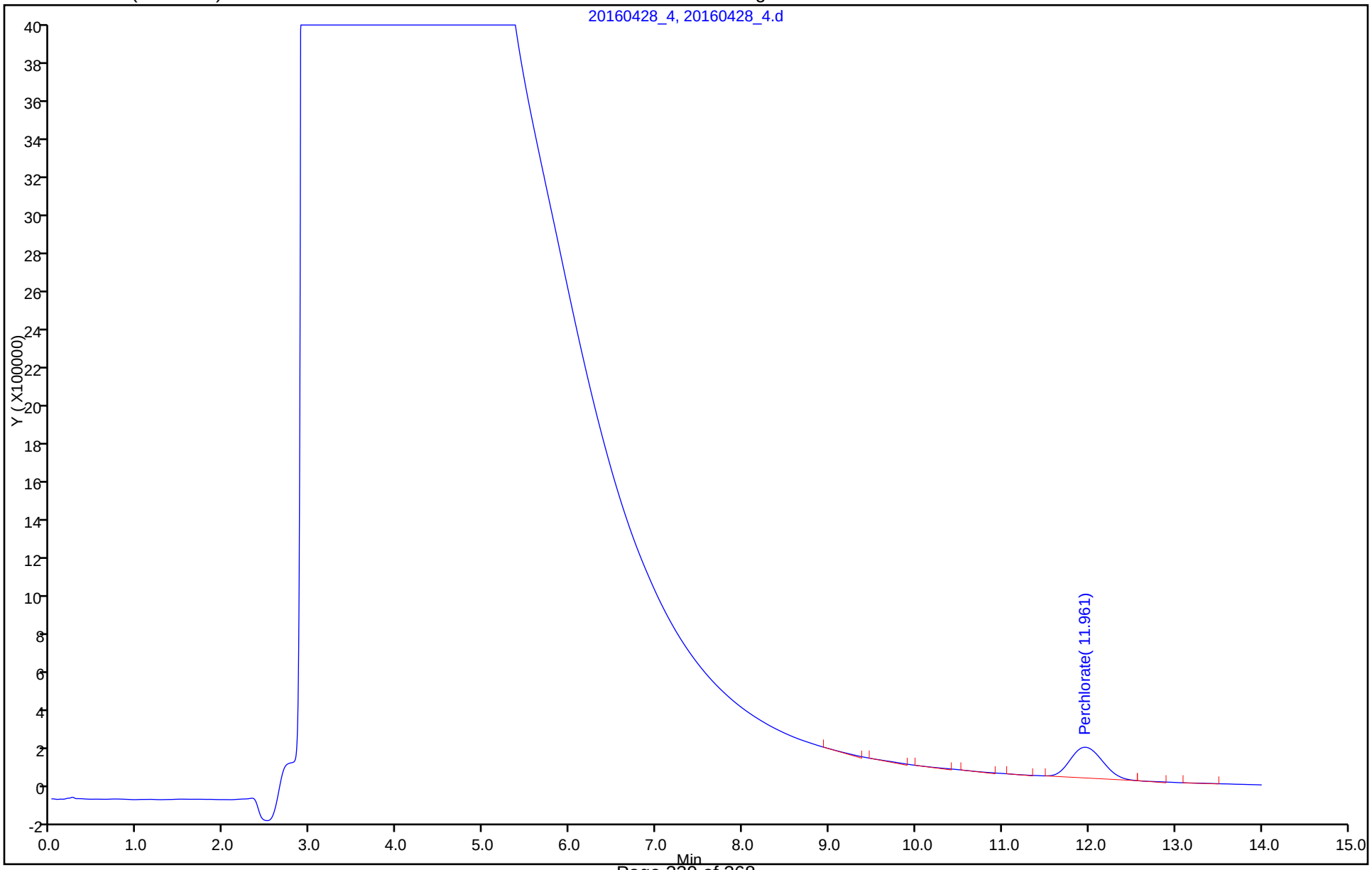
Lims ID: INF Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144937-C-3 MS
Matrix: Water
Lab File ID: 20160428_10.d
Analysis Method: 314.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 10:26
Con. Extract Vol.:
Dilution Factor: 1000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8560		4000	950

FORM I 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_10.d				
Lims ID:	440-144937-C-3 MS				
Client ID:	DBMW-1-20160419				
Sample Type:	MS				
Inject. Date:	28-Apr-2016 10:26:00	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	440-0072408-010				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 11:59:01	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				
First Level Reviewer: hoangch		Date:	28-Apr-2016 10:48:24		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.027	12.061	-0.034	1527386	0.0250	8.56	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

Report Date: 28-Apr-2016 11:59:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_10.d

Injection Date: 28-Apr-2016 10:26:00 Instrument ID: IC-25 Operator ID:

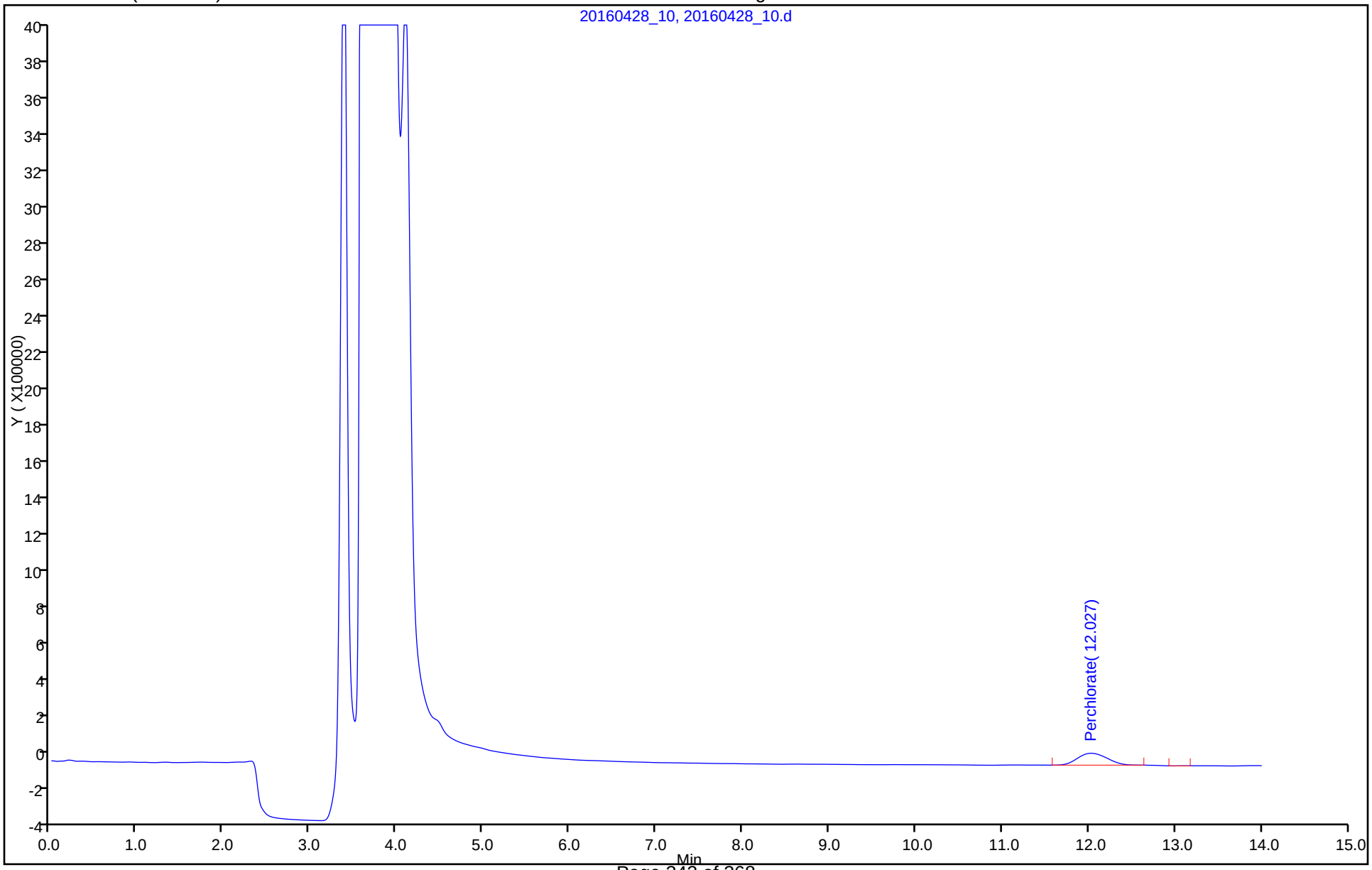
Lims ID: 440-144937-C-3 MS Worklist Smp#: 10

Client ID: DBMW-1-20160419

Injection Vol: 1.0 ul Dil. Factor: 1000.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine

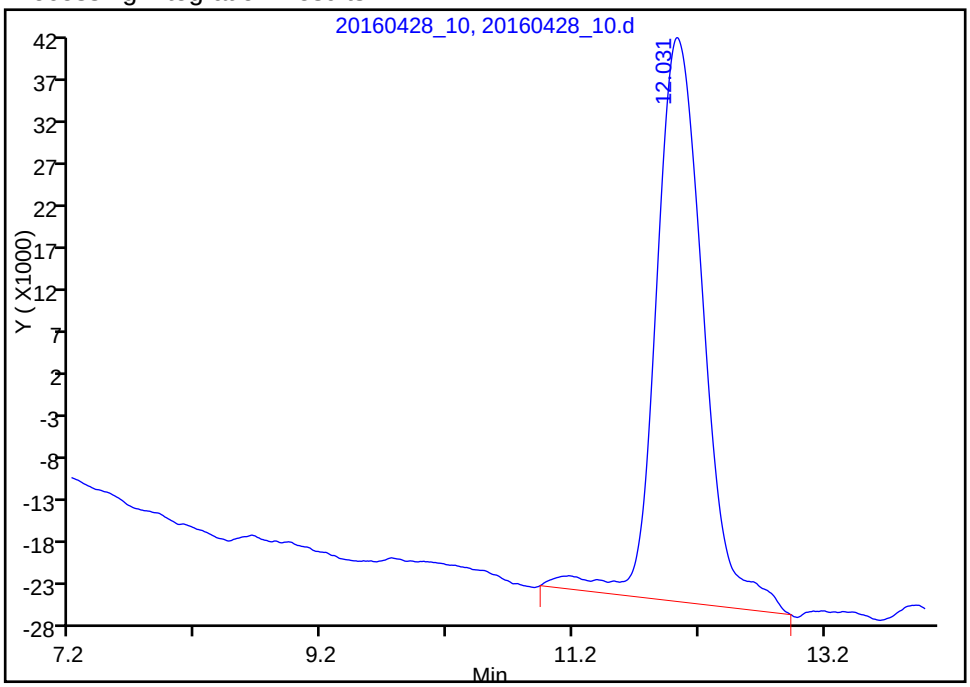
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_10.d				
Injection Date:	28-Apr-2016 10:26:00	Instrument ID:	IC-25		
Lims ID:	440-144937-C-3 MS				
Client ID:	DBMW-1-20160419				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

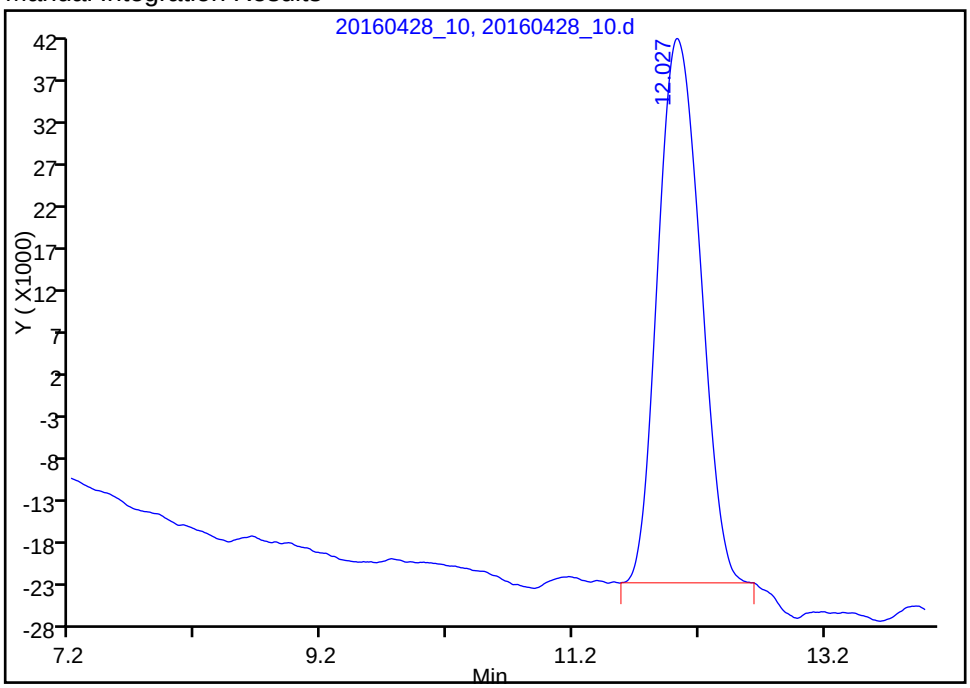
Processing Integration Results

RT: 12.03
Area: 1764215
Amount: 9.910648
Amount Units: ug/l



Manual Integration Results

RT: 12.03
Area: 1527386
Amount: 8.558347
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 10:48:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144937-C-3 MSD
Matrix: Water
Lab File ID: 20160428_11.d
Analysis Method: 314.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 10:43
Con. Extract Vol.:
Dilution Factor: 1000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8640		4000	950

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_11.d				
Lims ID:	440-144937-C-3 MSD				
Client ID:	DBMW-1-20160419				
Sample Type:	MSD				
Inject. Date:	28-Apr-2016 10:43:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	440-0072408-011				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 11:59:01	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 11:07:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.057	12.061	-0.004	1541140	0.0250	8.64	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

Report Date: 28-Apr-2016 11:59:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_11.d

Injection Date: 28-Apr-2016 10:43:00 Instrument ID: IC-25 Operator ID:

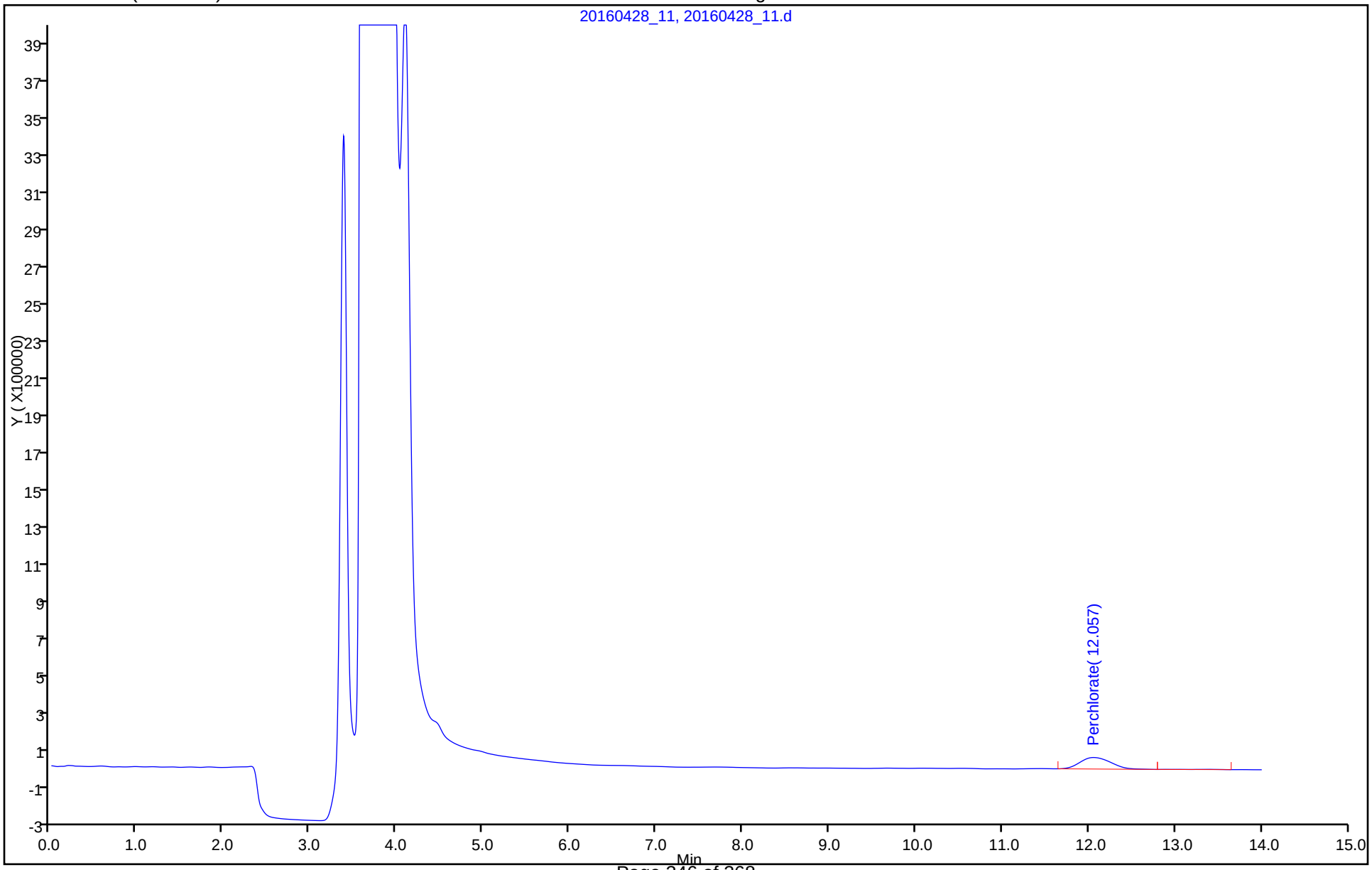
Lims ID: 440-144937-C-3 MSD Worklist Smp#: 11

Client ID: DBMW-1-20160419

Injection Vol: 1.0 ul Dil. Factor: 1000.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

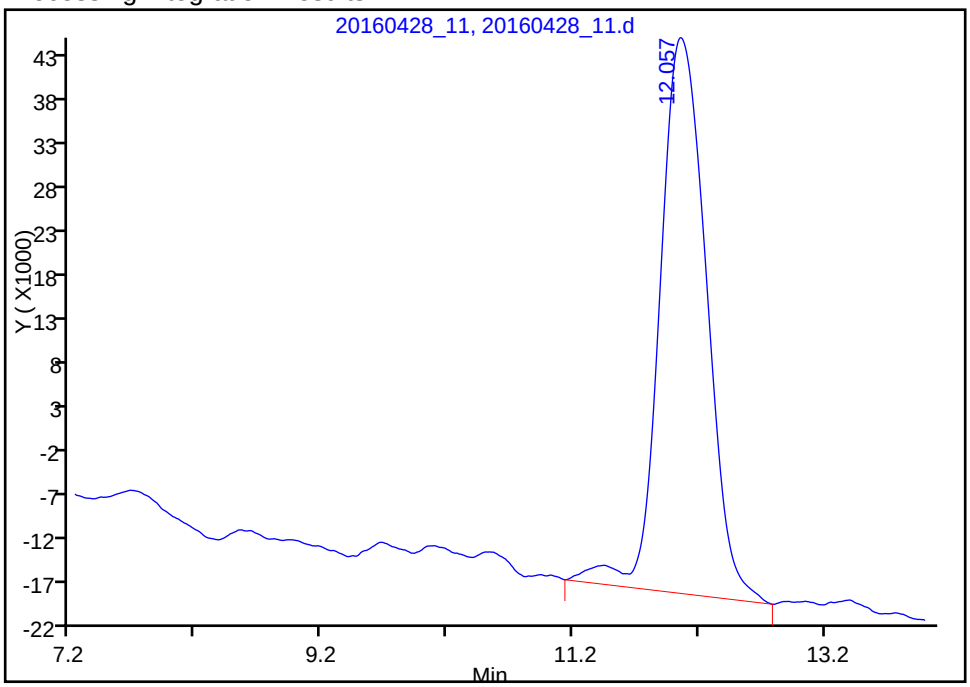
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_11.d				
Injection Date:	28-Apr-2016 10:43:00	Instrument ID:	IC-25		
Lims ID:	440-144937-C-3 MSD				
Client ID:	DBMW-1-20160419				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

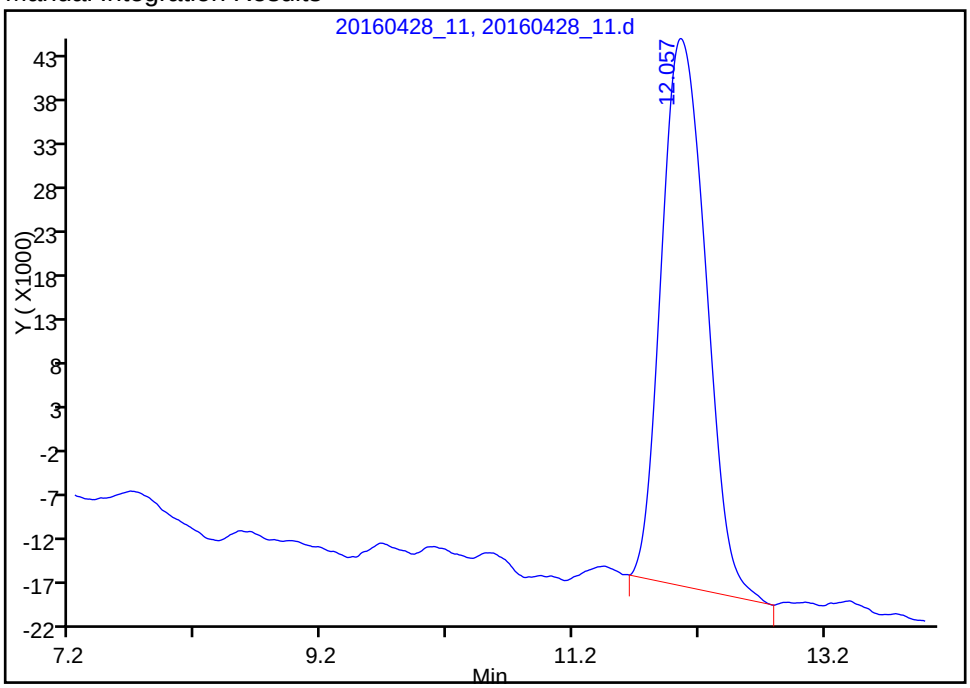
Processing Integration Results

RT: 12.06
Area: 1636773
Amount: 9.183404
Amount Units: ug/l



Manual Integration Results

RT: 12.06
Area: 1541140
Amount: 8.636982
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 11:07:03

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/22/2016 15:00

Analysis Batch Number: 325991 End Date: 04/22/2016 17:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 440-325991/1 IC		04/22/2016 15:00	1		AS7 4(mm)
STD2 440-325991/2 IC		04/22/2016 15:16	1	20160422 ICAL 2.d	AS7 4(mm)
STD3 440-325991/3 IC		04/22/2016 15:33	1	20160422 ICAL 3.d	AS7 4(mm)
STD4 440-325991/4 IC		04/22/2016 15:50	1	20160422 ICAL 4.d	AS7 4(mm)
STD5 440-325991/5 IC		04/22/2016 16:07	1	20160422 ICAL 5.d	AS7 4(mm)
STD6 440-325991/6 IC		04/22/2016 16:24	1	20160422 ICAL 6.d	AS7 4(mm)
STD7 440-325991/7 IC		04/22/2016 16:41	1	20160422 ICAL 7.d	AS7 4(mm)
STD8 440-325991/8 IC		04/22/2016 16:58	1	20160422 ICAL 8.d	AS7 4(mm)
ICV 440-325991/9		04/22/2016 17:14	1	20160422 ICAL 9.d	AS7 4(mm)
ZZZZZ		04/22/2016 17:31	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/28/2016 08:00

Analysis Batch Number: 327049 End Date: 04/29/2016 02:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/28/2016 08:00	1		AS7 4(mm)
LCS 440-327049/2		04/28/2016 08:16	1	20160428_2.d	AS7 4(mm)
CCV 440-327049/1002		04/28/2016 08:16	1	20160428_2-CCV.d	AS7 4(mm)
MB 440-327049/3		04/28/2016 08:33	1	20160428_3.d	AS7 4(mm)
CCB 440-327049/1003		04/28/2016 08:33	1	20160428_3-CCB.d	AS7 4(mm)
INF 440-327049/4		04/28/2016 08:50	1	20160428_4.d	AS7 4(mm)
MRL 440-327049/5		04/28/2016 09:07	1	20160428_5.d	AS7 4(mm)
ZZZZZ		04/28/2016 09:28	1		AS7 4(mm)
ZZZZZ		04/28/2016 09:53	1000		AS7 4(mm)
ZZZZZ		04/28/2016 10:09	10000		AS7 4(mm)
440-144937-C-3 MS		04/28/2016 10:26	1000	20160428_10.d	AS7 4(mm)
440-144937-C-3 MSD		04/28/2016 10:43	1000	20160428_11.d	AS7 4(mm)
ZZZZZ		04/28/2016 11:00	1000		AS7 4(mm)
ZZZZZ		04/28/2016 11:17	1000		AS7 4(mm)
ZZZZZ		04/28/2016 11:34	100		AS7 4(mm)
ZZZZZ		04/28/2016 11:50	100		AS7 4(mm)
CCV 440-327049/16		04/28/2016 12:07	1	20160428_16.d	AS7 4(mm)
CCB 440-327049/17		04/28/2016 12:24	1	20160428_17.d	AS7 4(mm)
ZZZZZ		04/28/2016 12:41	50000		AS7 4(mm)
440-144933-1		04/28/2016 12:57	100	20160428_19.d	AS7 4(mm)
440-144933-2		04/28/2016 13:14	100	20160428_20.d	AS7 4(mm)
440-144933-3		04/28/2016 13:31	100	20160428_21.d	AS7 4(mm)
440-144933-4		04/28/2016 13:48	100	20160428_22.d	AS7 4(mm)
ZZZZZ		04/28/2016 14:05	50000		AS7 4(mm)
ZZZZZ		04/28/2016 14:22	50000		AS7 4(mm)
ZZZZZ		04/28/2016 14:38	50000		AS7 4(mm)
CCV 440-327049/26		04/28/2016 14:55	1	20160428_26.d	AS7 4(mm)
CCB 440-327049/27		04/28/2016 15:12	1	20160428_27.d	AS7 4(mm)
ZZZZZ		04/28/2016 15:29	100		AS7 4(mm)
ZZZZZ		04/28/2016 15:46	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:03	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:20	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:36	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:53	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:10	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:27	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:44	100		AS7 4(mm)
CCV 440-327049/37		04/28/2016 18:01	1		AS7 4(mm)
CCB 440-327049/38		04/28/2016 18:18	1		AS7 4(mm)
ZZZZZ		04/28/2016 18:34	1		AS7 4(mm)
ZZZZZ		04/28/2016 18:51	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:08	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:25	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:42	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/28/2016 08:00

Analysis Batch Number: 327049 End Date: 04/29/2016 02:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/28/2016 19:59	1		AS7 4(mm)
ZZZZZ		04/28/2016 20:16	1		AS7 4(mm)
CCV 440-327049/46		04/28/2016 20:33	1		AS7 4(mm)
CCB 440-327049/47		04/28/2016 20:50	1		AS7 4(mm)
ZZZZZ		04/28/2016 21:06	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:23	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:40	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:57	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:14	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:31	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:48	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:04	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:21	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:38	100		AS7 4(mm)
CCV 440-327049/58		04/28/2016 23:55	1		AS7 4(mm)
CCB 440-327049/59		04/29/2016 00:12	1		AS7 4(mm)
ZZZZZ		04/29/2016 00:29	100		AS7 4(mm)
ZZZZZ		04/29/2016 00:46	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:03	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:20	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:37	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:53	100		AS7 4(mm)
CCV 440-327049/66		04/29/2016 02:10	1		AS7 4(mm)
CCB 440-327049/67		04/29/2016 02:27	1		AS7 4(mm)

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144933-1

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
AA-23R-20160418	440-144933-1
DBMW-8-20160418	440-144933-2
DBMW-7-20160418	440-144933-3
DBMW-7-20160418-FD	440-144933-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: AA-23R-20160418
Lab Sample ID: 440-144933-1
Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 10:00
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	5800	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-8-20160418
Lab Sample ID: 440-144933-2
Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 12:15
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	6300	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-7-20160418
Lab Sample ID: 440-144933-3
Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 14:50
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	6300	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-7-20160418-FD
Lab Sample ID: 440-144933-4
Lab Name: TestAmerica Irvine
Job No.: 440-144933-1
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 14:50
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	6300	100	50	mg/L			1	SM 2540C

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 326016 Date: 04/22/2016 15:57							
SM 2540C	MB 440-326016/1	Total Dissolved Solids	ND		mg/L	10	1

FORM III-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 326016 Date: 04/22/2016 15:57								
SM 2540C	AA-23R-20160418	440-144933-1	Total Dissolved Solids	5800	mg/L			
SM 2540C	AA-23R-20160418	440-144933-1 DU	Total Dissolved Solids	6010	mg/L	3	5	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 326016	Date: 04/22/2016 15:57										
						LCS Source: wctdslcs_00061					
SM 2540C	LCS 440-326016/2	Total Dissolved Solids	976		mg/L	1000	98	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144933-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C MDL Date: 10/04/2010 16:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144933-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C XMDL Date: 11/16/2010 10:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Instrument ID: BAL065 Analysis Method: SM 2540C

Start Date: 04/22/2016 15:57 End Date: 04/22/2016 15:57

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 440-326016/1	1	T	15:57	X																							
LCS 440-326016/2	1	T	15:57	X																							
440-144933-1	1	T	15:57	X																							
440-144933-1 DU	1	T	15:57	X																							
440-144933-2	1	T	15:57	X																							
440-144933-3	1	T	15:57	X																							
440-144933-4	1	T	15:57	X																							
ZZZZZZ			15:57																								
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ZZZZZZ			15:57																								

Prep Types:
T = Total/NA

FORM XIII-IN

Daily Balance Calibration Log

DATE: 4-21-16 Weight Set ID: D-6

INITIALS: CDH Calib Due: 1-11-17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
63	0.50	0.99	50	100	✓	
				CDH 4-21-16		

DATE: 4-22-16 Weight Set ID: D-6

INITIALS: CDH Calib Due: 1-11-17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
63	0.49	1.00	50	100	✓	

DATE: 4/22/16 Weight Set ID: D-8

INITIALS: BL Calib Due: 1/12/17

ID#	~~0.5g~~ 2mg	~~1g~~ 5mg	~~50g~~ 50mg	~~100g~~ 100mg	OK?	COMMENTS/MAINTENANCE
73	0.0020	0.0050	0.0500	0.1000	OK	
	BL					
	4/22/16					

DATE: 04.22.16 Weight Set ID: D-6

INITIALS: MCH Calib Due: 01.11.17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
65	0.5000	1.0000	50.0002	100.0003	OK	
67	0.5000	0.9999	50.0001	100.0001	OK	0.1001 g OK MCH
				04.22.16		

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Batch Number: 326016 Batch Start Date: 04/22/16 15:57 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/25/16 09:55

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	InitialAmount	TareWeight	Weight1	Weight2	Weight3
MB 440-326016/1		SM 2540C			100 mL	75.7563 g	75.7566 g	75.7564 g	0 g
LCS 440-326016/2		SM 2540C			50 mL	78.0297 g	78.0785 g	78.0785 g	0 g
440-144933-C-1	AA-23R-20160418	SM 2540C	T	6910 umhos/cm	10 mL	77.5078 g	77.5660 g	77.5660 g	0 g
440-144933-C-1 DU	AA-23R-20160418	SM 2540C	T	6900 umhos/cm	10 mL	76.7184 g	76.7785 g	76.7785 g	0 g
440-144933-C-2	DBMW-8-20160418	SM 2540C	T	7750 umhos/cm	10 mL	77.7069 g	77.7698 g	77.7698 g	0 g
440-144933-C-3	DBMW-7-20160418	SM 2540C	T	7830 umhos/cm	10 mL	78.1542 g	78.2173 g	78.2173 g	0 g
440-144933-C-4	DBMW-7-20160418-FD	SM 2540C	T	7790 umhos/cm	10 mL	77.3569 g	77.4198 g	77.4199 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 440-326016/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0003 g	0.0001 g	N/A g
LCS 440-326016/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0488 g	0.0488 g	N/A g
440-144933-C-1	AA-23R-20160418	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0582 g	0.0582 g	N/A g
440-144933-C-1 DU	AA-23R-20160418	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0601 g	0.0601 g	N/A g
440-144933-C-2	DBMW-8-20160418	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0629 g	0.0629 g	N/A g
440-144933-C-3	DBMW-7-20160418	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0631 g	0.0631 g	N/A g
440-144933-C-4	DBMW-7-20160418-FD	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0629 g	0.063 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	wctdslcs 00061	AnalysisComment	
MB 440-326016/1		SM 2540C		N/A g	100 mL	OK			
LCS 440-326016/2		SM 2540C		N/A g	100 mL	OK	50 mL		
440-144933-C-1	AA-23R-20160418	SM 2540C	T	N/A g	100 mL	OK			
440-144933-C-1 DU	AA-23R-20160418	SM 2540C	T	N/A g	100 mL	OK			
440-144933-C-2	DBMW-8-20160418	SM 2540C	T	N/A g	100 mL	OK		pH6	
440-144933-C-3	DBMW-7-20160418	SM 2540C	T	N/A g	100 mL	OK		pH6	
440-144933-C-4	DBMW-7-20160418-FD	SM 2540C	T	N/A g	100 mL	OK		pH7	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144933-1

SDG No.:

Batch Number: 326016 Batch Start Date: 04/22/16 15:57 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/25/16 09:55

Batch Notes	
Balance ID	65
Conductivity Meter ID	Cond04
Constant Weight (WT2) Date/Time In	04.25.16@7:30
Constant Weight (WT2) Date/Time Out	04.25.16@8:00
Constant Weight (WT2) Temp In	180 Degrees C
Constant Weight (WT2) Temp Out	180 Degrees C
Uncorrected CW (Wt2) Temp In	0.00 Degrees C
Uncorrected CW (Wt2) Temp Out	0.00 Degrees C
Corrected Temperature in Oven	100 Degrees C
Corrected Temperature out of Oven	100 Degrees C
Date/Time Samples placed in Oven	04/22/16 @18:30
Date/Time Samples Removed from Oven	04.23.16@12:00
Filter Paper ID	9700387
Nominal Amount Used	100 mL
Oven ID	O-08
Pipette ID	135, 105
Thermometer ID	D-015
Uncorrected Out Temperature	0.00 Degrees C
Weight(WT1) Start Date/Time	04.23.16@13:00
Weight(WT1) Date/Time Out	04.23.16@15:00
Weight(WT1) Start Temp	180 Degrees C
Weight(WT1) Temp Out	180 Degrees C
Uncorrected Weight(WT1) Start Temp	0.00 Degrees C
Uncorrected Weight(WT1) Temp Out	0.00 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zoe Diermier	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	X	
AA-23R-20160418	4-18-16	1000	G	W	Y		X	X	X	
DBMW-8-20160418	4-18-16	1215	G	W	Y		X	X	X	
DBMW-7-20160418	4-18-16	1450	G	W	Y		X	X	X	
DBMW-7-20160418-FD	4-18-16	1450	G	W	Y		X	X	X	
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

440-144933 Chain of Custody

4/20/16

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: Fed: 6589 2840 6903

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Zoe Diermier	4/19/16 1430	Aecom	[illegible]	4-19-16 1430	TA
[illegible]	4-19-16 1600	TA	Vu Banell	4/20/16 9:50	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: (CS) 4.3/4.1 38/36 35/33 39/37 IR-78

4.1 TALAS

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-144933-1

Login Number: 144933
List Number: 1
Creator: Avila, Stephanie 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-144933-2

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/11/2016 3:22 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/11/2016

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-144933-2

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/20/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.3º C, 3.6º C, 3.7º C and 4.1º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

METALS (ICPMS)

Samples AA-23R-20160418 (440-144933-1), DBMW-8-20160418 (440-144933-2), DBMW-7-20160418 (440-144933-3) and DBMW-7-20160418-FD (440-144933-4) were analyzed for metals (ICPMS) in accordance with 200.8. The samples were prepared on 04/22/2016 and analyzed on 04/25/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Client Sample ID: AA-23R-20160418 — Lab Sample ID: 440-144933-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	27		4.0	1.0	ug/L	2		200.8	Dissolved

Client Sample ID: DBMW-8-20160418 — Lab Sample ID: 440-144933-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	64		4.0	1.0	ug/L	2		200.8	Dissolved

Client Sample ID: DBMW-7-20160418 — Lab Sample ID: 440-144933-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	66		4.0	1.0	ug/L	2		200.8	Dissolved

Client Sample ID: DBMW-7-20160418-FD — Lab Sample ID: 440-144933-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	63		2.0	0.50	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Client Sample ID: AA-23R-20160418

Lab Sample ID: 440-144933-1
Date Collected: 04/18/16 10:00
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	27		4.0	1.0	ug/L		04/22/16 17:22	04/25/16 15:18	2

Client Sample ID: DBMW-8-20160418

Lab Sample ID: 440-144933-2
Date Collected: 04/18/16 12:15
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	64		4.0	1.0	ug/L		04/22/16 17:22	04/25/16 15:20	2

Client Sample ID: DBMW-7-20160418

Lab Sample ID: 440-144933-3
Date Collected: 04/18/16 14:50
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	66		4.0	1.0	ug/L		04/22/16 17:22	04/25/16 15:23	2

Client Sample ID: DBMW-7-20160418-FD

Lab Sample ID: 440-144933-4
Date Collected: 04/18/16 14:50
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	63		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:30	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units	Method
Chromium	2.0	0.50	ug/L	200.8

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-326042/1-A
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 326042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:00	1

Lab Sample ID: LCS 440-326042/2-A
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 326042

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			80.0	72.9		ug/L		91	85 - 115		

Lab Sample ID: 440-144937-B-3-B MS
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 326042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium	55		80.0	121		ug/L		82	70 - 130		

Lab Sample ID: 440-144937-B-3-C MSD
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 326042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	55		80.0	122		ug/L		84	70 - 130	1	20

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Metals

Prep Batch: 326042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144933-1	AA-23R-20160418	Dissolved	Water	200.2	
440-144933-2	DBMW-8-20160418	Dissolved	Water	200.2	
440-144933-3	DBMW-7-20160418	Dissolved	Water	200.2	
440-144933-4	DBMW-7-20160418-FD	Dissolved	Water	200.2	
440-144937-B-3-B MS	Matrix Spike	Dissolved	Water	200.2	
440-144937-B-3-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
LCS 440-326042/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-326042/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 326501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144933-1	AA-23R-20160418	Dissolved	Water	200.8	326042
440-144933-2	DBMW-8-20160418	Dissolved	Water	200.8	326042
440-144933-3	DBMW-7-20160418	Dissolved	Water	200.8	326042
440-144933-4	DBMW-7-20160418-FD	Dissolved	Water	200.8	326042
440-144937-B-3-B MS	Matrix Spike	Dissolved	Water	200.8	326042
440-144937-B-3-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	326042
CRI 440-326501/10	DL		Water	200.8	
CRI 440-326501/11	DL		Water	200.8	
ICSA 440-326501/12	ICS		Water	200.8	
ICSAB 440-326501/13	ICS		Water	200.8	
LCS 440-326042/2-A	Lab Control Sample	Total Recoverable	Water	200.8	326042
MB 440-326042/1-A	Method Blank	Total Recoverable	Water	200.8	326042

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Client Sample ID: AA-23R-20160418 — Lab Sample ID: 440-144933-1

Date Collected: 04/18/16 10:00 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		2	326501	04/25/16 15:18	RC	TAL IRV

Client Sample ID: DBMW-8-20160418 — Lab Sample ID: 440-144933-2

Date Collected: 04/18/16 12:15 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		2	326501	04/25/16 15:20	RC	TAL IRV

Client Sample ID: DBMW-7-20160418 — Lab Sample ID: 440-144933-3

Date Collected: 04/18/16 14:50 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		2	326501	04/25/16 15:23	RC	TAL IRV

Client Sample ID: DBMW-7-20160418-FD — Lab Sample ID: 440-144933-4

Date Collected: 04/18/16 14:50 — **Matrix: Water**
Date Received: 04/20/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		1	326501	04/25/16 15:30	RC	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144933-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-144933-1	AA-23R-20160418	Water	04/18/16 10:00	04/20/16 09:50
440-144933-2	DBMW-8-20160418	Water	04/18/16 12:15	04/20/16 09:50
440-144933-3	DBMW-7-20160418	Water	04/18/16 14:50	04/20/16 09:50
440-144933-4	DBMW-7-20160418-FD	Water	04/18/16 14:50	04/20/16 09:50

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME HCl_00317	04/06/17	Fisher Chemical, Lot 4115100			(Purchased Reagent)		Stock Chemical	100 %
ME HNO3_00327	04/11/17	Macron Fine Chemicals, Lot 0000129810			(Purchased Reagent)		Stock Chemical	1 %
ME ICPMS CAL_00027	07/09/16	02si, Lot 1084886			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
MEICPMS4 CCV_00993	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME_CALSTD#1_00004	1.25 mL	Chromium	50 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 ICSA_00993	01/01/18	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100000 ug/L
							Ca	100000 ug/L
							Fe	100000 ug/L
							K	100000 ug/L
							Mg	100000 ug/L
							Mo	2000 ug/L
							Na	100000 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MEICPMS4 ICSB_00991	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100020 ug/L
							Ca	101000 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mo	2020 ug/L
							Na	100500 ug/L
					ME_CALSTD#1_00004	0.2 mL	Ag	20 ug/L
							Al	100020 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Ca	101000 ug/L
							Cd	20 ug/L
							Ce	20 ug/L
							Chromium	20 ug/L
							Co	20 ug/L
							Cu	20 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mn	20 ug/L
							Na	100500 ug/L
							Ni	20 ug/L
							Pb	20 ug/L
							Se	20 ug/L
							Sr	20 ug/L
							Tl	20 ug/L
							U	20 ug/L
							V	20 ug/L
							Zn	20 ug/L
					ME_CALSTD#2_00006	0.2 mL	Mo	2020 ug/L
							Sb	20 ug/L
							Sn	20 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Se	10 mg/L
							Sr	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
.ME_CALSTD#2_00006	11/01/16	Inorganic Ventures, Lot J2-MEB598153			(Purchased Reagent)		Mo	10 mg/L
							Sb	10 mg/L
							Sn	10 mg/L
MEICPMS4 ICV_00997	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_ICPMSICV#1_00002	250 uL	Chromium	25 ug/L
.ME_ICPMSICV#1_00002	08/01/16	Inorganic Ventures, Lot J2-MEB591026			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD1_01155	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01012	2 mL	Chromium	0.2 ug/L
.MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD2_00997	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01012	10 mL	Chromium	1 ug/L
.MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
.MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
..ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4_CRI_01004	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00005	1 mL	Chromium	1 ug/L
.ME_CRI_30_00005	02/01/17	O2si, Lot 1084922			(Purchased Reagent)		Chromium	100 ug/L
MEICPMS4_CRI_01005	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00004	2 mL	Chromium	2 ug/L
.ME_CRI_30_00004	11/01/16	O2si, Lot 1081670			(Purchased Reagent)		Chromium	100 ug/L

Reagent

ME_CALSTD#1_00004

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

2.0 PRODUCT DESCRIPTION

ID: 3053619
Open: 12/12/15
CAL STD #1

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-83
Lot Number:	J2-MEB598151
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 mg/L ea:
	Ca,
	250 mg/L ea:
	K, Mg, Na,
	100 mg/L ea:
	Fe,
	10 mg/L ea:
	Ag, Al, As,
	B, Ba, Be,
	Cd, Ce, Co,
	Cr3, Cu, Mn,
	Ni, Pb, Se,
	Sr, Tl, U,
	V, Zn

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	9.99 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.09 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	9.99 ± 0.07 mg/L
Boron, B	10.00 ± 0.07 mg/L	Cadmium, Cd	9.99 ± 0.06 mg/L
Calcium, Ca	500.2 ± 2.3 mg/L	Cerium, Ce	10.00 ± 0.06 mg/L
Chromium+3, Cr3	10.00 ± 0.06 mg/L	Cobalt, Co	10.00 ± 0.06 mg/L
Copper, Cu	10.00 ± 0.06 mg/L	Iron, Fe	100.0 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.2 mg/L
Manganese, Mn	10.00 ± 0.06 mg/L	Nickel, Ni	10.00 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.00 ± 0.06 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	249.9 ± 1.1 mg/L
Strontium, Sr	10.00 ± 0.06 mg/L	Thallium, Tl	10.00 ± 0.08 mg/L
Uranium, U	10.00 ± 0.06 mg/L	Vanadium, V	10.00 ± 0.06 mg/L
Zinc, Zn	10.00 ± 0.07 mg/L		

Certified Density: 1.029 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	Calculated		See Sec. 4.2
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Gravimetric		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) \approx 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean

x_i = individual results

n = number of measurements

2 = the coverage factor.

$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01 N 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_CALSTD#2_00006

INORGANIC VENTURES
300 Technology Drive
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inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-82
Lot Number:	J2-MEB598153
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 mg/L ea: Mo, Sb, Sn, Ti, 2.5 mg/L ea: Zr

CAL STD #2
ID: 3053620
open: 12/12/15

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**10.00 ± 0.09 mg/L**	**Molybdenum, Mo**	**10.00 ± 0.07 mg/L**
Tin, Sn	**10.00 ± 0.06 mg/L**	**Titanium, Ti**	**10.00 ± 0.08 mg/L**
Zirconium, Zr	**2.501 ± 0.016 mg/L**		

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Sb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102A	061229
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Ti	ICP Assay	3162a	060808
Zr	Calculated		See Sec. 4.2
Zr	ICP Assay	3169	071226

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ — $(\bar{x})$ = mean; x_i = individual results; n = number of measurements

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$ — 2 = the coverage factor. $[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01/2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_ICPMSICV#1_00002

INORGANIC™ VENTURES
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CERTIFICATE OF ANALYSIS

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info@inorganicventures.com

2P 9/1/16

ACCREDITED Testing Laboratory Certificate 853 01
ACCREDITED Reference Material Producer Certificate 853 02

2818801

2818801
ID: ME_ICPMSICV#1_00002
Exp:08/01/16 Prpd:RC Opn:09/01/15
INORGANIC ICV #1

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-83QC
Lot Number:	J2-MEB591026
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 mg/L ea:

Ca,

250 mg/L ea:

K,	Mg,	Na,

100 mg/L ea:

Fe,

10 mg/L ea:

Ag,	Al,	As,
B,	Ba,	Be,
Cd,	Ce,	Co,
Cr3,	Cu,	Mn,
Ni,	Pb,	Se,
Sr,	Tl,	U,
V,	Zn	

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.07 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	10.01 ± 0.07 mg/L
Boron, B	9.99 ± 0.09 mg/L	Cadmium, Cd	10.00 ± 0.06 mg/L
Calcium, Ca	500.1 ± 2.3 mg/L	Cerium, Ce	10.01 ± 0.06 mg/L
Chromium+3, Cr^{3+}	9.99 ± 0.06 mg/L	Cobalt, Co	9.99 ± 0.06 mg/L
Copper, Cu	9.99 ± 0.06 mg/L	Iron, Fe	100.1 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.1 mg/L
Manganese, Mn	9.99 ± 0.06 mg/L	Nickel, Ni	10.01 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.01 ± 0.07 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	250.0 ± 1.1 mg/L
Strontium, Sr	10.02 ± 0.06 mg/L	Thallium, Tl	9.99 ± 0.07 mg/L
Uranium, U	10.02 ± 0.07 mg/L	Vanadium, V	10.02 ± 0.06 mg/L
Zinc, Zn	10.01 ± 0.06 mg/L		

Certified Density: 1.030 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	060502
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3181	000630
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 08, 2015

11.2 Expiration Date

EXPIRES
1 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Irvine Job Number: 440-144933-2

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
AA-23R-20160418	440-144933-1
DBMW-8-20160418	440-144933-2
DBMW-7-20160418	440-144933-3
DBMW-7-20160418-FD	440-144933-4

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: AA-23R-20160418

Lab Sample ID: 440-144933-1

Lab Name: TestAmerica Irvine

Job No.: 440-144933-2

SDG ID.:

Matrix: Water

Date Sampled: 04/18/2016 10:00

Reporting Basis: WET

Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	27	4.0	1.0	ug/L			2	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-8-20160418
Lab Sample ID: 440-144933-2
Lab Name: TestAmerica Irvine
Job No.: 440-144933-2
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 12:15
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	64	4.0	1.0	ug/L			2	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-7-20160418
Lab Sample ID: 440-144933-3
Lab Name: TestAmerica Irvine
Job No.: 440-144933-2
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 14:50
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	66	4.0	1.0	ug/L			2	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-7-20160418-FD
Lab Sample ID: 440-144933-4
Lab Name: TestAmerica Irvine
Job No.: 440-144933-2
SDG ID.:
Matrix: Water
Date Sampled: 04/18/2016 14:50
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	63	2.0	0.50	ug/L			1	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

ICV Source: MEICPMS4 ICV_00997 Concentration Units: ug/L

CCV Source: MEICPMS4 CCV_00993

Analyte	ICV 440-326501/7 04/25/2016 13:46				CCV 440-326501/25 04/25/2016 15:25				CCV 440-326501/30 04/25/2016 15:38			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	24.5		25.0	98	48.6		50.0	97	48.3		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Method: 200.8 Instrument ID: ICPMS5

Lab Sample ID: CRI 440-326501/10 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01004

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	1.00	1.06	J	106	50-150

Lab Sample ID: CRI 440-326501/11 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	2.00	1.92	J	96	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-326501/8 04/25/2016 14:43		CCB 440-326501/26 04/25/2016 15:28		CCB 440-326501/31 04/25/2016 15:40			
		Found	C	Found	C	Found	C	Found	C
Chromium	2.0	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-326042/1-A

Instrument Code: ICPMS5 Batch No.: 326501

CAS No.	Analyte	Concentration	C	Q	Method
7440-47-3	Chromium	ND			200.8

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Lab Sample ID: ICSA 440-326501/12 Instrument ID: ICPMS5

Lab File ID: 012ICSA.d ICS Source: MEICPMS4 ICSA_00993

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Chromium		**1.32**	
Aluminum	*100000*	*100479*	*100*
Antimony		*0.0820*	
Arsenic		*0.106*	
Barium		*0.111*	
Beryllium		*-0.0600*	
Ca	*100000*	*95662*	*96*
Cadmium		*0.856*	
Cerium		*0.0240*	
Cobalt		*0.0370*	
Copper		*0.295*	
Iron	*100000*	*97598*	*98*
K	*100000*	*101402*	*101*
Lead		*0.233*	
Manganese		*0.346*	
Mg	*100000*	*101840*	*102*
Molybdenum	*2000*	*2168*	*108*
Na	*100000*	*104378*	*104*
Nickel		*0.702*	
Selenium		*0.0510*	
Silver		*0.0270*	
Sn		*0.0730*	
Sr		*0.473*	
Thallium		*0.0020*	
Uranium		*0.0000*	
Vanadium		*0.0240*	
Zinc		*1.77*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Lab Sample ID: ICSAB 440-326501/13 Instrument ID: ICPMS5

Lab File ID: 013ICSB.d ICS Source: MEICPMS4 ICSB_00991

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Chromium	**20.0**	**20.8**	**104**
Aluminum	*100000*	*102173*	*102*
Antimony	*20.0*	*21.4*	*107*
Arsenic	*20.0*	*20.4*	*102*
Barium	*20.0*	*21.1*	*106*
Beryllium	*20.0*	*20.1*	*101*
Ca	*101000*	*99722*	*99*
Cadmium	*20.0*	*20.6*	*103*
Cerium	*20.0*	*20.8*	*104*
Cobalt	*20.0*	*19.1*	*95*
Copper	*20.0*	*18.9*	*95*
Iron	*100000*	*99552*	*99*
K	*101000*	*103777*	*103*
Lead	*20.0*	*21.3*	*106*
Manganese	*20.0*	*20.3*	*101*
Mg	*101000*	*103514*	*103*
Molybdenum	*2020*	*2182*	*108*
Na	*101000*	*106430*	*106*
Nickel	*20.0*	*19.6*	*98*
Selenium	*20.0*	*19.7*	*99*
Silver	*20.0*	*19.6*	*98*
Sn	*20.0*	*21.1*	*106*
Sr	*20.0*	*20.6*	*103*
Thallium	*20.0*	*18.9*	*94*
Uranium	*20.0*	*20.5*	*102*
Vanadium	*20.0*	*20.3*	*101*
Zinc	*20.0*	*19.7*	*99*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 440-144937-B-3-B MS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	121		55		80.0	82	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 440-144937-B-3-C MSD

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Chromium	122		80.0	84	70-130	1	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-326042/2-A

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

Sample Matrix: Water LCS Source: ME ICPMS CAL_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Chromium	80.0	72.9		91	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-144933-2

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 200.8 MDL Date: 08/15/2014 16:02

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-144933-2

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 200.8 XMDL Date: 08/15/2014 16:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Irvine Job No: 440-144933-2

SDG No.:

Instrument ID: ICPMS5 Date: 12/06/2012 11:03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Chromium		4500	200.8

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-326042/1-A	04/22/2016 17:22	326042		25	25
LCS 440-326042/2-A	04/22/2016 17:22	326042		25	25
440-144937-B-3-B MS	04/22/2016 17:22	326042		25	25
440-144937-B-3-C MSD	04/22/2016 17:22	326042		25	25
440-144933-1	04/22/2016 17:22	326042		25	25
440-144933-2	04/22/2016 17:22	326042		25	25
440-144933-3	04/22/2016 17:22	326042		25	25
440-144933-4	04/22/2016 17:22	326042		25	25

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Instrument ID: ICPMS5 Analysis Method: 200.8

Start Date: 04/25/2016 13:30 End Date: 04/25/2016 15:40

Lab Sample Id	D/F	Type	Time	Analytes																							
				Cr																							
ZZZZZZ			13:30																								
STD0 440-326501/2 IC	1		13:33	X																							
STD1 440-326501/3 IC	1		13:35	X																							
STD2 440-326501/4 IC	1		13:38	X																							
STD3 440-326501/5 IC	1		13:41	X																							
STD4 440-326501/6 IC	1		13:44	X																							
ICV 440-326501/7	1		13:46	X																							
ICB 440-326501/8	1		14:43	X																							
ZZZZZZ			14:45																								
CRI 440-326501/10	1		14:48	X																							
CRI 440-326501/11	1		14:50	X																							
ICSA 440-326501/12	1		14:53	X																							
ICSAB 440-326501/13	1		14:55	X																							
RINSE 440-326501/14			14:58																								
MB 440-326042/1-A	1	R	15:00	X																							
LCS 440-326042/2-A	1	R	15:03	X																							
ZZZZZZ			15:05																								
440-144937-B-3-B MS	1	D	15:08	X																							
440-144937-B-3-C MSD	1	D	15:10	X																							
ZZZZZZ			15:13																								
ZZZZZZ			15:15																								
440-144933-1	2	D	15:18	X																							
440-144933-2	2	D	15:20	X																							
440-144933-3	2	D	15:23	X																							
CCV 440-326501/25	1		15:25	X																							
CCB 440-326501/26	1		15:28	X																							
440-144933-4	1	D	15:30	X																							
ZZZZZZ			15:33																								
ZZZZZZ			15:35																								
CCV 440-326501/30	1		15:38	X																							
CCB 440-326501/31	1		15:40	X																							

Prep Types:
D = Dissolved
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

ICP-MS Instrument ID: ICPMS5 Start Date: 04/25/2016 End Date: 04/25/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
STD0 440-326501/2 I	13:33	100		100		100		100		100	
STD1 440-326501/3 I	13:35	102		102		103		102		103	
STD2 440-326501/4 I	13:38	101		103		103		104		104	
STD3 440-326501/5 I	13:41	102		102		102		103		104	
STD4 440-326501/6 I	13:44	101		101		101		102		103	
ICV 440-326501/7	13:46	100		101		102		103		103	
ICB 440-326501/8	14:43	97		97		98		96		97	
CRI 440-326501/10	14:48	98		98		97		98		99	
CRI 440-326501/11	14:50	97		96		96		96		96	
ICSA 440-326501/12	14:53	90		88		84		88		81	
ICSAB 440-326501/13	14:55	93		92		87		91		83	
MB 440-326042/1-A	15:00	100		101		99		99		99	
LCS 440-326042/2-A	15:03	100		101		98		99		98	
440-144937-B-3-B MS	15:08	99		89		85		86		75	
440-144937-B-3-C MS	15:10	104		93		88		90		79	
440-144933-1	15:18	101		93		88		90		80	
440-144933-2	15:20	107		97		92		92		81	
440-144933-3	15:23	107		99		93		93		81	
CCV 440-326501/25	15:25	111		109		106		101		100	
CCB 440-326501/26	15:28	109		108		104		101		99	
440-144933-4	15:30	100		90		84		86		73	
CCV 440-326501/30	15:38	109		107		104		99		97	
CCB 440-326501/31	15:40	108		106		103		99		98	

FORM XV - IN

Agilent 1ppb Tuning Solution: 3276953

ICPMS P/A Tuning Solution: 32769556

ICPMS EPA Tuning Solution: 3276958

ICPMS Internal Standard Solution: 3264770

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Data File	Acq. Date-Time	Type	Vial Number	Sample Name	Comment
001SMPL.d	4/25/2016 1:30 PM	Sample	1	Blank	
002CALB.d	4/25/2016 1:33 PM	CalBlk	1	STD0-3321393	BLANK
003CALS.d	4/25/2016 1:35 PM	CalStd	2	STD1-3321392	0.2 PPB
004CALS.d	4/25/2016 1:38 PM	CalStd	3	STD2-3321391	1.0 PPB
005CALS.d	4/25/2016 1:41 PM	CalStd	4	STD3-3321390	10.0 PPB
006CALS.d	4/25/2016 1:44 PM	CalStd	5	STD4-3321389	100 PPB
007_ICV.d	4/25/2016 1:46 PM	ICV	2101	ICV-3321388	25 PPB
008_ICB.d	4/25/2016 2:43 PM	ICB	1	ICB-3321393	
009RL_2.d	4/25/2016 2:45 PM	RL0_2	2	XCRI-3321396	+/- 50% 0.2PPB RL CHK
010_RL1.d	4/25/2016 2:48 PM	RL1_0	2102	CRI-3321397	+/- 50% 1xRL CHK
011_RL2.d	4/25/2016 2:50 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL CHK
012ICSA.d	4/25/2016 2:53 PM	ICSA	2104	ICSA-3321399	
013ICSB.d	4/25/2016 2:55 PM	ICSB	2105	ICSAB-3321400	
014SMPL.d	4/25/2016 2:58 PM	Sample	2107	RINSE	
015_MB.d	4/25/2016 3:00 PM	MB	3111	mb 440-326042/1-a	CR 200.8D 440-326042 EN/TK
016_LCS.d	4/25/2016 3:03 PM	LCS	3112	lcs 440-326042/2-a	CR 200.8D 440-326042 EN/TK
017SMPL.d	4/25/2016 3:05 PM	Sample	3201	440-144937-b-3-a	CR 200.8D 440-326042 EN/TK
018SMPL.d	4/25/2016 3:08 PM	Sample	3202	440-144937-b-3-b ms	CR 200.8D 440-326042 EN/TK
019SMPL.d	4/25/2016 3:10 PM	Sample	3203	440-144937-b-3-c msd	CR 200.8D 440-326042 EN/TK
020SMPL.d	4/25/2016 3:13 PM	Sample	3204	440-144937-b-1-a@2	CR 200.8D 440-326042 EN/TK
021SMPL.d	4/25/2016 3:15 PM	Sample	3205	440-144937-b-2-a@2	CR 200.8D 440-326042 EN/TK
022SMPL.d	4/25/2016 3:18 PM	Sample	3206	440-144933-b-1-a@2	CR 200.8D 440-326042 EN/TK
023SMPL.d	4/25/2016 3:20 PM	Sample	3207	440-144933-b-2-a@2	CR 200.8D 440-326042 EN/TK
024SMPL.d	4/25/2016 3:23 PM	Sample	3208	440-144933-b-3-a@2	CR 200.8D 440-326042 EN/TK
025_CCV.d	4/25/2016 3:25 PM	CCV	2201	CCV-3321395	
026_CCB.d	4/25/2016 3:28 PM	CCB	2301	CCB-3321393	
027SMPL.d	4/25/2016 3:30 PM	Sample	3209	440-144933-b-4-a	CR 200.8D 440-326042 EN/TK
028SMPL.d	4/25/2016 3:33 PM	Sample	3210	440-144940-c-1-a	CR 200.8D 440-326042 EN/TK
029SMPL.d	4/25/2016 3:35 PM	Sample	3211	440-144940-c-2-a	CR 200.8D 440-326042 EN/TK
030_CCV.d	4/25/2016 3:38 PM	CCV	2201	CCV-3321395	
031_CCB.d	4/25/2016 3:40 PM	CCB	2301	CCB-3321393	
032_MB.d	4/25/2016 4:29 PM	MB	3212	mb 440-325535/1-a@20	AG SOIL BP 440-325535 TKRD
033SMPL.d	4/25/2016 4:32 PM	Sample	3301	lcs 440-325535/2-a@20	AG SOIL BP 440-325535 TKRD
034SMPL.d	4/25/2016 4:34 PM	Sample	3302	440-143720-a-20-d@20	AG SOIL BP 440-325535 TKRD
035SMPL.d	4/25/2016 4:36 PM	Sample	3303	440-143720-a-20-e ms@20	AG SOIL BP 440-325535 TKRD
036SMPL.d	4/25/2016 4:39 PM	Sample	3304	440-143720-a-20-f msd@20	AG SOIL BP 440-325535 TKRD
037SMPL.d	4/25/2016 4:41 PM	Sample	3305	440-143720-a-20-d pds@20	AG SOIL BP 440-325535 TKRD
038SMPL.d	4/25/2016 4:43 PM	Sample	3306	440-143720-a-1-h@20	AG SOIL BP 440-325535 TKRD
039SMPL.d	4/25/2016 4:46 PM	Sample	3307	440-143720-a-1-h SD@100	AG SOIL BP 440-325535 TKRD
040_CCV.d	4/25/2016 4:48 PM	CCV	2201	CCV-3321395	
041_CCB.d	4/25/2016 4:51 PM	CCB	2301	CCB-3321393	
042SMPL.d	4/25/2016 4:53 PM	Sample	3308	440-143720-a-2-d@20	AG SOIL BP 440-325535 TKRD
043SMPL.d	4/25/2016 4:56 PM	Sample	3309	440-143720-a-3-d@20	AG SOIL BP 440-325535 TKRD
044SMPL.d	4/25/2016 4:58 PM	Sample	3310	440-143720-a-4-e@20	AG SOIL BP 440-325535 TKRD
045SMPL.d	4/25/2016 5:01 PM	Sample	3311	440-143720-a-5-d@20	AG SOIL BP 440-325535 TKRD
046SMPL.d	4/25/2016 5:03 PM	Sample	3312	440-143720-a-6-d@20	AG SOIL BP 440-325535 TKRD
047SMPL.d	4/25/2016 5:05 PM	Sample	3401	440-143720-a-7-d@20	AG SOIL BP 440-325535 TKRD
048SMPL.d	4/25/2016 5:08 PM	Sample	3402	440-143720-a-8-d@20	AG SOIL BP 440-325535 TKRD
049SMPL.d	4/25/2016 5:10 PM	Sample	3403	440-143720-a-9-d@20	AG SOIL BP 440-325535 TKRD
050SMPL.d	4/25/2016 5:13 PM	Sample	3404	440-143720-a-10-e@20	AG SOIL BP 440-325535 TKRD
051_CCV.d	4/25/2016 5:15 PM	CCV	2201	CCV-3321395	
052_CCB.d	4/25/2016 5:17 PM	CCB	2301	CCB-3321393	

053SMPL.d	4/25/2016 5:20 PM	Sample	3405	440-143720-a-11-f@20	AG SOIL BP 440-325535 TKRD
054SMPL.d	4/25/2016 5:22 PM	Sample	3406	440-143720-a-12-d@20	AG SOIL BP 440-325535 TKRD
055SMPL.d	4/25/2016 5:25 PM	Sample	3407	440-143720-a-13-d@20	AG SOIL BP 440-325535 TKRD
056SMPL.d	4/25/2016 5:27 PM	Sample	3408	440-143720-a-14-d@20	AG SOIL BP 440-325535 TKRD
057SMPL.d	4/25/2016 5:30 PM	Sample	3409	440-143720-a-15-d@20	AG SOIL BP 440-325535 TKRD
058SMPL.d	4/25/2016 5:32 PM	Sample	3410	440-143720-a-16-d@20	AG SOIL BP 440-325535 TKRD
059SMPL.d	4/25/2016 5:35 PM	Sample	3411	440-143720-a-17-d@20	AG SOIL BP 440-325535 TKRD
060SMPL.d	4/25/2016 5:37 PM	Sample	3412	440-143720-a-18-d@20	AG SOIL BP 440-325535 TKRD
061SMPL.d	4/25/2016 5:39 PM	Sample	3501	440-143720-a-19-e@20	AG SOIL BP 440-325535 TKRD
062_CCV.d	4/25/2016 5:44 PM	CCV	2201	CCV-3321395	
063_CCB.d	4/25/2016 5:46 PM	CCB	2301	CCB-3321393	
064_RL2.d	4/25/2016 5:49 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL BP CHK
065ICSA.d	4/25/2016 5:51 PM	ICSA	2104	ICSA-3321399	BP CHK A
066ICSB.d	4/25/2016 5:54 PM	ICSB	2105	ICSAB-3321400	BP CHK B
067SMPL.d	4/25/2016 5:56 PM	Sample	2107	RINSE	
068SMPL.d	4/25/2016 5:59 PM	Sample	2107	RINSE	
069_CCV.d	4/25/2016 6:01 PM	CCV	2201	CCV-3321395	
070_CCB.d	4/25/2016 6:04 PM	CCB	2301	CCB-3321393	
071_MB.d	4/25/2016 6:27 PM	MB	3101	mb 440-325847/1-a@20	BP CAM SOIL 440-325847 TK
072SMPL.d	4/25/2016 6:30 PM	Sample	3102	lcs 440-325847/2-a@20	BP CAM SOIL 440-325847 TK
073SMPL.d	4/25/2016 6:32 PM	Sample	3103	440-145123-a-1-a@20	BP CAM SOIL 440-325847 TK
074SMPL.d	4/25/2016 6:35 PM	Sample	3104	440-145123-a-1-b ms@20	BP CAM SOIL 440-325847 TK
075SMPL.d	4/25/2016 6:37 PM	Sample	3105	440-145123-a-1-c msd@20	BP CAM SOIL 440-325847 TK
076SMPL.d	4/25/2016 6:39 PM	Sample	3106	440-145123-a-1-a@20	BP CAM SOIL 440-325847 TK
077SMPL.d	4/25/2016 6:42 PM	Sample	3107	440-145123-a-2-a PDS@20	BP CAM SOIL 440-325847 TK
078SMPL.d	4/25/2016 6:44 PM	Sample	2107	RINSE	
079SMPL.d	4/25/2016 6:47 PM	Sample	2107	RINSE	
080_CCV.d	4/25/2016 6:49 PM	CCV	2201	CCV-3321395	
081_CCB.d	4/25/2016 6:52 PM	CCB	2301	CCB-3321393	
082SMPL.d	4/25/2016 6:54 PM	Sample	3108	440-145123-a-2-a@20	BP CAM SOIL 440-325847 TK
083SMPL.d	4/25/2016 6:57 PM	Sample	3109	440-145123-a-3-a SD@100	BP CAM SOIL 440-325847 TK
084SMPL.d	4/25/2016 6:59 PM	Sample	3110	440-145123-a-4-a@20	BP CAM SOIL 440-325847 TK
085SMPL.d	4/25/2016 7:01 PM	Sample	3111	440-145123-a-5-a@20	BP CAM SOIL 440-325847 TK
086SMPL.d	4/25/2016 7:04 PM	Sample	3112	440-145123-a-6-a@20	BP CAM SOIL 440-325847 TK
087SMPL.d	4/25/2016 7:06 PM	Sample	3201	440-145123-a-7-a@20	BP CAM SOIL 440-325847 TK
088SMPL.d	4/25/2016 7:09 PM	Sample	2107	RINSE	
089SMPL.d	4/25/2016 7:11 PM	Sample	2107	RINSE	
090_CCV.d	4/25/2016 7:14 PM	CCV	2201	CCV-3321395	
091_CCB.d	4/25/2016 7:16 PM	CCB	2301	CCB-3321393	
092SMPL.d	4/25/2016 7:19 PM	Sample	3202	440-145123-a-8-a@20	BP CAM SOIL 440-325847 TK
093SMPL.d	4/25/2016 7:21 PM	Sample	3203	440-145123-a-9-a@20	BP CAM SOIL 440-325847 TK
094SMPL.d	4/25/2016 7:24 PM	Sample	3204	440-145123-a-10-a@20	BP CAM SOIL 440-325847 TK
095SMPL.d	4/25/2016 7:26 PM	Sample	3205	440-145123-a-11-a@20	BP CAM SOIL 440-325847 TK
096SMPL.d	4/25/2016 7:29 PM	Sample	3206	440-145123-a-12-a@20	BP CAM SOIL 440-325847 TK
097SMPL.d	4/25/2016 7:31 PM	Sample	3207	440-144969-a-1-a@20	BP CAM SOIL 440-325847 TK
098SMPL.d	4/25/2016 7:33 PM	Sample	3208	440-145041-a-1-b@20	BP CAM SOIL 440-325847 TK
099SMPL.d	4/25/2016 7:36 PM	Sample	2107	RINSE	
100SMPL.d	4/25/2016 7:38 PM	Sample	2107	RINSE	
101_CCV.d	4/25/2016 7:41 PM	CCV	2201	CCV-3321395	
102_CCB.d	4/25/2016 7:43 PM	CCB	2301	CCB-3321393	
103_RL2.d	4/25/2016 7:46 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL BP CHK
104ICSA.d	4/25/2016 7:49 PM	ICSA	2104	ICSA-3321399	BP CHK A
105ICSB.d	4/25/2016 7:51 PM	ICSB	2105	ICSAB-3321400	BP CHK B
106SMPL.d	4/25/2016 7:53 PM	Sample	2107	RINSE	
107SMPL.d	4/25/2016 7:56 PM	Sample	2107	RINSE	

108_CCV.d	4/25/2016 7:59 PM	CCV	2201	CCV-3321395	
109_CCB.d	4/25/2016 8:01 PM	CCB	2301	XCCB-3321393	
110_CCB.d	4/25/2016 8:04 PM	CCB	2301	CCB-3321393	
111_MB.d	4/25/2016 8:06 PM	MB	4505	mb 440-326257/1-a	SBTL 6020LL 440-326257 RD
112_LCS.d	4/25/2016 8:09 PM	LCS	4506	lcs 440-326257/2-a	SBTL 6020LL 440-326257 RD
113SMPL.d	4/25/2016 8:11 PM	Sample	4507	440-144935-h-2-c	SBTL 6020LL 440-326257 RD
114SMPL.d	4/25/2016 8:14 PM	Sample	4508	440-144935-h-2-d ms	SBTL 6020LL 440-326257 RD
115SMPL.d	4/25/2016 8:16 PM	Sample	4509	440-144935-h-2-e msd	SBTL 6020LL 440-326257 RD
116SMPL.d	4/25/2016 8:18 PM	Sample	4510	440-144935-h-2-f pds	SBTL 6020LL 440-326257 RD
117SMPL.d	4/25/2016 8:21 PM	Sample	4511	440-144935-h-3-c	SBTL 6020LL 440-326257 RD
118SMPL.d	4/25/2016 8:23 PM	Sample	4512	440-144935-h-3-c sd@5	SBTL 6020LL 440-326257 RD
119_CCV.d	4/25/2016 8:26 PM	CCV	2201	CCV-3321395	
120_CCB.d	4/25/2016 8:28 PM	CCB	2301	XCCB-3321393	
121_CCB.d	4/25/2016 8:31 PM	CCB	2301	CCB-3321393	

Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	9	Be	0.999982581	0.000316096	2.27E-05	0.113130585	0.071696337	ug/l
1	23	Na	0.99998706	0.005693411	0.912821268	6.080644339	160.3294206	ug/l
1	24	Mg	0.99999935	0.003163315	0.062810728	1.325453972	19.85598251	ug/l
1	27	Al	0.999997051	0.001547827	0.000621306	0.086716576	0.401405219	ug/l
1	39	K	0.999999203	0.002836264	0.263266228	4.663442475	92.82146759	ug/l
1	44	Ca	0.999998481	0.000148387	0.006601382	12.67691247	44.48759681	ug/l
1	51	V	0.999999936	0.024689397	0.003497473	0.032544951	0.141658907	ug/l
1	52	Cr	0.999999908	0.029159292	0.003975248	0.019113745	0.13632867	ug/l
1	53	[V]						ug/l
1	55	Mn	0.999997832	0.019083568	0.00083105	0.012470612	0.043547931	ug/l
1	56	Fe	0.999987048	0.025994944	0.019520408	0.095974907	0.75093096	ug/l
1	59	Co	0.999999913	0.044270128	0.000473152	0.007365793	0.010687838	ug/l
1	60	Ni	0.999998275	0.011258025	0.001359051	0.064720442	0.120718424	ug/l
1	63	[Cu]	0.999999613	0.030369651	0.04970983	0.046704245	1.636825841	ug/l
1	65	Cu	0.999997313	0.014598561	0.022787073	0.038722269	1.560912247	ug/l
1	66	Zn	0.999993762	0.009672982	0.009974584	0.13544584	1.031179884	ug/l
1	75	As	0.999999967	0.006218905	0.00027976	0.017149626	0.04498547	ug/l
1	76	[Se]						ug/l
1	77	[As]						ug/l
1	78	Se	0.999996258	0.000558773	0.00046595	0.172182051	0.833880113	ug/l
1	83	[Se]						ug/l
1	88	Sr	0.999979926	0.004743147	0.003625918	0.167329335	0.764454045	ug/l
1	90	Zr						ug/l
1	95	Mo	0.999999866	0.002692793	0.000145519	0.027499888	0.054040081	ug/l
1	98	[Mo]						ug/l
1	99	[Mo]						ug/l
1	107	Ag	0.999999965	0.008148794	9.94E-05	0.00477849	0.012201514	ug/l
1	108	[Cd]						ug/l
1	111	Cd	0.99999938	0.001391639	7.08E-06	0.003110633	0.005085195	ug/l
1	114	[Cd]						ug/l
1	118	Sn	0.999999622	0.003246606	0.000320449	0.063175715	0.098702876	ug/l
1	123	Sb	0.999999632	0.003282053	0.000165946	0.02422179	0.050561736	ug/l
1	137	Ba	0.999999622	0.001447437	3.72E-05	0.004286866	0.025712772	ug/l
1	140	Ce	0.999999925	0.018818172	0.000107915	0.000425077	0.005734599	ug/l
1	205	Tl	0.999998486	0.007197089	5.64E-05	0.002194708	0.007831593	ug/l
1	206	[Pb]						ug/l
1	207	[Pb]						ug/l
1	208	Pb	0.999999907	0.013429779	0.000164122	0.002324413	0.01222075	ug/l
1	238	U	0.999999395	0.009587966	0.000116755	0.008400892	0.012177232	ug/l
1	45	Sc-45 (IS)						ug/l
1	72	Ge (IS)						ug/l
1	115	In-115 (IS)						ug/l
1	159	Tb-159 (IS)						ug/l
1	209	Bi-209 (IS)						ug/l

Sample Report

Sample Table

Sample Name	Blank
Data File Name	001SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:30:42-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	1
Instrument	ICPMS05

Calibration Blank Report

Sample Table

Sample Name	STD0-3321393
Data File Name	002CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:33:19-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	BLANK

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	16	53.90
Na	23	1	He	624094	1.01
Mg	24	1	He	42948	2.73
Al	27	1	He	424	5.23
K	39	1	He	180000	1.74
Ca	44	1	He	4518	11.20
V	51	1	He	2392	8.57
Cr	52	1	He	2718	4.76
Mn	55	1	He	568	8.25
Fe	56	1	He	13353	5.75
Co	59	1	He	324	25.05
Ni	60	1	He	931	19.33
Cu	65	1	He	15583	2.76
Zn	66	1	He	3894	2.59
As	75	1	He	109	13.33
Se	78	1	He	182	7.18
Sr	88	1	He	13106	8.22
Mo	95	1	He	526	16.54
Ag	107	1	He	359	12.08
Cd	111	1	He	26	19.92
Sn	118	1	He	1160	22.85
Sb	123	1	He	600	16.73
Ba	137	1	He	134	5.16
Ce	140	1	He	390	3.92
Tl	205	1	He	478	9.90
Pb	208	1	He	991	5.09
U	238	1	He	990	23.57

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc-45 (IS)	45	1	He	683823	2.22
Ge (IS)	72	1	He	390615	2.42
In-115 (IS)	115	1	He	3613234	1.65
Tb-159 (IS)	159	1	He	8473761	1.01
Bi-209 (IS)	209	1	He	6042462	1.40

Calibration Standard Report

Sample Table

Sample Name	STD1-3321392
Data File Name	003CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:35:53-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	0.2 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	21	55.45
Na	23	1	He	624495	1.58
Mg	24	1	He	49401	1.11
Al	27	1	He	714	7.70
K	39	1	He	194363	0.36
Ca	44	1	He	5147	1.63
V	51	1	He	5718	1.35
Cr	52	1	He	6981	2.19
Mn	55	1	He	3401	3.84
Fe	56	1	He	53587	1.22
Co	59	1	He	6529	1.13
Ni	60	1	He	3076	1.36
Cu	65	1	He	18850	1.03
Zn	66	1	He	5902	2.29
As	75	1	He	617	11.88
Se	78	1	He	224	4.57
Sr	88	1	He	14318	0.21
Mo	95	1	He	2435	0.57
Ag	107	1	He	6002	2.70
Cd	111	1	He	1074	4.98
Sn	118	1	He	3447	3.64
Sb	123	1	He	2867	4.66
Ba	137	1	He	1186	1.17
Ce	140	1	He	14027	3.57
Tl	205	1	He	12645	2.72
Pb	208	1	He	17767	1.53
U	238	1	He	16985	0.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	699614	0.65	683823	102.31	80	120	
Ge (IS)	72	1	He	399706	1.06	390615	102.33	80	120	
In-115 (IS)	115	1	He	3709267	0.74	3613234	102.66	80	120	
Tb-159 (IS)	159	1	He	8635434	0.61	8473761	101.91	80	120	
Bi-209 (IS)	209	1	He	6229047	0.89	6042462	103.09	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD2-3321391
Data File Name	004CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:38:37-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	1.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	199	10.10
Na	23	1	He	670357	0.58
Mg	24	1	He	91039	1.10
Al	27	1	He	1570	2.61
K	39	1	He	232250	0.16
Ca	44	1	He	8678	3.99
V	51	1	He	19656	0.64
Cr	52	1	He	23220	1.11
Mn	55	1	He	14767	1.67
Fe	56	1	He	198895	0.45
Co	59	1	He	31572	2.05
Ni	60	1	He	9598	3.17
Cu	65	1	He	26431	0.96
Zn	66	1	He	8411	1.79
As	75	1	He	2650	4.84
Se	78	1	He	370	9.17
Sr	88	1	He	27006	1.84
Mo	95	1	He	10482	1.42
Ag	107	1	He	30866	0.81
Cd	111	1	He	5334	1.17
Sn	118	1	He	13146	1.89
Sb	123	1	He	12753	4.84
Ba	137	1	He	5748	1.00
Ce	140	1	He	69931	1.98
Tl	205	1	He	62956	1.21
Pb	208	1	He	85483	0.59
U	238	1	He	84026	1.33

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693359	0.61	683823	101.39	80	120	
Ge (IS)	72	1	He	400755	1.05	390615	102.60	80	120	
In-115 (IS)	115	1	He	3711609	1.97	3613234	102.72	80	120	
Tb-159 (IS)	159	1	He	8797463	0.75	8473761	103.82	80	120	
Bi-209 (IS)	209	1	He	6280397	1.79	6042462	103.94	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD3-3321390
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:41:20-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	10.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	2309	2.19
Na	23	1	He	1586533	1.31
Mg	24	1	He	589109	0.78
Al	27	1	He	11459	1.66
K	39	1	He	681080	0.54
Ca	44	1	He	55896	0.59
V	51	1	He	173195	0.79
Cr	52	1	He	204399	1.55
Mn	55	1	He	135912	0.81
Fe	56	1	He	1909831	0.82
Co	59	1	He	306569	0.24
Ni	60	1	He	80728	1.73
Cu	65	1	He	119723	0.99
Zn	66	1	He	44138	1.52
As	75	1	He	25040	0.54
Se	78	1	He	2456	2.59
Sr	88	1	He	176097	0.41
Mo	95	1	He	99401	0.98
Ag	107	1	He	300558	0.06
Cd	111	1	He	51988	1.81
Sn	118	1	He	119946	0.64
Sb	123	1	He	120695	0.86
Ba	137	1	He	54020	0.72
Ce	140	1	He	692223	0.76
Tl	205	1	He	617998	0.86
Pb	208	1	He	840453	0.24
U	238	1	He	828857	1.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693990	0.43	683823	101.49	80	120	
Ge (IS)	72	1	He	399793	0.32	390615	102.35	80	120	
In-115 (IS)	115	1	He	3691546	0.81	3613234	102.17	80	120	
Tb-159 (IS)	159	1	He	8733794	1.34	8473761	103.07	80	120	
Bi-209 (IS)	209	1	He	6278303	1.90	6042462	103.90	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD4-3321389
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:44:03-07:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	100 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	21824	1.66
Na	23	1	He	10457970	0.43
Mg	24	1	He	5501685	1.62
Al	27	1	He	107228	0.28
K	39	1	He	5074849	0.48
Ca	44	1	He	516643	0.96
V	51	1	He	1706562	1.54
Cr	52	1	He	2015381	1.80
Mn	55	1	He	1317395	0.68
Fe	56	1	He	17945462	0.15
Co	59	1	He	3055832	1.00
Ni	60	1	He	777774	0.37
Cu	65	1	He	1023020	0.10
Zn	66	1	He	384198	1.32
As	75	1	He	244678	0.64
Se	78	1	He	22155	0.67
Sr	88	1	He	1750794	2.48
Mo	95	1	He	986210	0.35
Ag	107	1	He	2983064	0.55
Cd	111	1	He	509342	0.58
Sn	118	1	He	1189593	0.10
Sb	123	1	He	1202038	0.73
Ba	137	1	He	529870	0.88
Ce	140	1	He	6888423	0.90
Tl	205	1	He	6215902	0.84
Pb	208	1	He	8324045	1.30
U	238	1	He	8280955	1.21

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	690191	0.52	683823	100.93	80	120	
Ge (IS)	72	1	He	393279	0.74	390615	100.68	80	120	
In-115 (IS)	115	1	He	3660276	0.64	3613234	101.30	80	120	
Tb-159 (IS)	159	1	He	8634575	0.57	8473761	101.90	80	120	
Bi-209 (IS)	209	1	He	6197263	0.34	6042462	102.56	80	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-3321388
Data File Name	007_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:46:47-07:00
Sample Type	ICV
Dilution	1
Comment	25 PPB
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	25.177	1.841	5470	1.67	25	100.7	89.5	110.49	
Na	23	1	He	599.921	0.123	2966558	0.67	625	96.0	89.5	110.49	
Mg	24	1	He	637.028	0.603	1424110	0.06	625	101.9	89.5	110.49	
Al	27	1	He	25.826	0.851	27824	1.27	25	103.3	89.5	110.49	
K	39	1	He	642.103	0.711	1428641	1.22	625	102.7	89.5	110.49	
Ca	44	1	He	1216.325	0.669	128222	0.53	1250	97.3	89.5	110.49	
V	51	1	He	24.711	0.952	420530	0.32	25	98.8	89.5	110.49	
Cr	52	1	He	24.479	0.706	491920	0.72	25	97.9	89.5	110.49	
Mn	55	1	He	25.273	1.108	331115	0.95	25	101.1	89.5	110.49	
Fe	56	1	He	252.557	1.013	4512824	0.73	250	101.0	89.5	110.49	
Co	59	1	He	24.907	0.360	756027	0.60	25	99.6	89.5	110.49	
Ni	60	1	He	25.283	0.571	196012	0.98	25	101.1	89.5	110.49	
Cu	65	1	He	25.089	0.669	266652	1.22	25	100.4	89.5	110.49	
Zn	66	1	He	25.542	1.556	101724	1.64	25	102.2	89.5	110.49	
As	75	1	He	24.714	1.531	60931	0.52	25	98.9	89.5	110.49	
Se	78	1	He	24.792	2.390	5666	1.57	25	99.2	89.5	110.49	
Sr	88	1	He	23.252	0.929	417632	0.06	25	93.0	89.5	110.49	
Mo	95	1	He	25.057	1.425	247890	0.50	25	100.2	89.5	110.49	
Ag	107	1	He	25.931	0.525	775075	0.55	25	103.7	89.5	110.49	
Cd	111	1	He	24.864	1.479	126879	0.86	25	99.5	89.5	110.49	
Sn	118	1	He	24.900	0.775	297554	0.23	25	99.6	89.5	110.49	
Sb	123	1	He	26.144	0.842	315195	0.16	25	104.6	89.5	110.49	
Ba	137	1	He	24.786	1.483	131659	0.57	25	99.1	89.5	110.49	
Ce	140	1	He	25.241	1.730	1741706	0.80	25	101.0	89.5	110.49	
Tl	205	1	He	24.124	0.877	1519275	0.33	25	96.5	89.5	110.49	
Pb	208	1	He	24.646	0.873	2055294	0.48	25	98.6	89.5	110.49	
U	238	1	He	25.394	1.519	2130815	1.10	25	101.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	685367	0.63	683823	100.23	80	120	
Ge (IS)	72	1	He	395759	1.03	390615	101.32	80	120	
In-115 (IS)	115	1	He	3666378	0.95	3613234	101.47	80	120	
Tb-159 (IS)	159	1	He	8747820	0.55	8473761	103.23	80	120	
Bi-209 (IS)	209	1	He	6206926	1.36	6042462	102.72	80	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-3321393
Data File Name	008_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:43:10-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-107.3	9	78.1	0.5	
Na	23	1	He	-88.826	-1.3	270749	1.0	110	
Mg	24	1	He	-15.642	-1.2	8873	6.6	110	
Al	27	1	He	-0.020	-189.8	393	10.6	10	
K	39	1	He	-9.151	-13.9	157827	0.7	110	
Ca	44	1	He	-34.130	-0.4	1022	1.8	110	
V	51	1	He	-0.017	-39.6	2051	3.2	2	
Cr	52	1	He	0.003	293.9	2710	7.0	2	
Mn	55	1	He	0.003	6.4	588	2.6	1	
Fe	56	1	He	0.440	28.6	20627	12.7	20	
Co	59	1	He	-0.004	-2.6	207	2.8	1	
Ni	60	1	He	0.002	328.0	921	5.1	2	
Cu	65	1	He	-0.762	-6.1	7755	3.7	1	
Zn	66	1	He	-0.053	-7.0	3575	0.9	20	
As	75	1	He	0.007	18.1	122	1.3	1	
Se	78	1	He	-0.078	-187.0	159	18.2	2	
Sr	88	1	He	-0.658	-1.4	1786	9.3	2	
Mo	95	1	He	0.118	30.7	1646	23.9	2	
Ag	107	1	He	-0.006	-16.4	181	13.9	1	
Cd	111	1	He	-0.001	-224.9	19	66.8	1	
Sn	118	1	He	0.221	38.0	3689	28.8	2	
Sb	123	1	He	0.082	37.2	1540	25.8	1	
Ba	137	1	He	-0.004	-37.6	111	8.7	1	
Ce	140	1	He	-0.002	-16.1	220	9.9	1	
Tl	205	1	He	-0.001	-61.9	374	15.7	1	
Pb	208	1	He	-0.003	-23.6	718	6.2	1	
U	238	1	He	0.011	21.8	1840	12.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665206	2.18	683823	97.28	80	120	
Ge (IS)	72	1	He	377666	1.20	390615	96.69	80	120	
In-115 (IS)	115	1	He	3532231	3.23	3613234	97.76	80	120	
Tb-159 (IS)	159	1	He	8136530	1.96	8473761	96.02	80	120	
Bi-209 (IS)	209	1	He	5873459	2.20	6042462	97.20	80	120	

Reporting Limit 0.2ppb (RL) Report

Sample Table

Sample Name	CRI-3321396
Data File Name	009RL_2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:45:45-07:00
Sample Type	RL0_2
Dilution	1
Comment	+/- 50% 0.2PPB RL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.192	83.871	56	60.40	0.2	95.9	50	150	
V	51	1	He	0.185	7.164	5394	3.59	0.2	92.5	50	150	
Co	59	1	He	0.197	2.385	6138	1.35	0.2	98.3	50	150	
Ni	60	1	He	0.291	2.274	3101	2.17	0.2	145.6	50	150	
As	75	1	He	0.191	10.412	565	8.84	0.2	95.3	50	150	
Mo	95	1	He	0.187	6.869	2275	5.53	0.2	93.4	50	150	
Ag	107	1	He	0.181	4.708	5522	4.74	0.2	90.5	50	150	
Cd	111	1	He	0.206	7.694	1031	7.87	0.2	103.1	50	150	
Sb	123	1	He	0.180	7.410	2656	6.09	0.2	90.1	50	150	
Ba	137	1	He	0.185	2.700	1069	1.91	0.2	92.4	50	150	
Tl	205	1	He	0.184	1.632	11517	0.08	0.2	92.1	50	150	
Pb	208	1	He	0.195	1.604	16548	1.33	0.2	97.7	50	150	
U	238	1	He	0.187	0.436	15945	2.03	0.2	93.7	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	668822	0.93	683823	97.81	80	120	
Ge (IS)	72	1	He	385642	0.71	390615	98.73	80	120	
In-115 (IS)	115	1	He	3507423	0.50	3613234	97.07	80	120	
Tb-159 (IS)	159	1	He	8331272	1.63	8473761	98.32	80	120	
Bi-209 (IS)	209	1	He	5935004	0.58	6042462	98.22	80	120	

Reporting Limit 1.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321397
Data File Name	010_RL1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:48:22-07:00
Sample Type	RL1_0
Dilution	1
Comment	+/- 50% 1xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.460	40.659	112	34.17	0.5	92.1	50	150	
Al	27	1	He	11.411	1.471	12233	2.20	10	114.1	50	150	
V	51	1	He	1.088	2.965	20310	2.71	1	108.8	50	150	
Cr	52	1	He	1.061	0.687	23357	0.65	1	106.1	50	150	
Mn	55	1	He	1.132	1.498	15014	1.24	1	113.2	50	150	
Fe	56	1	He	21.691	1.063	390291	1.22	20	108.5	50	150	
Co	59	1	He	1.064	1.059	31821	0.80	1	106.4	50	150	
Ni	60	1	He	1.293	0.747	10646	1.60	1	129.3	50	150	
Cu	65	1	He	0.398	10.308	19128	1.17	1	39.8	50	150	>+/-50%
Zn	66	1	He	12.368	0.551	49362	0.41	10	123.7	50	150	
As	75	1	He	1.156	1.988	2844	1.35	1	115.6	50	150	
Se	78	1	He	1.071	8.148	405	4.25	1	107.1	50	150	
Sr	88	1	He	0.437	5.241	19947	1.52	1	43.7	50	150	>+/-50%
Mo	95	1	He	1.086	3.783	10742	2.35	1	108.6	50	150	
Ag	107	1	He	1.084	3.185	31259	2.25	1	108.4	50	150	
Cd	111	1	He	1.081	5.542	5288	4.15	1	108.1	50	150	
Sn	118	1	He	11.005	1.713	126147	1.64	10	110.0	50	150	
Sb	123	1	He	1.065	1.325	12815	1.79	1	106.5	50	150	
Ba	137	1	He	1.096	3.957	5681	2.75	1	109.6	50	150	
Ce	140	1	He	1.071	1.035	70876	0.93	1	107.1	50	150	
Tl	205	1	He	1.038	1.258	62574	0.37	1	103.8	50	150	
Pb	208	1	He	1.121	1.514	90556	0.87	1	112.1	50	150	
U	238	1	He	1.021	1.225	82318	1.06	1	102.1	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	669042	1.23	683823	97.84	80	120	
Ge (IS)	72	1	He	380856	0.83	390615	97.50	80	120	
In-115 (IS)	115	1	He	3499612	1.49	3613234	96.86	80	120	
Tb-159 (IS)	159	1	He	8313586	1.61	8473761	98.11	80	120	
Bi-209 (IS)	209	1	He	5949261	2.36	6042462	98.46	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	011_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:50:56-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.784	7.006	179	6.54	1	78.4	50	150	
Na	23	1	He	114.452	0.682	1034077	0.55	200	57.2	50	150	
Mg	24	1	He	190.266	0.774	439353	1.07	200	95.1	50	150	
Al	27	1	He	21.012	1.817	21907	1.53	20	105.1	50	150	
K	39	1	He	194.576	1.107	538791	0.79	200	97.3	50	150	
Ca	44	1	He	939.841	0.471	96546	0.83	1000	94.0	50	150	
V	51	1	He	1.952	1.960	34172	1.50	2	97.6	50	150	
Cr	52	1	He	1.923	2.626	39685	2.19	2	96.1	50	150	
Mn	55	1	He	2.054	1.560	26454	1.27	2	102.7	50	150	
Fe	56	1	He	39.460	0.526	690916	0.73	40	98.6	50	150	
Co	59	1	He	1.972	0.752	58023	1.05	2	98.6	50	150	
Ni	60	1	He	2.117	3.170	16651	3.33	2	105.8	50	150	
Cu	65	1	He	1.268	4.033	27295	2.11	2	63.4	50	150	
Zn	66	1	He	21.004	1.288	80190	0.90	20	105.0	50	150	
As	75	1	He	2.114	1.862	5051	2.46	2	105.7	50	150	
Se	78	1	He	1.938	3.088	583	2.00	2	96.9	50	150	
Sr	88	1	He	1.265	2.169	33491	0.93	2	63.3	50	150	
Mo	95	1	He	1.979	3.508	19038	2.69	2	98.9	50	150	
Ag	107	1	He	1.895	1.431	54068	0.22	2	94.8	50	150	
Cd	111	1	He	1.961	2.263	9518	0.69	2	98.1	50	150	
Sn	118	1	He	20.068	1.227	227746	0.85	20	100.3	50	150	
Sb	123	1	He	1.864	3.369	21856	1.82	2	93.2	50	150	
Ba	137	1	He	2.005	2.432	10224	1.45	2	100.3	50	150	
Ce	140	1	He	1.940	2.064	127344	1.33	2	97.0	50	150	
Tl	205	1	He	1.918	0.246	112685	1.92	2	95.9	50	150	
Pb	208	1	He	2.093	0.588	163414	0.95	2	104.6	50	150	
U	238	1	He	1.907	2.373	149588	1.16	2	95.3	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660986	0.39	683823	96.66	80	120	
Ge (IS)	72	1	He	376239	0.66	390615	96.32	80	120	
In-115 (IS)	115	1	He	3478893	1.56	3613234	96.28	80	120	
Tb-159 (IS)	159	1	He	8131586	1.85	8473761	95.96	80	120	
Bi-209 (IS)	209	1	He	5780711	1.49	6042462	95.67	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	012ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:53:29-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.060	-32.878	2	173.21	-1	1	
Na	23	1	He	104378.173	1.699	366950981	1.33	100000	100000	
Mg	24	1	He	101839.555	0.876	198660885	0.55	100000	100000	
Al	27	1	He	100479.018	0.678	95889485	0.43	100000	100000	
K	39	1	He	101402.153	0.960	177484709	0.72	100000	100000	
Ca	44	1	He	95661.602	1.023	8755957	0.74	100000	100000	
V	51	1	He	0.024	19.710	2527	2.86	-4	4	
Cr	52	1	He	1.317	1.849	26127	1.72	-4	4	
Mn	55	1	He	0.346	5.191	4586	4.37	-2	2	
Co	59	1	He	0.037	7.052	1315	5.87	-2	2	
Ni	60	1	He	0.702	3.197	5713	2.50	-4	4	
Cu	65	1	He	0.295	20.098	16707	2.85	-4	4	
Zn	66	1	He	1.773	1.316	9344	0.41	-40	40	
As	75	1	He	0.106	17.276	323	12.25	-2	2	
Se	78	1	He	0.051	112.848	170	6.88	-4	4	
Sr	88	1	He	0.473	28.797	17716	11.03	-2	2	
Mo	95	1	He	2167.853	2.087	17617252	1.58	2000	2000	
Ag	107	1	He	0.027	19.223	952	13.33	-2	2	
Cd	111	1	He	0.856	2.507	3617	3.05	-2	2	
Sn	118	1	He	0.073	10.218	1682	3.93	-20	20	
Sb	123	1	He	0.082	6.040	1316	4.06	-4	4	
Ba	137	1	He	0.111	2.363	599	1.79	-2	2	
Ce	140	1	He	0.024	5.524	1688	5.02	-2	2	
Tl	205	1	He	0.002	48.319	547	11.78	-2	2	
Pb	208	1	He	0.233	2.192	16171	1.39	-2	2	
U	238	1	He	0.000	591.374	874	3.42	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	616563	0.38	683823	90.16	80	120	
Ge (IS)	72	1	He	344426	0.48	390615	88.18	80	120	
In-115 (IS)	115	1	He	3018048	0.56	3613234	83.53	80	120	
Tb-159 (IS)	159	1	He	7434735	1.30	8473761	87.74	80	120	
Bi-209 (IS)	209	1	He	4912370	0.71	6042462	81.30	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	013ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:55:56-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	20.139	6.277	4075	5.20	20	100.7	79.5	120.49	
Na	23	1	He	106430.090	0.993	387268571	1.43	101000	105.4	79.5	120.49	
Mg	24	1	He	103514.415	1.274	208987787	0.89	101000	102.5	79.5	120.49	
Al	27	1	He	102173.268	1.384	100931529	2.46	101000	101.2	79.5	120.49	
K	39	1	He	103777.497	0.741	188009015	1.71	101000	102.7	79.5	120.49	
Ca	44	1	He	99722.120	1.261	9447595	1.99	101000	98.7	79.5	120.49	
V	51	1	He	20.281	0.554	321770	1.36	20	101.4	79.5	120.49	
Cr	52	1	He	20.776	0.618	389136	1.08	20	103.9	79.5	120.49	
Mn	55	1	He	20.297	0.488	247714	1.47	20	101.5	79.5	120.49	
Fe	56	1	He	99551.568	0.576	1651433570	1.16	101000	98.6	79.5	120.49	
Co	59	1	He	19.097	0.202	539817	0.92	20	95.5	79.5	120.49	
Ni	60	1	He	19.602	0.540	141700	1.60	20	98.0	79.5	120.49	
Cu	65	1	He	18.926	0.557	190855	1.16	20	94.6	79.5	120.49	
Zn	66	1	He	19.703	2.830	72241	2.77	20	98.5	79.5	120.49	
As	75	1	He	20.439	2.060	45882	1.80	20	102.2	79.5	120.49	
Se	78	1	He	19.739	1.134	4142	3.21	20	98.7	79.5	120.49	
Sr	88	1	He	20.626	1.885	317375	2.11	20	103.1	79.5	120.49	
Mo	95	1	He	2181.932	0.596	18379770	1.46	2020	108.0	79.5	120.49	
Ag	107	1	He	19.602	1.126	499962	1.52	20	98.0	79.5	120.49	
Cd	111	1	He	20.620	1.793	89785	2.11	20	103.1	79.5	120.49	
Sn	118	1	He	21.119	1.394	215479	1.82	20	105.6	79.5	120.49	
Sb	123	1	He	21.446	1.810	220696	2.27	20	107.2	79.5	120.49	
Ba	137	1	He	21.142	1.355	95840	1.66	20	105.7	79.5	120.49	
Ce	140	1	He	20.814	1.092	1225541	1.36	20	104.1	79.5	120.49	
Tl	205	1	He	18.860	0.479	1045159	1.73	20	94.3	79.5	120.49	
Pb	208	1	He	21.273	0.799	1431745	1.23	20	106.4	79.5	120.49	
U	238	1	He	20.454	0.436	1510372	1.95	20	102.3	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	638152	1.11	683823	93.32	80	120	
Ge (IS)	72	1	He	360251	2.15	390615	92.23	80	120	
In-115 (IS)	115	1	He	3128036	0.92	3613234	86.57	80	120	
Tb-159 (IS)	159	1	He	7697396	2.22	8473761	90.84	80	120	
Bi-209 (IS)	209	1	He	5008758	1.22	6042462	82.89	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	014SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:58:24-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.040	-0.040	-38.53	7	50.03	100	
Na	23	1	He	-53.115	-53.115	-22.04	409430	10.89	75000	
Mg	24	1	He	28.420	28.420	39.35	102428	23.19	125000	
Al	27	1	He	43.590	43.590	24.10	45671	23.93	4000	
K	39	1	He	35.601	35.601	28.36	244308	7.79	100000	
Ca	44	1	He	10.772	10.772	95.54	5500	18.63	250000	
V	51	1	He	-0.010	-0.010	-59.56	2179	5.11	4000	
Cr	52	1	He	-0.001	-0.001	-531.54	2642	4.41	4000	
Mn	55	1	He	0.034	0.034	19.65	988	8.91	4000	
Fe	56	1	He	50.428	50.428	17.96	892345	17.71	40000	
Co	59	1	He	0.003	0.003	61.38	401	12.88	4000	
Ni	60	1	He	0.040	0.040	12.05	1211	2.48	4000	
[Cu]	63	1	He	-0.489	-0.489	-6.58	23380	2.94	4000	
Cu	65	1	He	-0.453	-0.453	-7.40	10846	2.50	4000	
Zn	66	1	He	0.435	0.435	7.96	5484	3.15	4000	
As	75	1	He	-0.004	-0.004	-160.75	98	15.71	4000	
Se	78	1	He	-0.003	-0.003	-3087.99	179	11.99	4000	
Sr	88	1	He	-0.676	-0.676	-1.06	1469	7.21	4000	
Mo	95	1	He	2.129	2.129	3.87	20639	2.40	4000	
Ag	107	1	He	0.018	0.018	23.23	853	13.69	100	
Cd	111	1	He	0.009	0.009	70.69	67	43.59	3500	
Sn	118	1	He	-0.028	-0.028	-31.90	807	12.58	4000	
Sb	123	1	He	-0.019	-0.019	-13.55	367	7.44	4000	
Ba	137	1	He	0.004	0.004	35.84	150	4.44	4000	
Ce	140	1	He	0.006	0.006	43.09	757	22.43	4000	
Tl	205	1	He	0.020	0.020	12.97	1622	9.81	3500	
Pb	208	1	He	0.006	0.006	52.21	1473	16.75	4000	
U	238	1	He	0.002	0.002	18.79	1106	2.05	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	670775	0.69	683823	98.09	80	120	
Ge (IS)	72	1	He	386722	0.84	390615	99.00	80	120	
In-115 (IS)	115	1	He	3511758	1.41	3613234	97.19	80	120	
Tb-159 (IS)	159	1	He	8226589	1.34	8473761	97.08	80	120	
Bi-209 (IS)	209	1	He	5935584	1.10	6042462	98.23	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326042/1-a
Data File Name	015_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:00:58-07:00
Sample Type	MB
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-77.2	9	57.3	0.5	
Na	23	1	He	-83.080	-1.2	299174	0.3	110	
Mg	24	1	He	5.153	15.0	53804	1.6	110	
Al	27	1	He	22.726	1.6	24349	0.2	10	OUT OF RANGE
K	39	1	He	10.623	5.2	199591	0.9	110	
Ca	44	1	He	-16.162	-6.5	2859	3.5	110	
V	51	1	He	-0.005	-125.7	2292	6.0	2	
Cr	52	1	He	0.000	-3749.8	2704	3.0	2	
Mn	55	1	He	0.021	4.1	832	1.7	1	
Fe	56	1	He	24.673	2.9	449507	1.6	20	OUT OF RANGE
Co	59	1	He	-0.003	-18.0	238	4.9	1	
Ni	60	1	He	-0.057	-9.9	486	9.6	2	
Cu	65	1	He	-0.519	-5.7	10343	1.4	1	
Zn	66	1	He	-0.234	-10.7	3036	3.6	20	
As	75	1	He	-0.006	-56.9	95	7.4	1	
Se	78	1	He	-0.013	-265.6	181	4.8	2	
Sr	88	1	He	-0.677	-0.5	1481	4.0	2	
Mo	95	1	He	0.698	10.4	7220	9.9	2	
Ag	107	1	He	-0.002	-30.9	301	5.7	1	
Cd	111	1	He	-0.002	-48.6	13	43.3	1	
Sn	118	1	He	-0.042	-19.5	651	14.9	2	
Sb	123	1	He	-0.026	-5.2	290	5.3	1	
Ba	137	1	He	-0.011	-24.4	76	17.8	1	
Ce	140	1	He	-0.002	-27.8	249	15.4	1	
Tl	205	1	He	0.000	-798.6	463	14.6	1	
Pb	208	1	He	0.004	34.4	1302	7.4	1	
U	238	1	He	-0.008	-8.8	329	16.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	680316	1.46	683823	99.49	80	120	
Ge (IS)	72	1	He	393887	1.82	390615	100.84	80	120	
In-115 (IS)	115	1	He	3565098	0.57	3613234	98.67	80	120	
Tb-159 (IS)	159	1	He	8352192	1.28	8473761	98.57	80	120	
Bi-209 (IS)	209	1	He	5994413	1.71	6042462	99.20	80	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326042/2-a
Data File Name	016_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:03:31-07:00
Sample Type	LCS
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	70.742	70.742	1.510	15344	1.75	80	88.4	85	115	
Na	23	1	He	1832.255	1832.255	1.013	7776286	0.64	2000	91.6	85	115	
Mg	24	1	He	1839.430	1839.430	0.778	4031600	0.73	2000	92.0	85	115	
Al	27	1	He	87.080	87.080	0.713	92817	0.80	80	108.8	85	115	
K	39	1	He	1870.116	1870.116	0.019	3816314	0.31	2000	93.5	85	115	
Ca	44	1	He	3713.731	3713.731	0.200	382269	0.36	4000	92.8	85	115	
V	51	1	He	71.927	71.927	0.699	1219677	0.45	80	89.9	85	115	
Cr	52	1	He	72.854	72.854	1.367	1458938	1.52	80	91.1	85	115	
Mn	55	1	He	72.683	72.683	0.588	951341	0.34	80	90.9	85	115	
Fe	56	1	He	743.414	743.414	1.960	13259656	1.66	800	92.9	85	115	
Co	59	1	He	72.191	72.191	1.494	2190966	1.20	80	90.2	85	115	
Ni	60	1	He	71.469	71.469	0.559	552473	0.84	80	89.3	85	115	
Cu	65	1	He	70.858	70.858	0.840	724692	0.80	80	88.6	85	115	
Zn	66	1	He	71.309	71.309	0.436	275071	0.23	80	89.1	85	115	
As	75	1	He	72.545	72.545	0.502	177456	0.36	80	90.7	85	115	
Se	78	1	He	69.994	69.994	1.115	15558	1.54	80	87.5	85	115	
Sr	88	1	He	70.228	70.228	1.511	1196438	0.27	80	87.8	85	115	
Mo	95	1	He	72.487	72.487	1.350	694073	0.20	80	90.6	85	115	
Ag	107	1	He	76.013	76.013	1.246	2201297	0.50	80	95.0	85	115	
Cd	111	1	He	72.865	72.865	0.975	360340	0.56	80	91.1	85	115	
Sn	118	1	He	72.860	72.860	1.304	841653	0.62	80	91.1	85	115	
Sb	123	1	He	74.550	74.550	1.508	869969	0.36	80	93.2	85	115	
Ba	137	1	He	72.072	72.072	0.850	370817	0.40	80	90.1	85	115	
Ce	140	1	He	73.046	73.046	1.739	4884445	0.68	80	91.3	85	115	
Tl	205	1	He	70.497	70.497	1.006	4241293	1.33	80	88.1	85	115	
Pb	208	1	He	72.441	72.441	0.862	5735651	0.33	80	90.6	85	115	
U	238	1	He	71.387	71.387	0.421	5721806	0.05	80	89.2	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	685474	0.29	683823	100.24	80	120	
Ge (IS)	72	1	He	393107	0.64	390615	100.64	80	120	
In-115 (IS)	115	1	He	3553586	1.24	3613234	98.35	80	120	
Tb-159 (IS)	159	1	He	8358267	0.38	8473761	98.64	80	120	
Bi-209 (IS)	209	1	He	5894801	0.59	6042462	97.56	80	120	

Sample Report

Sample Table

Sample Name	440-144937-b-3-a
Data File Name	017SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:05:54-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3201
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.003	0.003	2134.02	16	81.11	100	
Na	23	1	He	758949.670	758949.670	3.43	2833256990	1.13	75000	>LDR
Mg	24	1	He	284620.733	284620.733	4.43	590176190	2.10	125000	>LDR
Al	27	1	He	112.989	112.989	25.92	115545	27.63	4000	
K	39	1	He	61655.034	61655.034	4.27	114794604	1.93	100000	
Ca	44	1	He	608117.522	608117.522	6.13	59135113	3.77	250000	>LDR
V	51	1	He	29.575	29.575	4.34	480905	1.98	4000	
Cr	52	1	He	54.793	54.793	4.40	1049841	2.05	4000	
Mn	55	1	He	0.175	0.175	16.96	2730	13.50	4000	
Fe	56	1	He	110.724	110.724	24.40	1907442	26.07	40000	
Co	59	1	He	0.213	0.213	6.47	6489	6.98	4000	
Ni	60	1	He	0.303	0.303	7.21	3127	3.44	4000	
[Cu]	63	1	He	-0.048	-0.048	-366.39	31588	8.91	4000	
Cu	65	1	He	0.218	0.218	71.88	17009	6.76	4000	
Zn	66	1	He	2.503	2.503	3.64	11608	3.48	4000	
As	75	1	He	89.261	89.261	2.62	188598	3.20	4000	
Se	78	1	He	129.723	129.723	1.96	24773	2.68	4000	
Sr	88	1	He	18370.316	18370.316	4.77	257083679	2.95	4000	>LDR
Mo	95	1	He	749.022	749.022	5.12	5950882	3.28	4000	
Ag	107	1	He	0.069	0.069	32.77	1958	29.58	100	
Cd	111	1	He	0.360	0.360	6.93	1500	5.02	3500	
Sn	118	1	He	0.149	0.149	9.32	2377	4.96	4000	
Sb	123	1	He	0.298	0.298	5.67	3379	6.30	4000	
Ba	137	1	He	10.104	10.104	2.88	43267	1.12	4000	
Ce	140	1	He	0.027	0.027	57.09	1853	49.06	4000	
Tl	205	1	He	0.155	0.155	8.30	8482	8.02	3500	
Pb	208	1	He	0.050	0.050	37.45	3756	30.36	4000	
U	238	1	He	7.534	7.534	3.95	522918	2.85	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655896	2.28	683823	95.92	80	120	
Ge (IS)	72	1	He	339554	0.93	390615	86.93	80	120	
In-115 (IS)	115	1	He	2952064	1.84	3613234	81.70	80	120	
Tb-159 (IS)	159	1	He	7229369	1.08	8473761	85.31	80	120	
Bi-209 (IS)	209	1	He	4484114	1.26	6042462	74.21	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-3-b ms
Data File Name	018SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:08:26-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3202
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	64.065	64.065	1.59	13756	1.07	100	
Na	23	1	He	736034.206	736034.206	0.58	2844590536	2.21	75000	>LDR
Mg	24	1	He	274170.489	274170.489	1.01	588703248	2.96	125000	>LDR
Al	27	1	He	83.770	83.770	1.27	88410	1.84	4000	
K	39	1	He	61846.420	61846.420	0.87	119218173	1.89	100000	
Ca	44	1	He	590036.717	590036.717	1.55	59413453	1.24	250000	>LDR
V	51	1	He	101.288	101.288	2.08	1699092	1.01	4000	
Cr	52	1	He	120.551	120.551	1.43	2387920	1.25	4000	
Mn	55	1	He	66.884	66.884	0.98	866759	1.99	4000	
Fe	56	1	He	668.108	668.108	1.46	11799546	2.40	40000	
Co	59	1	He	63.392	63.392	1.43	1904582	1.21	4000	
Ni	60	1	He	58.836	58.836	1.09	450430	2.06	4000	
[Cu]	63	1	He	57.644	57.644	1.26	1221747	1.98	4000	
Cu	65	1	He	58.523	58.523	1.24	595238	1.89	4000	
Zn	66	1	He	64.050	64.050	1.75	219718	1.32	4000	
As	75	1	He	163.342	163.342	1.16	354713	2.62	4000	
Se	78	1	He	203.585	203.585	2.07	39884	4.08	4000	
Sr	88	1	He	17794.854	17794.854	0.91	257638968	2.71	4000	>LDR
Mo	95	1	He	793.949	793.949	0.33	6525617	2.03	4000	
Ag	107	1	He	67.517	67.517	0.83	1679617	2.63	100	
Cd	111	1	He	65.237	65.237	0.77	277128	2.54	3500	
Sn	118	1	He	73.252	73.252	0.08	726817	1.88	4000	
Sb	123	1	He	74.831	74.831	0.74	750136	2.46	4000	
Ba	137	1	He	82.730	82.730	1.03	365598	2.38	4000	
Ce	140	1	He	72.662	72.662	0.98	4174033	2.78	4000	
Tl	205	1	He	60.136	60.136	0.97	3160055	2.11	3500	
Pb	208	1	He	74.365	74.365	1.19	4542132	1.83	4000	
U	238	1	He	77.607	77.607	1.22	5432536	1.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	678720	2.65	683823	99.25	80	120	
Ge (IS)	72	1	He	349097	2.34	390615	89.37	80	120	
In-115 (IS)	115	1	He	3052006	1.80	3613234	84.47	80	120	
Tb-159 (IS)	159	1	He	7301141	2.54	8473761	86.16	80	120	
Bi-209 (IS)	209	1	He	4548357	3.03	6042462	75.27	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-3-c msd
Data File Name	019SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:10:49-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3203
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	64.069	64.069	2.35	14438	3.41	100	
Na	23	1	He	732595.343	732595.343	0.94	2970171118	0.51	75000	>LDR
Mg	24	1	He	279454.416	279454.416	0.51	629429131	0.72	125000	>LDR
Al	27	1	He	78.381	78.381	1.37	86816	1.00	4000	
K	39	1	He	61625.136	61625.136	0.91	124629448	1.04	100000	
Ca	44	1	He	589890.725	589890.725	1.53	62326702	1.85	250000	>LDR
V	51	1	He	102.339	102.339	1.86	1801260	0.99	4000	
Cr	52	1	He	122.054	122.054	0.31	2536825	1.14	4000	
Mn	55	1	He	67.768	67.768	0.58	921350	0.58	4000	
Fe	56	1	He	680.476	680.476	0.40	12607963	0.75	40000	
Co	59	1	He	63.360	63.360	1.36	1997245	0.37	4000	
Ni	60	1	He	59.690	59.690	0.61	479414	1.07	4000	
[Cu]	63	1	He	58.996	58.996	0.88	1310985	0.38	4000	
Cu	65	1	He	59.871	59.871	1.12	638490	0.61	4000	
Zn	66	1	He	66.247	66.247	0.95	235123	0.13	4000	
As	75	1	He	168.065	168.065	0.45	377735	0.80	4000	
Se	78	1	He	210.916	210.916	1.49	42747	0.57	4000	
Sr	88	1	He	17986.781	17986.781	1.47	270288860	0.40	4000	>LDR
Mo	95	1	He	805.780	805.780	0.88	6875115	1.28	4000	
Ag	107	1	He	70.567	70.567	1.77	1822016	0.66	100	
Cd	111	1	He	67.649	67.649	1.76	298261	0.06	3500	
Sn	118	1	He	74.718	74.718	1.12	769554	0.86	4000	
Sb	123	1	He	76.174	76.174	1.89	792522	0.40	4000	
Ba	137	1	He	84.517	84.517	0.93	387695	0.83	4000	
Ce	140	1	He	74.589	74.589	1.56	4447106	0.60	4000	
Tl	205	1	He	65.626	65.626	1.54	3615019	0.54	3500	
Pb	208	1	He	75.580	75.580	1.25	4816674	0.12	4000	
U	238	1	He	78.257	78.257	1.38	5743196	0.70	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	711996	1.14	683823	104.12	80	120	
Ge (IS)	72	1	He	361317	1.06	390615	92.50	80	120	
In-115 (IS)	115	1	He	3168549	1.70	3613234	87.69	80	120	
Tb-159 (IS)	159	1	He	7653924	1.42	8473761	90.32	80	120	
Bi-209 (IS)	209	1	He	4745111	1.31	6042462	78.53	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-1-a@2
Data File Name	020SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:13:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3204
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.017	0.017	106.27	19	20.36	100	
Na	23	1	He	371310.098	371310.098	1.18	1424380210	0.41	75000	>LDR
Mg	24	1	He	197778.523	197778.523	0.51	421419370	0.65	125000	>LDR
Al	27	1	He	6.341	6.341	6.55	7030	6.60	4000	
K	39	1	He	140449.430	140449.430	1.18	268462603	0.49	100000	>LDR
Ca	44	1	He	320808.909	320808.909	0.29	32066637	0.60	250000	>LDR
V	51	1	He	4.761	4.761	0.50	81532	1.10	4000	
Cr	52	1	He	31.845	31.845	0.57	628092	0.68	4000	
Mn	55	1	He	0.979	0.979	1.48	13150	2.22	4000	
Fe	56	1	He	8.091	8.091	1.19	154804	0.71	40000	
Co	59	1	He	0.161	0.161	3.25	5110	3.88	4000	
Ni	60	1	He	1.684	1.684	1.94	13686	2.65	4000	
[Cu]	63	1	He	0.692	0.692	0.80	47641	1.09	4000	
Cu	65	1	He	0.781	0.781	6.34	23030	2.90	4000	
Zn	66	1	He	3.950	3.950	3.49	17005	2.18	4000	
As	75	1	He	26.333	26.333	0.35	57903	0.99	4000	
Se	78	1	He	22.121	22.121	0.68	4528	1.33	4000	
Sr	88	1	He	6661.100	6661.100	0.79	97692856	0.64	4000	>LDR
Mo	95	1	He	158.955	158.955	1.10	1323794	0.83	4000	
Ag	107	1	He	0.070	0.070	12.66	2060	10.50	100	
Cd	111	1	He	0.125	0.125	5.59	560	5.09	3500	
Sn	118	1	He	0.736	0.736	5.18	8383	4.70	4000	
Sb	123	1	He	0.122	0.122	9.42	1750	6.95	4000	
Ba	137	1	He	6.036	6.036	1.64	27126	1.48	4000	
Ce	140	1	He	0.050	0.050	1.20	3216	1.37	4000	
Tl	205	1	He	0.368	0.368	2.06	19662	2.85	3500	
Pb	208	1	He	0.065	0.065	9.28	4743	8.19	4000	
U	238	1	He	9.813	9.813	1.14	684049	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	673531	0.85	683823	98.49	80	120	
Ge (IS)	72	1	He	352975	0.67	390615	90.36	80	120	
In-115 (IS)	115	1	He	3091752	0.29	3613234	85.57	80	120	
Tb-159 (IS)	159	1	He	7261534	0.84	8473761	85.69	80	120	
Bi-209 (IS)	209	1	He	4590093	0.90	6042462	75.96	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-2-a@2
Data File Name	021SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:15:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3205
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.052	-0.052	-42.56	4	114.60	100	
Na	23	1	He	378622.216	378622.216	0.39	1556546889	0.69	75000	>LDR
Mg	24	1	He	126724.479	126724.479	0.44	289381189	0.70	125000	>LDR
Al	27	1	He	11.659	11.659	19.61	13481	19.32	4000	
K	39	1	He	18268.249	18268.249	0.77	37587877	1.07	100000	
Ca	44	1	He	297654.259	297654.259	1.39	31884209	1.57	250000	>LDR
V	51	1	He	20.301	20.301	0.78	364299	1.03	4000	
Cr	52	1	He	16.970	16.970	0.58	360019	0.64	4000	
Mn	55	1	He	1.274	1.274	1.71	18150	1.20	4000	
Fe	56	1	He	14.352	14.352	3.15	283385	3.43	40000	
Co	59	1	He	0.281	0.281	2.25	9327	2.12	4000	
Ni	60	1	He	0.759	0.759	3.05	7146	3.03	4000	
[Cu]	63	1	He	0.594	0.594	5.76	48908	1.15	4000	
Cu	65	1	He	0.732	0.732	5.68	24156	2.24	4000	
Zn	66	1	He	16.397	16.397	1.14	64543	0.44	4000	
As	75	1	He	53.274	53.274	0.42	126950	0.64	4000	
Se	78	1	He	44.008	44.008	1.58	9593	0.83	4000	
Sr	88	1	He	6012.367	6012.367	0.75	95161978	1.55	4000	>LDR
Mo	95	1	He	343.295	343.295	1.11	3084556	0.29	4000	
Ag	107	1	He	0.014	0.014	27.22	708	15.65	100	
Cd	111	1	He	0.188	0.188	12.57	897	10.95	3500	
Sn	118	1	He	0.118	0.118	9.58	2350	5.85	4000	
Sb	123	1	He	0.169	0.169	17.78	2402	13.77	4000	
Ba	137	1	He	5.604	5.604	2.58	27183	1.87	4000	
Ce	140	1	He	0.049	0.049	10.23	3453	10.42	4000	
Tl	205	1	He	0.119	0.119	0.53	7254	0.41	3500	
Pb	208	1	He	0.030	0.030	9.43	2853	7.15	4000	
U	238	1	He	7.985	7.985	0.97	609193	0.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	721768	0.44	683823	105.55	80	120	
Ge (IS)	72	1	He	382864	0.71	390615	98.02	80	120	
In-115 (IS)	115	1	He	3336536	1.34	3613234	92.34	80	120	
Tb-159 (IS)	159	1	He	7945094	0.85	8473761	93.76	80	120	
Bi-209 (IS)	209	1	He	5056620	0.76	6042462	83.68	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-1-a@2
Data File Name	022SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:18:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3206
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.001	-0.001	-14880.16	16	121.85	100	
Na	23	1	He	276915.197	276915.197	1.96	1091929059	1.01	75000	>LDR
Mg	24	1	He	116912.818	116912.818	0.98	256052274	0.05	125000	>LDR
Al	27	1	He	12.321	12.321	145.68	13658	141.22	4000	
K	39	1	He	94533.679	94533.679	0.99	185793042	1.17	100000	>LDR
Ca	44	1	He	311611.194	311611.194	1.22	32012145	0.27	250000	>LDR
V	51	1	He	6.458	6.458	0.72	112799	0.82	4000	
Cr	52	1	He	13.384	13.384	0.76	272907	0.46	4000	
Mn	55	1	He	0.224	0.224	18.27	3532	15.42	4000	
Fe	56	1	He	12.491	12.491	141.13	238720	133.27	40000	
Co	59	1	He	0.399	0.399	5.06	12557	5.32	4000	
Ni	60	1	He	1.664	1.664	3.18	13910	2.38	4000	
[Cu]	63	1	He	0.845	0.845	5.40	52180	1.61	4000	
Cu	65	1	He	0.934	0.934	3.63	25208	1.20	4000	
Zn	66	1	He	0.764	0.764	10.59	6303	4.14	4000	
As	75	1	He	25.666	25.666	1.49	58048	0.93	4000	
Se	78	1	He	14.421	14.421	2.48	3095	3.22	4000	
Sr	88	1	He	6523.860	6523.860	1.18	98763114	0.58	4000	>LDR
Mo	95	1	He	47.061	47.061	1.86	404883	1.51	4000	
Ag	107	1	He	0.047	0.047	73.93	1539	59.18	100	
Cd	111	1	He	0.050	0.050	76.83	243	70.16	3500	
Sn	118	1	He	1.588	1.588	4.83	17474	4.71	4000	
Sb	123	1	He	0.106	0.106	40.53	1639	27.70	4000	
Ba	137	1	He	9.280	9.280	2.37	42978	0.88	4000	
Ce	140	1	He	0.026	0.026	148.54	1911	122.10	4000	
Tl	205	1	He	0.300	0.300	11.12	16801	11.15	3500	
Pb	208	1	He	0.035	0.035	99.81	3083	75.37	4000	
U	238	1	He	5.009	5.009	0.86	365074	0.77	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	692272	0.94	683823	101.24	80	120	
Ge (IS)	72	1	He	363071	0.88	390615	92.95	80	120	
In-115 (IS)	115	1	He	3191696	1.51	3613234	88.33	80	120	
Tb-159 (IS)	159	1	He	7582829	0.64	8473761	89.49	80	120	
Bi-209 (IS)	209	1	He	4826556	1.43	6042462	79.88	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-2-a@2
Data File Name	023SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:20:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3207
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.033	-0.033	-64.40	9	57.30	100	
Na	23	1	He	313092.035	313092.035	0.74	1298402971	1.89	75000	>LDR
Mg	24	1	He	145803.410	145803.410	0.36	335838156	2.10	125000	>LDR
Al	27	1	He	2.021	2.021	1.84	2729	2.36	4000	
K	39	1	He	37684.755	37684.755	0.66	78009666	2.28	100000	
Ca	44	1	He	351219.711	351219.711	0.79	37943997	1.27	250000	>LDR
V	51	1	He	3.937	3.937	0.76	73306	1.28	4000	
Cr	52	1	He	31.870	31.870	0.96	679543	2.91	4000	
Mn	55	1	He	0.256	0.256	2.78	4164	0.84	4000	
Fe	56	1	He	2.354	2.354	8.02	58801	8.02	40000	
Co	59	1	He	0.125	0.125	2.09	4379	2.51	4000	
Ni	60	1	He	1.484	1.484	2.95	13157	4.60	4000	
[Cu]	63	1	He	0.676	0.676	7.91	51111	0.30	4000	
Cu	65	1	He	0.824	0.824	4.59	25342	2.13	4000	
Zn	66	1	He	3.353	3.353	3.87	16094	1.15	4000	
As	75	1	He	19.348	19.348	0.92	45789	2.18	4000	
Se	78	1	He	6.220	6.220	5.95	1496	5.26	4000	
Sr	88	1	He	7162.332	7162.332	1.55	112708709	2.91	4000	>LDR
Mo	95	1	He	43.609	43.609	1.41	389973	1.84	4000	
Ag	107	1	He	0.036	0.036	6.97	1315	5.82	100	
Cd	111	1	He	0.026	0.026	30.80	142	27.96	3500	
Sn	118	1	He	0.101	0.101	6.26	2156	5.03	4000	
Sb	123	1	He	0.080	0.080	9.26	1418	4.67	4000	
Ba	137	1	He	3.888	3.888	0.88	18789	2.31	4000	
Ce	140	1	He	0.003	0.003	57.70	577	23.89	4000	
Tl	205	1	He	0.078	0.078	6.75	4851	8.07	3500	
Pb	208	1	He	0.010	0.010	19.86	1434	7.21	4000	
U	238	1	He	9.882	9.882	0.86	741075	2.33	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	728044	2.01	683823	106.47	80	120	
Ge (IS)	72	1	He	379676	2.05	390615	97.20	80	120	
In-115 (IS)	115	1	He	3317167	2.14	3613234	91.81	80	120	
Tb-159 (IS)	159	1	He	7812568	2.49	8473761	92.20	80	120	
Bi-209 (IS)	209	1	He	4897087	1.93	6042462	81.04	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-3-a@2
Data File Name	024SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:23:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3208
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.048	-0.048	-45.71	6	91.64	100	
Na	23	1	He	327735.723	327735.723	0.19	1368676319	1.11	75000	>LDR
Mg	24	1	He	150825.167	150825.167	0.47	349843168	1.40	125000	>LDR
Al	27	1	He	1.828	1.828	7.55	2530	6.68	4000	
K	39	1	He	35125.653	35125.653	1.19	73238846	2.20	100000	
Ca	44	1	He	360381.977	360381.977	0.79	39212511	1.79	250000	>LDR
V	51	1	He	3.474	3.474	0.53	65446	0.95	4000	
Cr	52	1	He	32.857	32.857	0.64	705325	0.89	4000	
Mn	55	1	He	0.160	0.160	3.05	2854	3.31	4000	
Fe	56	1	He	2.032	2.032	9.53	53048	7.24	40000	
Co	59	1	He	0.130	0.130	7.31	4565	7.71	4000	
Ni	60	1	He	0.774	0.774	4.03	7383	4.47	4000	
[Cu]	63	1	He	1.312	1.312	1.36	65662	0.74	4000	
Cu	65	1	He	1.435	1.435	1.62	32063	1.52	4000	
Zn	66	1	He	3.661	3.661	3.13	17510	2.42	4000	
As	75	1	He	9.332	9.332	1.61	22497	1.49	4000	
Se	78	1	He	4.474	4.474	6.29	1144	5.91	4000	
Sr	88	1	He	7481.435	7481.435	1.40	118715133	2.54	4000	>LDR
Mo	95	1	He	47.810	47.810	2.62	430986	0.73	4000	
Ag	107	1	He	0.033	0.033	11.72	1217	5.47	100	
Cd	111	1	He	0.033	0.033	22.05	177	16.12	3500	
Sn	118	1	He	0.055	0.055	27.61	1662	8.46	4000	
Sb	123	1	He	0.053	0.053	2.83	1136	4.59	4000	
Ba	137	1	He	4.568	4.568	2.99	22230	0.35	4000	
Ce	140	1	He	0.004	0.004	19.27	610	9.53	4000	
Tl	205	1	He	0.053	0.053	8.72	3467	8.99	3500	
Pb	208	1	He	0.035	0.035	5.63	3097	2.70	4000	
U	238	1	He	10.588	10.588	0.64	802357	1.13	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	733144	1.01	683823	107.21	80	120	
Ge (IS)	72	1	He	385814	1.60	390615	98.77	80	120	
In-115 (IS)	115	1	He	3345822	3.28	3613234	92.60	80	120	
Tb-159 (IS)	159	1	He	7894749	1.68	8473761	93.17	80	120	
Bi-209 (IS)	209	1	He	4888897	1.84	6042462	80.91	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	025_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:25:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	47.710	1.713	11479	2.42	50	95.4	89.5	110.49	
Na	23	1	He	1591.796	4.627	7579624	3.55	1250	127.3	89.5	110.49	>+\-10%
Mg	24	1	He	1362.247	1.831	3322318	1.28	1250	109.0	89.5	110.49	
Al	27	1	He	52.050	1.299	61695	0.93	50	104.1	89.5	110.49	
K	39	1	He	1370.937	1.445	3155091	1.68	1250	109.7	89.5	110.49	
Ca	44	1	He	2705.215	2.123	310063	1.84	2500	108.2	89.5	110.49	
V	51	1	He	49.268	0.936	927064	1.03	50	98.5	89.5	110.49	
Cr	52	1	He	48.551	1.246	1078888	1.19	50	97.1	89.5	110.49	
Mn	55	1	He	49.689	1.157	721257	1.38	50	99.4	89.5	110.49	
Fe	56	1	He	500.586	1.333	9903378	0.78	500	100.1	89.5	110.49	
Co	59	1	He	49.277	1.003	1658237	1.36	50	98.6	89.5	110.49	
Ni	60	1	He	48.712	1.809	417778	1.53	50	97.4	89.5	110.49	
Cu	65	1	He	48.592	0.570	556420	1.25	50	97.2	89.5	110.49	
Zn	66	1	He	51.544	0.872	216336	0.52	50	103.1	89.5	110.49	
As	75	1	He	49.719	1.255	131653	1.61	50	99.4	89.5	110.49	
Se	78	1	He	49.282	2.873	11914	3.31	50	98.6	89.5	110.49	
Sr	88	1	He	52.196	0.810	958580	1.60	50	104.4	89.5	110.49	
Mo	95	1	He	49.785	0.537	512114	1.00	50	99.6	89.5	110.49	
Ag	107	1	He	48.597	0.428	1511457	0.54	50	97.2	89.5	110.49	
Cd	111	1	He	48.976	1.025	260115	1.87	50	98.0	89.5	110.49	
Sn	118	1	He	48.952	0.427	607670	1.14	50	97.9	89.5	110.49	
Sb	123	1	He	49.146	0.741	616134	1.35	50	98.3	89.5	110.49	
Ba	137	1	He	48.925	0.441	270366	1.00	50	97.9	89.5	110.49	
Ce	140	1	He	49.983	0.481	3589586	1.20	50	100.0	89.5	110.49	
Tl	205	1	He	48.391	1.153	2989220	1.69	50	96.8	89.5	110.49	
Pb	208	1	He	49.678	2.497	4035228	1.71	50	99.4	89.5	110.49	
U	238	1	He	48.902	1.623	4024736	2.20	50	97.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	759966	0.95	683823	111.13	80	120	
Ge (IS)	72	1	He	425398	0.49	390615	108.90	80	120	
In-115 (IS)	115	1	He	3815843	0.85	3613234	105.61	80	120	
Tb-159 (IS)	159	1	He	8581270	0.59	8473761	101.27	80	120	
Bi-209 (IS)	209	1	He	6047623	0.89	6042462	100.09	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	026_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:28:10-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-118.7	9	108.3	0.5	
Na	23	1	He	150.030	9.2	1312400	5.2	110	CCB Main CR1 Failed
Mg	24	1	He	37.596	6.1	134976	4.7	110	
Al	27	1	He	0.505	9.2	1041	5.0	10	
K	39	1	He	23.466	5.4	244904	0.9	110	
Ca	44	1	He	66.660	9.5	12250	6.4	110	
V	51	1	He	0.010	34.2	2771	2.1	2	
Cr	52	1	He	0.018	44.8	3344	5.2	2	
Mn	55	1	He	0.004	173.6	677	15.4	1	
Fe	56	1	He	1.060	1.4	34957	1.3	20	
Co	59	1	He	0.008	59.3	631	27.2	1	
Ni	60	1	He	-0.010	-92.9	924	7.6	2	
Cu	65	1	He	0.115	44.7	18168	3.4	1	
Zn	66	1	He	-0.164	-27.2	3524	6.2	20	
As	75	1	He	0.037	15.1	215	7.9	1	
Se	78	1	He	0.029	291.6	202	9.3	2	
Sr	88	1	He	1.962	6.5	48548	4.4	2	
Mo	95	1	He	0.219	6.6	2756	5.8	2	
Ag	107	1	He	0.031	50.8	1326	36.4	1	
Cd	111	1	He	0.010	61.4	81	41.2	1	
Sn	118	1	He	0.152	15.9	3054	10.1	2	
Sb	123	1	He	0.203	9.7	3121	7.8	1	
Ba	137	1	He	0.009	73.1	187	18.1	1	
Ce	140	1	He	0.011	29.0	1200	19.0	1	
Tl	205	1	He	0.016	17.1	1487	13.2	1	
Pb	208	1	He	0.014	35.1	2075	19.4	1	
U	238	1	He	0.048	10.1	4954	7.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	742558	0.89	683823	108.59	80	120	
Ge (IS)	72	1	He	419722	1.12	390615	107.45	80	120	
In-115 (IS)	115	1	He	3753841	0.59	3613234	103.89	80	120	
Tb-159 (IS)	159	1	He	8528880	1.60	8473761	100.65	80	120	
Bi-209 (IS)	209	1	He	5998221	0.91	6042462	99.27	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-4-a
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:30:44-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3209
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.010	-0.010	-386.69	13	66.12	100	
Na	23	1	He	629104.698	629104.698	1.62	2452457787	2.37	75000	>LDR
Mg	24	1	He	289875.244	289875.244	1.71	627635015	0.96	125000	>LDR
Al	27	1	He	4.721	4.721	6.67	5433	8.49	4000	
K	39	1	He	68785.890	68785.890	1.66	133709092	1.06	100000	
Ca	44	1	He	694562.145	694562.145	0.71	70562675	2.55	250000	>LDR
V	51	1	He	6.948	6.948	0.43	119835	2.24	4000	
Cr	52	1	He	63.171	63.171	1.21	1263548	1.44	4000	
Mn	55	1	He	0.307	0.307	5.05	4580	5.91	4000	
Fe	56	1	He	5.657	5.657	4.81	114124	6.80	40000	
Co	59	1	He	0.257	0.257	2.69	8113	5.13	4000	
Ni	60	1	He	0.997	0.997	2.20	8619	4.36	4000	
[Cu]	63	1	He	2.802	2.802	8.78	92204	3.38	4000	
Cu	65	1	He	3.010	3.010	7.11	45653	3.25	4000	
Zn	66	1	He	2.697	2.697	1.62	12623	1.29	4000	
As	75	1	He	19.014	19.014	0.90	41491	1.91	4000	
Se	78	1	He	9.530	9.530	1.90	2027	1.91	4000	
Sr	88	1	He	14798.645	14798.645	0.46	214047934	1.64	4000	>LDR
Mo	95	1	He	93.750	93.750	1.00	770301	2.42	4000	
Ag	107	1	He	0.090	0.090	7.40	2551	7.76	100	
Cd	111	1	He	0.068	0.068	26.71	310	25.42	3500	
Sn	118	1	He	0.098	0.098	23.28	1945	9.95	4000	
Sb	123	1	He	0.221	0.221	2.38	2718	1.67	4000	
Ba	137	1	He	8.839	8.839	1.19	39133	2.89	4000	
Ce	140	1	He	0.030	0.030	23.57	2059	20.90	4000	
Tl	205	1	He	0.130	0.130	0.93	7242	3.11	3500	
Pb	208	1	He	0.090	0.090	5.92	6066	5.99	4000	
U	238	1	He	20.812	20.812	2.57	1460373	1.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684626	2.62	683823	100.12	80	120	
Ge (IS)	72	1	He	350045	1.05	390615	89.61	80	120	
In-115 (IS)	115	1	He	3049351	1.72	3613234	84.39	80	120	
Tb-159 (IS)	159	1	He	7316303	2.25	8473761	86.34	80	120	
Bi-209 (IS)	209	1	He	4433252	0.81	6042462	73.37	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144940-c-1-a
Data File Name	028SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:33:14-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3210
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.000	0.000	-8024.89	16	53.90	100	
Na	23	1	He	606648.092	606648.092	1.65	2403218607	1.27	75000	>LDR
Mg	24	1	He	223121.701	223121.701	1.75	490999305	1.08	125000	>LDR
Al	27	1	He	3.277	3.277	3.39	3963	5.12	4000	
K	39	1	He	64110.468	64110.468	1.32	126675853	1.43	100000	
Ca	44	1	He	611409.865	611409.865	1.92	63110582	0.83	250000	>LDR
V	51	1	He	16.014	16.014	1.84	277446	0.92	4000	
Cr	52	1	He	106.910	106.910	3.56	2170643	1.61	4000	
Mn	55	1	He	0.143	0.143	16.51	2472	10.22	4000	
Fe	56	1	He	3.835	3.835	2.77	82906	0.44	40000	
Co	59	1	He	0.438	0.438	2.58	13803	1.62	4000	
Ni	60	1	He	1.724	1.724	1.02	14451	2.34	4000	
[Cu]	63	1	He	1.476	1.476	9.36	65731	1.77	4000	
Cu	65	1	He	1.682	1.682	7.85	32918	1.49	4000	
Zn	66	1	He	2.187	2.187	6.22	11021	3.17	4000	
As	75	1	He	123.662	123.662	1.34	272440	1.84	4000	
Se	78	1	He	27.778	27.778	0.57	5662	1.86	4000	
Sr	88	1	He	13076.889	13076.889	2.03	194134686	0.19	4000	>LDR
Mo	95	1	He	60.744	60.744	1.64	512431	0.94	4000	
Ag	107	1	He	0.029	0.029	5.50	1062	5.11	100	
Cd	111	1	He	0.023	0.023	13.81	122	11.02	3500	
Sn	118	1	He	0.066	0.066	27.74	1671	9.19	4000	
Sb	123	1	He	0.198	0.198	1.33	2554	1.14	4000	
Ba	137	1	He	8.870	8.870	1.93	40298	0.80	4000	
Ce	140	1	He	0.013	0.013	15.62	1088	8.75	4000	
Tl	205	1	He	0.218	0.218	3.21	12065	1.77	3500	
Pb	208	1	He	0.021	0.021	11.33	2045	7.86	4000	
U	238	1	He	23.884	23.884	0.63	1703490	2.27	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	695811	2.70	683823	101.75	80	120	
Ge (IS)	72	1	He	354132	1.32	390615	90.66	80	120	
In-115 (IS)	115	1	He	3130661	2.21	3613234	86.64	80	120	
Tb-159 (IS)	159	1	He	7434656	1.87	8473761	87.74	80	120	
Bi-209 (IS)	209	1	He	4610318	1.95	6042462	76.30	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144940-c-2-a
Data File Name	029SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:35:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	3211
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.053	-0.053	-40.54	4	114.60	100	
Na	23	1	He	496.376	496.376	19.43	2792610	14.67	75000	
Mg	24	1	He	115.602	115.602	28.09	320055	24.02	125000	
Al	27	1	He	2.534	2.534	2.96	3394	1.94	4000	
K	39	1	He	65.231	65.231	17.69	334852	7.37	100000	
Ca	44	1	He	283.859	283.859	27.20	36395	23.60	250000	
V	51	1	He	0.065	0.065	16.39	3812	5.67	4000	
Cr	52	1	He	0.185	0.185	8.49	7004	4.85	4000	
Mn	55	1	He	0.005	0.005	82.38	697	8.51	4000	
Fe	56	1	He	0.710	0.710	2.64	28364	0.67	40000	
Co	59	1	He	-0.002	-0.002	-12.41	273	4.22	4000	
Ni	60	1	He	-0.059	-0.059	-9.99	517	9.15	4000	
[Cu]	63	1	He	1.376	1.376	5.96	68337	2.82	4000	
Cu	65	1	He	1.382	1.382	2.41	32097	1.40	4000	
Zn	66	1	He	0.455	0.455	13.79	6004	5.11	4000	
As	75	1	He	0.075	0.075	28.60	312	17.27	4000	
Se	78	1	He	0.022	0.022	171.12	200	3.55	4000	
Sr	88	1	He	5.632	5.632	27.52	112913	23.30	4000	
Mo	95	1	He	0.149	0.149	17.93	2040	14.04	4000	
Ag	107	1	He	-0.003	-0.003	-10.10	267	3.75	100	
Cd	111	1	He	-0.002	-0.002	-21.53	18	10.81	3500	
Sn	118	1	He	0.031	0.031	30.27	1566	7.21	4000	
Sb	123	1	He	-0.009	-0.009	-82.88	507	19.11	4000	
Ba	137	1	He	0.057	0.057	31.49	446	21.18	4000	
Ce	140	1	He	-0.002	-0.002	-59.63	238	40.69	4000	
Tl	205	1	He	-0.004	-0.004	-5.80	251	5.53	3500	
Pb	208	1	He	0.006	0.006	10.87	1457	3.42	4000	
U	238	1	He	0.023	0.023	2.72	2891	1.77	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	746965	0.61	683823	109.23	80	120	
Ge (IS)	72	1	He	417651	0.91	390615	106.92	80	120	
In-115 (IS)	115	1	He	3726973	0.96	3613234	103.15	80	120	
Tb-159 (IS)	159	1	He	8458006	0.49	8473761	99.81	80	120	
Bi-209 (IS)	209	1	He	5957487	1.77	6042462	98.59	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	030_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:38:15-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	46.919	3.909	11114	4.13	50	93.8	89.5	110.49	
Na	23	1	He	1534.948	3.322	7221637	2.96	1250	122.8	89.5	110.49	>+\-10%
Mg	24	1	He	1350.704	1.728	3243832	1.51	1250	108.1	89.5	110.49	
Al	27	1	He	51.668	1.116	60301	0.85	50	103.3	89.5	110.49	
K	39	1	He	1368.130	1.934	3100276	1.64	1250	109.5	89.5	110.49	
Ca	44	1	He	2718.421	0.400	306752	0.14	2500	108.7	89.5	110.49	
V	51	1	He	49.265	0.423	912695	0.63	50	98.5	89.5	110.49	
Cr	52	1	He	48.256	0.456	1055786	0.34	50	96.5	89.5	110.49	
Mn	55	1	He	49.726	0.674	710646	0.67	50	99.5	89.5	110.49	
Fe	56	1	He	499.305	0.983	9726180	1.24	500	99.9	89.5	110.49	
Co	59	1	He	49.457	1.692	1638497	1.42	50	98.9	89.5	110.49	
Ni	60	1	He	48.485	0.812	409420	0.54	50	97.0	89.5	110.49	
Cu	65	1	He	48.783	0.428	549892	0.17	50	97.6	89.5	110.49	
Zn	66	1	He	51.342	1.548	211114	0.53	50	102.7	89.5	110.49	
As	75	1	He	49.975	0.545	129638	0.57	50	100.0	89.5	110.49	
Se	78	1	He	50.456	2.371	11943	1.51	50	100.9	89.5	110.49	
Sr	88	1	He	51.746	0.282	935013	0.70	50	103.5	89.5	110.49	
Mo	95	1	He	49.423	1.046	500174	1.41	50	98.8	89.5	110.49	
Ag	107	1	He	48.830	0.426	1494125	0.69	50	97.7	89.5	110.49	
Cd	111	1	He	49.232	1.265	257218	0.70	50	98.5	89.5	110.49	
Sn	118	1	He	48.964	0.412	597967	0.39	50	97.9	89.5	110.49	
Sb	123	1	He	49.010	0.167	604480	0.62	50	98.0	89.5	110.49	
Ba	137	1	He	49.187	1.104	267407	0.97	50	98.4	89.5	110.49	
Ce	140	1	He	49.309	0.791	3483737	0.18	50	98.6	89.5	110.49	
Tl	205	1	He	48.440	1.359	2917722	0.89	50	96.9	89.5	110.49	
Pb	208	1	He	50.087	1.345	3952850	0.75	50	100.2	89.5	110.49	
U	238	1	He	49.232	1.966	3950630	1.21	50	98.5	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	748217	0.27	683823	109.42	80	120	
Ge (IS)	72	1	He	416766	1.11	390615	106.69	80	120	
In-115 (IS)	115	1	He	3754069	0.62	3613234	103.90	80	120	
Tb-159 (IS)	159	1	He	8368207	0.77	8473761	98.75	80	120	
Bi-209 (IS)	209	1	He	5875397	0.61	6042462	97.24	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	031_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:40:41-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.004	1107.2	18	65.8	0.5	
Na	23	1	He	169.922	5.9	1384722	3.6	110	CCB Main CR1 Failed
Mg	24	1	He	45.379	6.9	151984	5.4	110	
Al	27	1	He	0.010	904.1	469	21.8	10	
K	39	1	He	25.669	4.9	247481	1.6	110	
Ca	44	1	He	186.282	80.9	25273	65.9	110	CCB Main CR1 Failed
V	51	1	He	0.016	53.1	2874	5.9	2	
Cr	52	1	He	0.036	11.8	3697	2.8	2	
Mn	55	1	He	-0.002	-295.7	589	12.1	1	
Fe	56	1	He	0.436	4.7	22727	1.3	20	
Co	59	1	He	0.008	62.4	608	27.2	1	
Ni	60	1	He	-0.017	-69.6	863	11.5	2	
Cu	65	1	He	0.107	59.4	17934	4.4	1	
Zn	66	1	He	-0.191	-30.0	3349	7.2	20	
As	75	1	He	0.033	39.5	199	16.0	1	
Se	78	1	He	0.069	208.8	208	15.3	2	
Sr	88	1	He	2.009	6.7	48869	6.8	2	CCB Main CR1 Failed
Mo	95	1	He	0.115	19.3	1691	10.8	2	
Ag	107	1	He	0.027	43.9	1185	31.8	1	
Cd	111	1	He	0.007	22.8	63	13.9	1	
Sn	118	1	He	0.157	12.3	3077	6.3	2	
Sb	123	1	He	0.182	8.1	2838	5.3	1	
Ba	137	1	He	0.012	48.7	202	14.0	1	
Ce	140	1	He	0.009	61.3	1028	38.8	1	
Tl	205	1	He	0.013	33.5	1280	21.3	1	
Pb	208	1	He	0.012	38.5	1903	19.9	1	
U	238	1	He	0.047	1.5	4799	1.1	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	736368	0.58	683823	107.68	80	120	
Ge (IS)	72	1	He	412020	0.55	390615	105.48	80	120	
In-115 (IS)	115	1	He	3713091	2.23	3613234	102.76	80	120	
Tb-159 (IS)	159	1	He	8415115	0.29	8473761	99.31	80	120	
Bi-209 (IS)	209	1	He	5910910	1.07	6042462	97.82	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-325535/1-a@20
Data File Name	032_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:29:32-07:00
Sample Type	MB
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-100.3	8	89.2	0.5	
Na	23	1	He	35.765	51.3	724593	9.4	110	
Mg	24	1	He	29.250	28.2	100812	16.8	110	
Al	27	1	He	2.035	6.2	2447	5.0	10	
K	39	1	He	4.660	35.3	179443	1.8	110	
Ca	44	1	He	81.434	24.2	12126	15.6	110	
V	51	1	He	0.010	36.4	2428	2.3	2	
Cr	52	1	He	0.094	2.8	4365	1.3	2	
Mn	55	1	He	0.062	4.6	1310	2.4	1	
Fe	56	1	He	3.462	5.7	71071	4.4	20	
Co	59	1	He	0.003	90.1	407	22.0	1	
Ni	60	1	He	-0.008	-126.1	823	8.8	2	
Cu	65	1	He	-0.680	-1.9	8346	1.8	1	
Zn	66	1	He	0.234	20.7	4552	4.3	20	
As	75	1	He	0.017	39.1	144	11.4	1	
Se	78	1	He	0.067	101.3	187	8.3	2	
Sr	88	1	He	1.391	27.2	35204	17.5	2	
Mo	95	1	He	0.225	19.5	2592	15.9	2	
Ag	107	1	He	-0.001	-111.2	314	10.1	1	
Cd	111	1	He	0.002	68.3	34	20.1	1	
Sn	118	1	He	1.538	3.1	18301	3.1	2	
Sb	123	1	He	0.044	64.2	1069	30.0	1	
Ba	137	1	He	0.070	19.4	479	14.3	1	
Ce	140	1	He	0.004	22.2	640	9.5	1	
Tl	205	1	He	0.002	42.1	551	8.6	1	
Pb	208	1	He	0.009	10.3	1626	5.0	1	
U	238	1	He	0.009	7.5	1603	4.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	649013	0.31	683823	94.91	80	120	
Ge (IS)	72	1	He	371991	0.79	390615	95.23	80	120	
In-115 (IS)	115	1	He	3443761	0.18	3613234	95.31	80	120	
Tb-159 (IS)	159	1	He	7987577	1.68	8473761	94.26	80	120	
Bi-209 (IS)	209	1	He	5672004	0.78	6042462	93.87	80	120	

Sample Report

Sample Table

Sample Name	lcs 440-325535/2-a@20
Data File Name	033SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:32:06-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3301
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	102.717	102.717	1.80	21024	1.72	100	>LDR
Na	23	1	He	1022.478	1022.478	0.33	4357478	0.45	75000	
Mg	24	1	He	518.065	518.065	0.86	1101035	0.45	125000	
Al	27	1	He	105.226	105.226	0.98	105788	0.61	4000	
K	39	1	He	1058.171	1058.171	0.33	2112375	0.67	100000	
Ca	44	1	He	703.066	703.066	1.80	71776	1.52	250000	
V	51	1	He	103.641	103.641	1.66	1657939	1.34	4000	
Cr	52	1	He	102.442	102.442	1.78	1935364	1.44	4000	
Mn	55	1	He	103.439	103.439	1.42	1277788	1.06	4000	
Fe	56	1	He	119.411	119.411	1.96	2021114	1.75	40000	
Co	59	1	He	103.109	103.109	1.14	2953878	0.89	4000	
Ni	60	1	He	102.479	102.479	0.36	747399	0.04	4000	
[Cu]	63	1	He	101.102	101.102	0.85	2018897	0.58	4000	
Cu	65	1	He	102.100	102.100	0.84	979185	0.55	4000	
Zn	66	1	He	100.540	100.540	1.04	358545	0.15	4000	
As	75	1	He	101.002	101.002	0.94	229327	0.35	4000	
Se	78	1	He	97.180	97.180	1.06	19988	1.24	4000	
Sr	88	1	He	103.417	103.417	0.86	1689184	1.48	4000	
Mo	95	1	He	102.721	102.721	1.13	945970	0.67	4000	
Ag	107	1	He	52.102	52.102	0.55	1451613	0.62	100	
Cd	111	1	He	101.496	101.496	0.93	482830	0.92	3500	
Sn	118	1	He	103.881	103.881	0.63	1153899	0.13	4000	
Sb	123	1	He	104.442	104.442	0.46	1172271	0.59	4000	
Ba	137	1	He	102.669	102.669	0.28	508109	0.92	4000	
Ce	140	1	He	0.003	0.003	29.55	553	10.06	4000	
Tl	205	1	He	99.750	99.750	0.20	5721897	0.29	3500	
Pb	208	1	He	102.969	102.969	1.54	7815832	0.36	4000	
U	238	1	He	-0.007	-0.007	-2.92	394	3.52	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647067	0.38	683823	94.62	80	120	
Ge (IS)	72	1	He	364955	0.89	390615	93.43	80	120	
In-115 (IS)	115	1	He	3418244	0.63	3613234	94.60	80	120	
Tb-159 (IS)	159	1	He	7969613	0.47	8473761	94.05	80	120	
Bi-209 (IS)	209	1	He	5652062	1.39	6042462	93.54	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-d@20
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:34:30-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3302
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.425	0.425	24.89	104	21.25	100	
Na	23	1	He	961.205	961.205	2.05	4246465	1.27	75000	
Mg	24	1	He	3983.884	3983.884	1.66	8423414	1.97	125000	
Al	27	1	He	10998.491	10998.491	1.21	11321894	0.62	4000	>LDR
K	39	1	He	1510.884	1510.884	2.00	3024961	1.58	100000	
Ca	44	1	He	5692.600	5692.600	0.56	566183	0.84	250000	
V	51	1	He	92.082	92.082	1.62	1514461	2.34	4000	
Cr	52	1	He	18.156	18.156	1.09	354748	1.61	4000	
Mn	55	1	He	392.138	392.138	0.52	4977703	1.25	4000	
Fe	56	1	He	31355.278	31355.278	1.55	542139374	2.24	40000	
Co	59	1	He	7.672	7.672	1.55	226208	1.40	4000	
Ni	60	1	He	10.138	10.138	1.34	76814	1.99	4000	
[Cu]	63	1	He	21.916	21.916	0.77	475721	0.83	4000	
Cu	65	1	He	22.338	22.338	0.35	232043	1.03	4000	
Zn	66	1	He	49.433	49.433	0.54	178611	0.60	4000	
As	75	1	He	12.371	12.371	1.30	28251	0.38	4000	
Se	78	1	He	0.986	0.986	13.05	372	8.13	4000	
Sr	88	1	He	93.942	93.942	2.26	1501469	3.17	4000	
Mo	95	1	He	1.114	1.114	1.07	10510	1.65	4000	
Ag	107	1	He	0.085	0.085	11.68	2639	8.43	100	
Cd	111	1	He	0.098	0.098	12.04	477	9.79	3500	
Sn	118	1	He	1.829	1.829	2.85	20917	1.95	4000	
Sb	123	1	He	0.587	0.587	2.76	6994	4.07	4000	
Ba	137	1	He	98.183	98.183	2.12	475044	1.90	4000	
Ce	140	1	He	47.481	47.481	2.00	2985993	0.42	4000	
Tl	205	1	He	0.233	0.233	4.82	13748	4.45	3500	
Pb	208	1	He	5.488	5.488	0.90	415485	1.11	4000	
U	238	1	He	2.947	2.947	1.50	225407	0.56	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665076	0.73	683823	97.26	80	120	
Ge (IS)	72	1	He	365913	1.13	390615	93.68	80	120	
In-115 (IS)	115	1	He	3342257	1.74	3613234	92.50	80	120	
Tb-159 (IS)	159	1	He	7946738	1.38	8473761	93.78	80	120	
Bi-209 (IS)	209	1	He	5624594	0.43	6042462	93.08	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-e ms@20
Data File Name	035SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:36:56-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3303
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	97.357	97.357	1.86	21008	1.25	100	>LDR
Na	23	1	He	2501.806	2501.806	0.77	10339889	0.92	75000	
Mg	24	1	He	5133.453	5133.453	0.57	11120824	0.56	125000	
Al	27	1	He	15220.495	15220.495	1.68	16071122	1.05	4000	>LDR
K	39	1	He	3371.654	3371.654	0.70	6703546	1.13	100000	
Ca	44	1	He	8386.265	8386.265	0.39	853456	0.93	250000	
V	51	1	He	200.113	200.113	1.09	3372778	0.45	4000	
Cr	52	1	He	119.665	119.665	0.50	2383132	0.64	4000	
Mn	55	1	He	526.973	526.973	1.29	6860922	0.99	4000	
Fe	56	1	He	34743.625	34743.625	0.92	616126856	0.22	40000	
Co	59	1	He	106.767	106.767	1.52	3224624	0.99	4000	
Ni	60	1	He	106.795	106.795	0.78	821122	0.51	4000	
[Cu]	63	1	He	117.542	117.542	0.20	2469188	0.68	4000	
Cu	65	1	He	118.730	118.730	0.71	1197967	0.31	4000	
Zn	66	1	He	150.992	150.992	0.66	546990	0.55	4000	
As	75	1	He	112.398	112.398	0.29	260114	0.66	4000	
Se	78	1	He	96.052	96.052	0.57	20138	0.77	4000	
Sr	88	1	He	223.685	223.685	1.71	3606565	0.75	4000	
Mo	95	1	He	104.762	104.762	1.38	956195	0.44	4000	
Ag	107	1	He	51.941	51.941	1.23	1434266	0.15	100	
Cd	111	1	He	101.822	101.822	1.96	480060	1.14	3500	
Sn	118	1	He	106.757	106.757	1.33	1175288	0.22	4000	
Sb	123	1	He	103.848	103.848	1.02	1155276	0.50	4000	
Ba	137	1	He	229.069	229.069	1.81	1123357	0.78	4000	
Ce	140	1	He	60.233	60.233	1.53	3840431	1.06	4000	
Tl	205	1	He	100.249	100.249	2.30	5760036	0.39	3500	
Pb	208	1	He	111.413	111.413	0.73	8299824	0.61	4000	
U	238	1	He	2.792	2.792	1.70	214647	0.83	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	682209	0.79	683823	99.76	80	120	
Ge (IS)	72	1	He	371975	0.49	390615	95.23	80	120	
In-115 (IS)	115	1	He	3388128	1.11	3613234	93.77	80	120	
Tb-159 (IS)	159	1	He	7985419	2.22	8473761	94.24	80	120	
Bi-209 (IS)	209	1	He	5546614	0.71	6042462	91.79	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-f msd@20
Data File Name	036SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:39:15-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3304
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	99.532	99.532	1.33	21528	1.17	100	>LDR
Na	23	1	He	2407.161	2407.161	0.82	9995152	0.73	75000	
Mg	24	1	He	4969.142	4969.142	1.37	10790831	1.09	125000	
Al	27	1	He	14864.679	14864.679	0.91	15732320	0.67	4000	>LDR
K	39	1	He	3123.324	3123.324	1.50	6237092	1.22	100000	
Ca	44	1	He	7979.740	7979.740	0.55	814159	0.62	250000	
V	51	1	He	190.173	190.173	0.39	3212868	0.57	4000	
Cr	52	1	He	118.541	118.541	1.09	2366172	0.76	4000	
Mn	55	1	He	491.532	491.532	0.85	6414383	0.68	4000	
Fe	56	1	He	30666.929	30666.929	1.15	545089241	0.75	40000	
Co	59	1	He	106.295	106.295	1.43	3218053	1.76	4000	
Ni	60	1	He	106.536	106.536	0.28	821028	0.12	4000	
[Cu]	63	1	He	118.496	118.496	1.79	2494587	1.54	4000	
Cu	65	1	He	117.793	117.793	0.45	1191390	0.18	4000	
Zn	66	1	He	148.135	148.135	0.85	538162	0.52	4000	
As	75	1	He	111.260	111.260	0.55	258174	0.23	4000	
Se	78	1	He	96.295	96.295	1.41	20242	1.04	4000	
Sr	88	1	He	227.862	227.862	1.49	3651303	0.66	4000	
Mo	95	1	He	106.417	106.417	0.83	965400	0.56	4000	
Ag	107	1	He	42.685	42.685	0.63	1171580	0.23	100	
Cd	111	1	He	103.224	103.224	0.61	483731	0.36	3500	
Sn	118	1	He	107.428	107.428	1.13	1175457	0.29	4000	
Sb	123	1	He	105.243	105.243	1.47	1163593	0.65	4000	
Ba	137	1	He	229.944	229.944	0.80	1120838	0.35	4000	
Ce	140	1	He	49.446	49.446	1.77	3133386	1.26	4000	
Tl	205	1	He	101.533	101.533	1.16	5830441	0.89	3500	
Pb	208	1	He	110.249	110.249	1.15	8357537	1.09	4000	
U	238	1	He	3.764	3.764	1.50	288815	0.68	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	683772	0.40	683823	99.99	80	120	
Ge (IS)	72	1	He	372985	0.35	390615	95.49	80	120	
In-115 (IS)	115	1	He	3367368	0.86	3613234	93.20	80	120	
Tb-159 (IS)	159	1	He	7978637	1.12	8473761	94.16	80	120	
Bi-209 (IS)	209	1	He	5644065	0.34	6042462	93.41	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-d pds@20
Data File Name	037SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:41:34-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3305
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	92.378	92.378	2.53	19502	2.13	100	>LDR
Na	23	1	He	3414.372	3414.372	2.04	13582136	1.33	75000	
Mg	24	1	He	6382.401	6382.401	0.93	13516059	0.36	125000	
Al	27	1	He	11252.533	11252.533	1.35	11624132	0.98	4000	>LDR
K	39	1	He	3880.660	3880.660	1.95	7521106	1.47	100000	
Ca	44	1	He	10496.569	10496.569	0.42	1043912	0.32	250000	
V	51	1	He	186.194	186.194	0.28	3070387	0.41	4000	
Cr	52	1	He	111.481	111.481	0.33	2172217	0.83	4000	
Mn	55	1	He	489.486	489.486	1.07	6234651	0.61	4000	
Fe	56	1	He	32616.843	32616.843	1.26	565868866	0.95	40000	
Co	59	1	He	100.366	100.366	1.18	2965606	0.59	4000	
Ni	60	1	He	100.263	100.263	0.81	754238	0.66	4000	
[Cu]	63	1	He	113.822	113.822	0.46	2340244	0.97	4000	
Cu	65	1	He	114.001	114.001	0.56	1125930	0.55	4000	
Zn	66	1	He	143.075	143.075	0.43	511255	0.18	4000	
As	75	1	He	107.743	107.743	0.27	245861	0.82	4000	
Se	78	1	He	92.675	92.675	2.17	19163	1.59	4000	
Sr	88	1	He	194.618	194.618	1.13	3111644	0.95	4000	
Mo	95	1	He	97.540	97.540	0.12	882407	0.34	4000	
Ag	107	1	He	100.822	100.822	1.40	2758973	1.44	100	>LDR
Cd	111	1	He	93.863	93.863	0.47	438623	0.56	3500	
Sn	118	1	He	99.843	99.843	0.88	1089478	0.81	4000	
Sb	123	1	He	99.216	99.216	0.56	1093922	0.10	4000	
Ba	137	1	He	194.491	194.491	0.29	945365	0.22	4000	
Ce	140	1	He	143.679	143.679	1.84	9078439	1.39	4000	
Tl	205	1	He	93.131	93.131	1.71	5307534	1.46	3500	
Pb	208	1	He	101.397	101.397	1.61	7664951	0.35	4000	
U	238	1	He	98.110	98.110	0.58	7449331	0.90	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	667407	0.64	683823	97.60	80	120	
Ge (IS)	72	1	He	366778	0.58	390615	93.90	80	120	
In-115 (IS)	115	1	He	3357733	0.46	3613234	92.93	80	120	
Tb-159 (IS)	159	1	He	7918060	0.32	8473761	93.44	80	120	
Bi-209 (IS)	209	1	He	5628855	1.27	6042462	93.15	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-1-h@20
Data File Name	038SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:43:53-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3306
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.474	1.474	6.40	348	5.62	100	
Na	23	1	He	896.482	896.482	1.00	4284149	0.37	75000	
Mg	24	1	He	13917.408	13917.408	0.57	31392230	0.51	125000	
Al	27	1	He	38888.344	38888.344	1.03	42858709	0.59	4000	>LDR
K	39	1	He	8730.803	8730.803	0.72	17819354	0.42	100000	
Ca	44	1	He	18138.072	18138.072	0.85	1921082	0.41	250000	
V	51	1	He	121.939	121.939	1.95	2146098	1.74	4000	
Cr	52	1	He	28.042	28.042	0.62	585042	0.18	4000	
Mn	55	1	He	923.404	923.404	1.28	12547702	0.96	4000	
Fe	56	1	He	41432.194	41432.194	0.85	766895650	0.79	40000	>LDR
Co	59	1	He	15.286	15.286	1.22	482179	0.82	4000	
Ni	60	1	He	20.791	20.791	0.39	167630	0.50	4000	
[Cu]	63	1	He	64.383	64.383	0.41	1427636	0.37	4000	
Cu	65	1	He	65.606	65.606	0.46	698182	0.17	4000	
Zn	66	1	He	102.055	102.055	0.20	371120	0.57	4000	
As	75	1	He	21.362	21.362	1.25	49547	1.33	4000	
Se	78	1	He	1.452	1.452	4.01	475	3.02	4000	
Sr	88	1	He	229.763	229.763	1.41	3679495	0.50	4000	
Mo	95	1	He	2.076	2.076	1.50	19302	1.77	4000	
Ag	107	1	He	0.225	0.225	4.33	6498	2.77	100	
Cd	111	1	He	0.290	0.290	1.83	1382	2.28	3500	
Sn	118	1	He	2.636	2.636	3.24	29875	2.87	4000	
Sb	123	1	He	1.214	1.214	1.52	13966	2.05	4000	
Ba	137	1	He	312.156	312.156	1.64	1520559	0.84	4000	
Ce	140	1	He	74.792	74.792	2.06	4736519	1.42	4000	
Tl	205	1	He	0.543	0.543	2.27	31379	2.21	3500	
Pb	208	1	He	16.930	16.930	0.53	1256318	0.87	4000	
U	238	1	He	5.146	5.146	0.75	391443	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	712043	0.47	683823	104.13	80	120	
Ge (IS)	72	1	He	372181	0.52	390615	95.28	80	120	
In-115 (IS)	115	1	He	3365518	1.37	3613234	93.14	80	120	
Tb-159 (IS)	159	1	He	7915545	0.29	8473761	93.41	80	120	
Bi-209 (IS)	209	1	He	5521735	1.18	6042462	91.38	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-1-h SD@100
Data File Name	039SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:46:18-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3307
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.210	0.210	75.67	60	56.39	100	
Na	23	1	He	178.467	178.467	57.11	1298295	29.97	75000	
Mg	24	1	He	3048.731	3048.731	2.81	6533916	2.00	125000	
Al	27	1	He	8323.224	8323.224	2.43	8671988	1.19	4000	>LDR
K	39	1	He	1888.044	1888.044	1.52	3782147	1.12	100000	
Ca	44	1	He	3803.422	3803.422	2.95	384359	2.51	250000	
V	51	1	He	25.217	25.217	0.91	421473	0.44	4000	
Cr	52	1	He	6.088	6.088	1.76	122179	0.98	4000	
Mn	55	1	He	203.952	203.952	0.78	2620817	1.05	4000	
Fe	56	1	He	9051.408	9051.408	0.45	158418300	1.13	40000	
Co	59	1	He	3.375	3.375	1.75	100901	1.14	4000	
Ni	60	1	He	4.570	4.570	2.06	35556	2.51	4000	
[Cu]	63	1	He	13.466	13.466	1.21	308759	0.35	4000	
Cu	65	1	He	13.748	13.748	1.41	150446	0.23	4000	
Zn	66	1	He	21.317	21.317	1.31	81191	1.86	4000	
As	75	1	He	4.349	4.349	1.18	10263	1.87	4000	
Se	78	1	He	0.285	0.285	47.78	235	11.64	4000	
Sr	88	1	He	44.280	44.280	5.16	730703	5.00	4000	
Mo	95	1	He	0.477	0.477	25.01	4895	22.84	4000	
Ag	107	1	He	0.061	0.061	38.84	2045	32.23	100	
Cd	111	1	He	0.087	0.087	27.98	437	26.26	3500	
Sn	118	1	He	0.565	0.565	7.83	7372	6.88	4000	
Sb	123	1	He	0.266	0.266	14.97	3553	13.51	4000	
Ba	137	1	He	62.499	62.499	1.23	309517	0.88	4000	
Ce	140	1	He	14.573	14.573	0.79	938304	1.24	4000	
Tl	205	1	He	0.134	0.134	23.75	8288	21.39	3500	
Pb	208	1	He	3.341	3.341	0.57	259303	1.15	4000	
U	238	1	He	1.000	1.000	2.97	78727	2.26	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	673242	1.24	683823	98.45	80	120	
Ge (IS)	72	1	He	375560	0.78	390615	96.15	80	120	
In-115 (IS)	115	1	He	3420582	1.91	3613234	94.67	80	120	
Tb-159 (IS)	159	1	He	8110751	1.03	8473761	95.72	80	120	
Bi-209 (IS)	209	1	He	5758041	1.06	6042462	95.29	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	040_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:48:46-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.368	3.538	10535	4.10	50	100.7	89.5	110.49	
Na	23	1	He	1216.200	2.453	5177547	1.71	1250	97.3	89.5	110.49	
Mg	24	1	He	1269.513	2.267	2694451	1.46	1250	101.6	89.5	110.49	
Al	27	1	He	60.127	1.197	61902	1.86	50	120.3	89.5	110.49	>+\-10%
K	39	1	He	1299.036	1.166	2608120	0.90	1250	103.9	89.5	110.49	
Ca	44	1	He	2509.254	0.701	250356	0.28	2500	100.4	89.5	110.49	
V	51	1	He	49.532	1.276	810225	0.58	50	99.1	89.5	110.49	
Cr	52	1	He	49.107	1.065	948637	0.30	50	98.2	89.5	110.49	
Mn	55	1	He	50.570	1.287	638122	0.81	50	101.1	89.5	110.49	
Fe	56	1	He	518.380	0.488	8915839	0.75	500	103.7	89.5	110.49	
Co	59	1	He	50.733	0.705	1484156	0.27	50	101.5	89.5	110.49	
Ni	60	1	He	50.164	1.007	374008	0.81	50	100.3	89.5	110.49	
Cu	65	1	He	49.446	0.903	491945	0.23	50	98.9	89.5	110.49	
Zn	66	1	He	51.820	1.004	190967	0.33	50	103.6	89.5	110.49	
As	75	1	He	50.009	0.826	116280	0.59	50	100.0	89.5	110.49	
Se	78	1	He	49.845	2.724	10578	2.28	50	99.7	89.5	110.49	
Sr	88	1	He	47.093	0.572	786817	1.03	50	94.2	89.5	110.49	
Mo	95	1	He	49.485	0.111	462375	0.42	50	99.0	89.5	110.49	
Ag	107	1	He	49.502	0.419	1398501	0.15	50	99.0	89.5	110.49	
Cd	111	1	He	49.467	0.558	238631	0.14	50	98.9	89.5	110.49	
Sn	118	1	He	49.764	0.175	561113	0.30	50	99.5	89.5	110.49	
Sb	123	1	He	49.733	0.906	566334	0.65	50	99.5	89.5	110.49	
Ba	137	1	He	49.619	0.879	249062	0.43	50	99.2	89.5	110.49	
Ce	140	1	He	51.143	0.982	3336312	1.37	50	102.3	89.5	110.49	
Tl	205	1	He	49.755	1.582	2891349	0.85	50	99.5	89.5	110.49	
Pb	208	1	He	50.123	2.016	3889343	1.23	50	100.2	89.5	110.49	
U	238	1	He	50.147	1.196	3882612	0.63	50	100.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660694	0.77	683823	96.62	80	120	
Ge (IS)	72	1	He	373577	1.30	390615	95.64	80	120	
In-115 (IS)	115	1	He	3466144	0.46	3613234	95.93	80	120	
Tb-159 (IS)	159	1	He	8073941	1.23	8473761	95.28	80	120	
Bi-209 (IS)	209	1	He	5777150	0.79	6042462	95.61	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	041_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:51:12-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.009	-323.1	13	43.3	0.5	
Na	23	1	He	-102.962	-0.7	218915	0.4	110	
Mg	24	1	He	-14.810	-1.3	10698	3.1	110	
Al	27	1	He	5.283	10.1	5894	8.6	10	
K	39	1	He	-6.434	-18.6	164221	0.6	110	
Ca	44	1	He	-32.006	-1.8	1241	3.9	110	
V	51	1	He	0.015	76.9	2587	6.4	2	
Cr	52	1	He	0.027	12.4	3197	2.6	2	
Mn	55	1	He	0.175	7.3	2799	5.3	1	
Fe	56	1	He	9.194	4.3	173258	3.5	20	
Co	59	1	He	0.025	8.6	1066	5.2	1	
Ni	60	1	He	0.058	15.2	1352	5.7	2	
Cu	65	1	He	-0.836	-4.5	7091	4.3	1	
Zn	66	1	He	0.093	59.9	4118	5.5	20	
As	75	1	He	0.025	17.6	165	5.8	1	
Se	78	1	He	0.083	191.2	194	18.3	2	
Sr	88	1	He	-0.595	-2.6	2811	9.2	2	
Mo	95	1	He	0.061	14.0	1082	7.1	2	
Ag	107	1	He	0.038	33.9	1427	25.4	1	
Cd	111	1	He	0.020	55.5	120	43.7	1	
Sn	118	1	He	0.139	7.8	2695	4.8	2	
Sb	123	1	He	0.226	8.0	3171	6.6	1	
Ba	137	1	He	0.065	10.8	459	7.3	1	
Ce	140	1	He	0.021	14.1	1773	10.8	1	
Tl	205	1	He	0.030	10.9	2177	8.4	1	
Pb	208	1	He	0.025	14.1	2899	10.4	1	
U	238	1	He	0.026	4.9	2935	2.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	670295	0.86	683823	98.02	80	120	
Ge (IS)	72	1	He	378737	1.19	390615	96.96	80	120	
In-115 (IS)	115	1	He	3498431	0.53	3613234	96.82	80	120	
Tb-159 (IS)	159	1	He	8030677	0.57	8473761	94.77	80	120	
Bi-209 (IS)	209	1	He	5772913	0.87	6042462	95.54	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-2-d@20
Data File Name	042SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:53:46-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3308
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.638	1.638	8.89	400	8.21	100	
Na	23	1	He	1419.650	1419.650	0.64	6658466	0.11	75000	
Mg	24	1	He	16072.995	16072.995	1.16	37681457	1.08	125000	
Al	27	1	He	44891.103	44891.103	0.34	51433670	0.74	4000	>LDR
K	39	1	He	7029.809	7029.809	0.81	14953339	0.61	100000	
Ca	44	1	He	37574.975	37574.975	1.11	4131922	0.67	250000	
V	51	1	He	137.628	137.628	0.81	2517767	0.59	4000	
Cr	52	1	He	34.218	34.218	1.13	741479	0.84	4000	
Mn	55	1	He	1015.397	1015.397	1.59	14343382	1.15	4000	
Fe	56	1	He	48713.288	48713.288	0.37	937338843	0.24	40000	>LDR
Co	59	1	He	18.587	18.587	0.31	609434	0.18	4000	
Ni	60	1	He	25.470	25.470	0.76	213253	0.38	4000	
[Cu]	63	1	He	65.422	65.422	0.63	1507518	1.04	4000	
Cu	65	1	He	65.530	65.530	0.41	724991	0.60	4000	
Zn	66	1	He	114.921	114.921	0.18	419870	1.14	4000	
As	75	1	He	27.586	27.586	0.77	64321	0.32	4000	
Se	78	1	He	1.779	1.779	10.96	547	8.35	4000	
Sr	88	1	He	351.655	351.655	1.61	5537526	1.48	4000	
Mo	95	1	He	4.981	4.981	1.11	44919	0.77	4000	
Ag	107	1	He	0.187	0.187	1.40	5383	1.07	100	
Cd	111	1	He	0.287	0.287	2.66	1349	3.22	3500	
Sn	118	1	He	2.624	2.624	1.25	29283	0.62	4000	
Sb	123	1	He	1.406	1.406	0.86	15832	0.27	4000	
Ba	137	1	He	466.081	466.081	1.72	2234932	1.37	4000	
Ce	140	1	He	92.988	92.988	0.52	5797310	0.66	4000	
Tl	205	1	He	0.597	0.597	0.53	34639	0.08	3500	
Pb	208	1	He	18.909	18.909	0.32	1383760	0.51	4000	
U	238	1	He	11.957	11.957	0.68	913155	0.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	740216	0.48	683823	108.25	80	120	
Ge (IS)	72	1	He	374346	1.04	390615	95.84	80	120	
In-115 (IS)	115	1	He	3312837	0.61	3613234	91.69	80	120	
Tb-159 (IS)	159	1	He	7957396	0.60	8473761	93.91	80	120	
Bi-209 (IS)	209	1	He	5445494	0.20	6042462	90.12	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-3-d@20
Data File Name	043SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:56:09-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3309
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.668	1.668	14.39	413	14.72	100	
Na	23	1	He	5173.519	5173.519	2.48	22802515	1.22	75000	
Mg	24	1	He	14471.437	14471.437	0.34	34426286	0.87	125000	
Al	27	1	He	44752.172	44752.172	1.41	52016797	0.22	4000	>LDR
K	39	1	He	5083.009	5083.009	1.49	11024647	1.61	100000	
Ca	44	1	He	13233.031	13233.031	1.97	1479439	0.77	250000	
V	51	1	He	131.929	131.929	0.59	2448979	1.69	4000	
Cr	52	1	He	36.553	36.553	0.31	803450	0.91	4000	
Mn	55	1	He	1852.944	1852.944	0.61	26556912	1.16	4000	
Fe	56	1	He	50721.544	50721.544	1.36	990133401	0.31	40000	>LDR
Co	59	1	He	18.354	18.354	0.37	610607	1.46	4000	
Ni	60	1	He	26.902	26.902	0.58	228477	1.10	4000	
[Cu]	63	1	He	63.181	63.181	0.56	1478353	0.99	4000	
Cu	65	1	He	63.143	63.143	0.90	709358	0.54	4000	
Zn	66	1	He	122.461	122.461	0.43	450040	0.90	4000	
As	75	1	He	28.740	28.740	1.03	67439	0.67	4000	
Se	78	1	He	1.758	1.758	8.52	546	5.85	4000	
Sr	88	1	He	331.368	331.368	1.75	5238856	1.84	4000	
Mo	95	1	He	10.245	10.245	0.26	92227	0.40	4000	
Ag	107	1	He	0.195	0.195	1.56	5611	1.56	100	
Cd	111	1	He	0.232	0.232	3.18	1097	3.43	3500	
Sn	118	1	He	2.792	2.792	1.18	31212	1.50	4000	
Sb	123	1	He	1.145	1.145	0.42	13053	0.78	4000	
Ba	137	1	He	550.481	550.481	1.25	2649811	1.21	4000	
Ce	140	1	He	101.401	101.401	0.96	6345839	0.59	4000	
Tl	205	1	He	0.647	0.647	1.50	37559	2.01	3500	
Pb	208	1	He	19.650	19.650	1.20	1449213	0.20	4000	
U	238	1	He	7.552	7.552	0.49	578326	0.27	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	751021	1.19	683823	109.83	80	120	
Ge (IS)	72	1	He	376758	1.11	390615	96.45	80	120	
In-115 (IS)	115	1	He	3325493	0.38	3613234	92.04	80	120	
Tb-159 (IS)	159	1	He	7973925	0.54	8473761	94.10	80	120	
Bi-209 (IS)	209	1	He	5488552	1.07	6042462	90.83	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-4-e@20
Data File Name	044SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:58:33-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3310
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.578	0.578	12.53	143	10.66	100	
Na	23	1	He	2121.201	2121.201	1.58	9063793	0.89	75000	
Mg	24	1	He	5819.175	5819.175	1.07	12888392	0.28	125000	
Al	27	1	He	17011.415	17011.415	0.55	18374988	1.38	4000	>LDR
K	39	1	He	1922.736	1922.736	1.19	3988970	0.69	100000	
Ca	44	1	He	6748.077	6748.077	1.17	703302	0.22	250000	
V	51	1	He	92.221	92.221	2.49	1591077	1.76	4000	
Cr	52	1	He	22.179	22.179	1.48	454027	0.53	4000	
Mn	55	1	He	742.524	742.524	0.63	9888342	0.46	4000	
Fe	56	1	He	32379.358	32379.358	0.58	587353026	0.65	40000	
Co	59	1	He	9.468	9.468	0.69	292821	0.30	4000	
Ni	60	1	He	12.912	12.912	1.51	102381	0.94	4000	
[Cu]	63	1	He	25.263	25.263	1.65	570018	0.70	4000	
Cu	65	1	He	25.599	25.599	1.00	276666	0.45	4000	
Zn	66	1	He	56.388	56.388	1.56	210405	1.11	4000	
As	75	1	He	17.939	17.939	1.52	42367	0.28	4000	
Se	78	1	He	1.069	1.069	9.21	403	6.02	4000	
Sr	88	1	He	117.495	117.495	2.15	1931207	2.33	4000	
Mo	95	1	He	3.290	3.290	1.69	31000	0.94	4000	
Ag	107	1	He	0.058	0.058	11.56	1977	9.53	100	
Cd	111	1	He	0.087	0.087	11.86	440	10.61	3500	
Sn	118	1	He	1.885	1.885	3.91	22167	2.72	4000	
Sb	123	1	He	0.699	0.699	0.75	8470	0.34	4000	
Ba	137	1	He	148.569	148.569	1.32	740448	0.39	4000	
Ce	140	1	He	55.613	55.613	1.54	3603123	0.58	4000	
Tl	205	1	He	0.209	0.209	1.21	12671	0.47	3500	
Pb	208	1	He	7.368	7.368	0.18	554385	0.36	4000	
U	238	1	He	3.639	3.639	1.12	284200	0.97	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	697821	0.95	683823	102.05	80	120	
Ge (IS)	72	1	He	378857	1.27	390615	96.99	80	120	
In-115 (IS)	115	1	He	3442937	1.04	3613234	95.29	80	120	
Tb-159 (IS)	159	1	He	8117978	0.81	8473761	95.80	80	120	
Bi-209 (IS)	209	1	He	5593221	0.39	6042462	92.57	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-5-d@20
Data File Name	045SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:01:00-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3311
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.007	1.007	30.48	242	28.35	100	
Na	23	1	He	5995.438	5995.438	0.50	24907662	0.41	75000	
Mg	24	1	He	9397.580	9397.580	1.16	21171943	1.34	125000	
Al	27	1	He	26588.363	26588.363	0.44	29248284	0.49	4000	>LDR
K	39	1	He	6628.211	6628.211	2.31	13548229	2.58	100000	
Ca	44	1	He	12293.094	12293.094	1.09	1301087	1.12	250000	
V	51	1	He	54.177	54.177	0.34	953105	0.63	4000	
Cr	52	1	He	14.822	14.822	0.50	309987	0.39	4000	
Mn	55	1	He	533.229	533.229	0.22	7232524	0.45	4000	
Fe	56	1	He	24382.423	24382.423	0.57	450462942	0.62	40000	
Co	59	1	He	8.937	8.937	0.52	281527	0.36	4000	
Ni	60	1	He	11.961	11.961	0.07	96666	0.25	4000	
[Cu]	63	1	He	71.313	71.313	1.13	1574465	0.84	4000	
Cu	65	1	He	71.632	71.632	0.94	759366	0.62	4000	
Zn	66	1	He	61.310	61.310	0.49	227587	0.44	4000	
As	75	1	He	8.333	8.333	0.74	19663	0.58	4000	
Se	78	1	He	1.108	1.108	20.04	409	10.93	4000	
Sr	88	1	He	141.949	141.949	0.55	2258926	0.33	4000	
Mo	95	1	He	4.479	4.479	1.31	40738	1.58	4000	
Ag	107	1	He	0.079	0.079	3.23	2484	3.07	100	
Cd	111	1	He	0.175	0.175	7.13	834	6.65	3500	
Sn	118	1	He	1.374	1.374	2.29	15958	2.35	4000	
Sb	123	1	He	0.552	0.552	2.92	6604	2.84	4000	
Ba	137	1	He	174.062	174.062	0.23	840901	0.48	4000	
Ce	140	1	He	42.716	42.716	0.47	2682849	0.20	4000	
Tl	205	1	He	0.244	0.244	2.02	14528	1.33	3500	
Pb	208	1	He	9.503	9.503	0.48	710876	0.36	4000	
U	238	1	He	2.352	2.352	0.35	182050	0.57	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710690	0.30	683823	103.93	80	120	
Ge (IS)	72	1	He	377414	0.50	390615	96.62	80	120	
In-115 (IS)	115	1	He	3337142	0.28	3613234	92.36	80	120	
Tb-159 (IS)	159	1	He	8031061	0.65	8473761	94.78	80	120	
Bi-209 (IS)	209	1	He	5563284	0.63	6042462	92.07	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-6-d@20
Data File Name	046SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:03:25-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3312
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.543	1.543	5.52	390	4.76	100	
Na	23	1	He	11654.959	11654.959	1.38	51413082	0.75	75000	
Mg	24	1	He	17690.686	17690.686	0.45	42820094	0.23	125000	
Al	27	1	He	51861.237	51861.237	0.29	61354258	0.36	4000	>LDR
K	39	1	He	10203.800	10203.800	0.39	22321122	0.30	100000	
Ca	44	1	He	26149.577	26149.577	1.71	2970684	1.29	250000	
V	51	1	He	115.213	115.213	1.02	2176797	0.87	4000	
Cr	52	1	He	29.325	29.325	0.68	656615	0.63	4000	
Mn	55	1	He	1038.572	1038.572	1.71	15149293	1.77	4000	
Fe	56	1	He	46645.978	46645.978	0.98	926828337	1.38	40000	>LDR
Co	59	1	He	17.455	17.455	0.95	590955	0.44	4000	
Ni	60	1	He	23.087	23.087	1.45	199682	0.80	4000	
[Cu]	63	1	He	135.928	135.928	1.89	3193021	1.45	4000	
Cu	65	1	He	141.860	141.860	0.71	1600261	0.16	4000	
Zn	66	1	He	121.880	121.880	0.61	450019	0.85	4000	
As	75	1	He	28.042	28.042	0.08	66114	0.33	4000	
Se	78	1	He	1.891	1.891	15.48	576	10.99	4000	
Sr	88	1	He	301.763	301.763	2.47	4809501	1.49	4000	
Mo	95	1	He	10.759	10.759	1.94	97596	0.76	4000	
Ag	107	1	He	0.145	0.145	6.46	4298	4.91	100	
Cd	111	1	He	0.331	0.331	9.24	1568	8.03	3500	
Sn	118	1	He	2.772	2.772	2.63	31240	1.37	4000	
Sb	123	1	He	0.942	0.942	2.34	10920	1.95	4000	
Ba	137	1	He	418.485	418.485	3.00	2030255	1.87	4000	
Ce	140	1	He	85.532	85.532	2.60	5395155	1.71	4000	
Tl	205	1	He	0.495	0.495	1.05	29042	0.87	3500	
Pb	208	1	He	19.697	19.697	1.22	1432974	0.45	4000	
U	238	1	He	6.543	6.543	1.39	504767	1.16	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	764331	0.65	683823	111.77	80	120	
Ge (IS)	72	1	He	378510	0.38	390615	96.90	80	120	
In-115 (IS)	115	1	He	3352306	1.16	3613234	92.78	80	120	
Tb-159 (IS)	159	1	He	8031564	0.24	8473761	94.78	80	120	
Bi-209 (IS)	209	1	He	5414054	0.88	6042462	89.60	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-7-d@20
Data File Name	047SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:05:47-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3401
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.222	1.222	10.60	307	9.96	100	
Na	23	1	He	7334.487	7334.487	1.11	32001165	0.76	75000	
Mg	24	1	He	15191.755	15191.755	1.80	36084169	0.60	125000	
Al	27	1	He	47841.303	47841.303	1.81	55530192	0.68	4000	>LDR
K	39	1	He	5962.598	5962.598	1.39	12879931	0.77	100000	
Ca	44	1	He	91890.487	91890.487	2.03	10229852	0.90	250000	
V	51	1	He	120.750	120.750	1.80	2238274	0.95	4000	
Cr	52	1	He	30.347	30.347	1.43	666588	0.15	4000	
Mn	55	1	He	775.554	775.554	1.30	11100271	1.19	4000	
Fe	56	1	He	46392.480	46392.480	1.54	904381973	0.35	40000	>LDR
Co	59	1	He	15.365	15.365	0.96	510484	0.41	4000	
Ni	60	1	He	21.297	21.297	0.66	180828	0.65	4000	
[Cu]	63	1	He	112.566	112.566	1.59	2600919	0.53	4000	
Cu	65	1	He	111.291	111.291	1.30	1235485	0.30	4000	
Zn	66	1	He	112.789	112.789	0.47	410751	0.75	4000	
As	75	1	He	38.287	38.287	0.21	88935	0.50	4000	
Se	78	1	He	1.449	1.449	15.81	476	9.51	4000	
Sr	88	1	He	354.859	354.859	1.87	5599222	1.55	4000	
Mo	95	1	He	3.243	3.243	0.93	29470	1.34	4000	
Ag	107	1	He	0.154	0.154	1.18	4493	1.09	100	
Cd	111	1	He	0.490	0.490	1.76	2286	3.22	3500	
Sn	118	1	He	2.715	2.715	1.87	30316	0.33	4000	
Sb	123	1	He	0.958	0.958	1.43	10987	0.79	4000	
Ba	137	1	He	370.600	370.600	2.13	1780655	1.28	4000	
Ce	140	1	He	83.839	83.839	0.73	5237685	0.77	4000	
Tl	205	1	He	0.488	0.488	1.10	27903	0.96	3500	
Pb	208	1	He	18.729	18.729	0.38	1331111	0.49	4000	
U	238	1	He	10.371	10.371	0.62	778351	0.41	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	750007	1.30	683823	109.68	80	120	
Ge (IS)	72	1	He	373077	0.58	390615	95.51	80	120	
In-115 (IS)	115	1	He	3319849	1.49	3613234	91.88	80	120	
Tb-159 (IS)	159	1	He	7818168	0.22	8473761	92.26	80	120	
Bi-209 (IS)	209	1	He	5288580	0.35	6042462	87.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-8-d@20
Data File Name	048SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:08:13-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3402
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.485	1.485	9.98	370	8.87	100	
Na	23	1	He	3155.290	3155.290	1.12	14204194	0.66	75000	
Mg	24	1	He	13223.753	13223.753	1.29	31522189	0.39	125000	
Al	27	1	He	44410.424	44410.424	1.10	51727270	1.59	4000	>LDR
K	39	1	He	4441.430	4441.430	1.71	9676324	0.82	100000	
Ca	44	1	He	14267.298	14267.298	0.93	1598046	1.25	250000	
V	51	1	He	119.509	119.509	1.88	2222730	1.22	4000	
Cr	52	1	He	36.289	36.289	0.88	799206	0.34	4000	
Mn	55	1	He	868.936	868.936	1.59	12478633	1.76	4000	
Fe	56	1	He	50254.698	50254.698	1.31	983081596	1.91	40000	>LDR
Co	59	1	He	19.037	19.037	1.16	634495	0.28	4000	
Ni	60	1	He	24.167	24.167	1.74	205741	1.22	4000	
[Cu]	63	1	He	89.935	89.935	0.82	2092575	0.28	4000	
Cu	65	1	He	89.042	89.042	1.28	995266	1.21	4000	
Zn	66	1	He	113.316	113.316	0.21	421357	0.61	4000	
As	75	1	He	20.553	20.553	0.56	48799	0.69	4000	
Se	78	1	He	1.891	1.891	6.98	580	5.31	4000	
Sr	88	1	He	271.922	271.922	2.45	4350672	0.47	4000	
Mo	95	1	He	2.340	2.340	4.94	21680	2.93	4000	
Ag	107	1	He	0.168	0.168	2.68	4936	0.90	100	
Cd	111	1	He	0.170	0.170	11.44	820	9.15	3500	
Sn	118	1	He	2.737	2.737	1.51	30977	1.99	4000	
Sb	123	1	He	1.088	1.088	2.58	12570	0.56	4000	
Ba	137	1	He	454.245	454.245	1.24	2212140	0.88	4000	
Ce	140	1	He	96.476	96.476	2.03	6107631	0.26	4000	
Tl	205	1	He	0.543	0.543	1.82	31808	1.11	3500	
Pb	208	1	He	18.814	18.814	0.31	1374123	0.69	4000	
U	238	1	He	5.196	5.196	0.69	400424	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	752492	0.93	683823	110.04	80	120	
Ge (IS)	72	1	He	380947	0.54	390615	97.53	80	120	
In-115 (IS)	115	1	He	3364919	2.13	3613234	93.13	80	120	
Tb-159 (IS)	159	1	He	8019064	0.84	8473761	94.63	80	120	
Bi-209 (IS)	209	1	He	5435004	0.75	6042462	89.95	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-9-d@20
Data File Name	049SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:10:36-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3403
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.653	0.653	7.00	163	5.40	100	
Na	23	1	He	562.658	562.658	2.37	2934177	1.27	75000	
Mg	24	1	He	8474.202	8474.202	1.30	19153335	0.38	125000	
Al	27	1	He	25695.657	25695.657	0.88	28352559	0.62	4000	>LDR
K	39	1	He	6090.048	6090.048	0.32	12501151	0.63	100000	
Ca	44	1	He	9347.260	9347.260	0.31	993508	1.22	250000	
V	51	1	He	49.196	49.196	0.56	868358	0.52	4000	
Cr	52	1	He	14.339	14.339	0.57	300902	0.48	4000	
Mn	55	1	He	459.600	459.600	1.82	6252718	1.37	4000	
Fe	56	1	He	23474.668	23474.668	1.26	435010934	0.91	40000	
Co	59	1	He	8.039	8.039	1.06	254020	0.46	4000	
Ni	60	1	He	11.370	11.370	1.18	92217	0.79	4000	
[Cu]	63	1	He	66.735	66.735	2.23	1480369	2.80	4000	
Cu	65	1	He	66.869	66.869	0.93	712136	0.89	4000	
Zn	66	1	He	57.884	57.884	1.79	217106	0.62	4000	
As	75	1	He	7.984	7.984	1.87	19023	1.68	4000	
Se	78	1	He	0.851	0.851	17.42	359	10.01	4000	
Sr	88	1	He	127.436	127.436	3.29	2053373	1.86	4000	
Mo	95	1	He	0.687	0.687	5.60	6735	3.65	4000	
Ag	107	1	He	0.071	0.071	3.19	2291	1.35	100	
Cd	111	1	He	0.163	0.163	10.66	790	8.98	3500	
Sn	118	1	He	1.351	1.351	2.01	15897	0.78	4000	
Sb	123	1	He	0.534	0.534	2.13	6479	1.56	4000	
Ba	137	1	He	156.463	156.463	2.20	764954	0.72	4000	
Ce	140	1	He	39.802	39.802	3.57	2529541	2.09	4000	
Tl	205	1	He	0.230	0.230	2.98	13706	1.31	3500	
Pb	208	1	He	8.808	8.808	1.13	661594	0.31	4000	
U	238	1	He	1.751	1.751	1.24	135103	0.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	712888	0.91	683823	104.25	80	120	
Ge (IS)	72	1	He	381020	1.19	390615	97.54	80	120	
In-115 (IS)	115	1	He	3377979	1.67	3613234	93.49	80	120	
Tb-159 (IS)	159	1	He	7994223	1.91	8473761	94.34	80	120	
Bi-209 (IS)	209	1	He	5586087	1.41	6042462	92.45	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-10-e@20
Data File Name	050SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:13:02-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3404
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.531	0.531	12.44	132	10.19	100	
Na	23	1	He	713.064	713.064	1.16	3453205	0.26	75000	
Mg	24	1	He	5417.504	5417.504	1.28	11944789	1.15	125000	
Al	27	1	He	17419.524	17419.524	1.38	18724606	1.17	4000	>LDR
K	39	1	He	2510.160	2510.160	0.69	5127312	1.35	100000	
Ca	44	1	He	9133.531	9133.531	0.82	945774	0.11	250000	
V	51	1	He	104.538	104.538	0.46	1794925	1.28	4000	
Cr	52	1	He	21.475	21.475	0.25	437643	0.65	4000	
Mn	55	1	He	389.643	389.643	0.46	5164731	1.27	4000	
Fe	56	1	He	35409.697	35409.697	0.30	639261166	0.71	40000	
Co	59	1	He	8.317	8.317	0.91	256033	0.31	4000	
Ni	60	1	He	11.394	11.394	0.91	90027	0.55	4000	
[Cu]	63	1	He	33.185	33.185	0.76	734398	0.28	4000	
Cu	65	1	He	33.513	33.513	0.75	355583	0.30	4000	
Zn	66	1	He	56.499	56.499	0.59	210874	1.00	4000	
As	75	1	He	16.156	16.156	0.63	38177	0.18	4000	
Se	78	1	He	0.962	0.962	18.09	380	10.00	4000	
Sr	88	1	He	123.300	123.300	0.75	1988801	0.94	4000	
Mo	95	1	He	0.898	0.898	4.00	8667	4.02	4000	
Ag	107	1	He	0.049	0.049	5.32	1688	4.39	100	
Cd	111	1	He	0.099	0.099	10.42	489	9.58	3500	
Sn	118	1	He	1.911	1.911	0.91	22046	0.86	4000	
Sb	123	1	He	1.080	1.080	2.62	12537	2.85	4000	
Ba	137	1	He	124.567	124.567	0.09	609487	0.30	4000	
Ce	140	1	He	58.489	58.489	1.41	3720074	1.05	4000	
Tl	205	1	He	0.167	0.167	1.15	10060	2.11	3500	
Pb	208	1	He	7.389	7.389	0.45	552509	0.38	4000	
U	238	1	He	2.829	2.829	0.31	218143	0.83	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	694483	0.82	683823	101.56	80	120	
Ge (IS)	72	1	He	378930	0.53	390615	97.01	80	120	
In-115 (IS)	115	1	He	3379662	0.37	3613234	93.54	80	120	
Tb-159 (IS)	159	1	He	8008452	1.07	8473761	94.51	80	120	
Bi-209 (IS)	209	1	He	5558794	0.16	6042462	92.00	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	051_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:15:28-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.505	1.240	10531	1.72	50	101.0	89.5	110.49	
Na	23	1	He	1206.155	3.620	5123904	2.70	1250	96.5	89.5	110.49	
Mg	24	1	He	1296.343	1.547	2742362	1.41	1250	103.7	89.5	110.49	
Al	27	1	He	68.349	2.636	70094	2.86	50	136.7	89.5	110.49	>+\-10%
K	39	1	He	1323.962	1.100	2646798	1.18	1250	105.9	89.5	110.49	
Ca	44	1	He	2522.645	0.518	250904	0.28	2500	100.9	89.5	110.49	
V	51	1	He	49.757	0.778	811438	0.41	50	99.5	89.5	110.49	
Cr	52	1	He	49.324	0.868	949932	0.54	50	98.6	89.5	110.49	
Mn	55	1	He	50.730	0.879	638196	0.39	50	101.5	89.5	110.49	
Fe	56	1	He	536.547	0.260	9199707	0.58	500	107.3	89.5	110.49	
Co	59	1	He	50.460	3.390	1471625	3.24	50	100.9	89.5	110.49	
Ni	60	1	He	49.657	0.512	369117	0.10	50	99.3	89.5	110.49	
Cu	65	1	He	48.693	1.226	483220	1.05	50	97.4	89.5	110.49	
Zn	66	1	He	50.976	1.546	188499	1.01	50	102.0	89.5	110.49	
As	75	1	He	49.867	1.036	116308	0.71	50	99.7	89.5	110.49	
Se	78	1	He	49.491	1.834	10536	1.16	50	99.0	89.5	110.49	
Sr	88	1	He	47.440	1.094	784907	0.09	50	94.9	89.5	110.49	
Mo	95	1	He	50.087	2.146	463482	1.21	50	100.2	89.5	110.49	
Ag	107	1	He	49.571	1.723	1387006	0.80	50	99.1	89.5	110.49	
Cd	111	1	He	49.525	2.003	236610	1.14	50	99.0	89.5	110.49	
Sn	118	1	He	50.314	1.659	561843	0.67	50	100.6	89.5	110.49	
Sb	123	1	He	49.863	1.472	562365	0.51	50	99.7	89.5	110.49	
Ba	137	1	He	49.849	1.473	247819	0.46	50	99.7	89.5	110.49	
Ce	140	1	He	51.013	2.299	3295593	1.33	50	102.0	89.5	110.49	
Tl	205	1	He	49.829	0.938	2858007	0.50	50	99.7	89.5	110.49	
Pb	208	1	He	49.795	1.103	3811253	0.73	50	99.6	89.5	110.49	
U	238	1	He	50.342	2.739	3846642	2.12	50	100.7	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	658672	0.49	683823	96.32	80	120	
Ge (IS)	72	1	He	374727	0.91	390615	95.93	80	120	
In-115 (IS)	115	1	He	3433170	1.02	3613234	95.02	80	120	
Tb-159 (IS)	159	1	He	7968336	0.66	8473761	94.04	80	120	
Bi-209 (IS)	209	1	He	5698331	1.55	6042462	94.30	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	052_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:17:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.013	349.1	18	54.1	0.5	
Na	23	1	He	-117.931	-0.6	159758	0.8	110	
Mg	24	1	He	-13.659	-1.1	12977	3.1	110	
Al	27	1	He	12.625	4.4	13348	4.9	10	CCB Main CR1 Failed
K	39	1	He	-8.020	-10.7	159188	0.6	110	
Ca	44	1	He	-27.300	-1.2	1688	0.8	110	
V	51	1	He	0.023	45.9	2697	7.5	2	
Cr	52	1	He	0.016	84.0	2940	8.0	2	
Mn	55	1	He	0.300	7.4	4346	6.8	1	
Fe	56	1	He	17.589	3.5	315539	3.2	20	
Co	59	1	He	0.013	30.8	708	17.3	1	
Ni	60	1	He	0.043	17.5	1218	5.7	2	
Cu	65	1	He	-0.937	-3.0	6024	3.6	1	
Zn	66	1	He	0.086	40.2	4078	3.6	20	
As	75	1	He	0.028	38.1	172	14.1	1	
Se	78	1	He	-0.051	-135.5	165	9.5	2	
Sr	88	1	He	-0.643	-0.4	1997	2.8	2	
Mo	95	1	He	0.040	25.1	881	11.2	2	
Ag	107	1	He	0.028	45.9	1147	32.6	1	
Cd	111	1	He	0.008	22.1	63	13.9	1	
Sn	118	1	He	0.070	16.4	1896	6.2	2	
Sb	123	1	He	0.196	5.7	2797	4.0	1	
Ba	137	1	He	0.107	5.8	667	4.8	1	
Ce	140	1	He	0.033	14.6	2529	13.0	1	
Tl	205	1	He	0.018	22.0	1456	15.0	1	
Pb	208	1	He	0.019	22.3	2352	13.8	1	
U	238	1	He	0.019	8.1	2411	4.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661900	1.16	683823	96.79	80	120	
Ge (IS)	72	1	He	377280	0.65	390615	96.59	80	120	
In-115 (IS)	115	1	He	3463210	0.59	3613234	95.85	80	120	
Tb-159 (IS)	159	1	He	7960402	0.52	8473761	93.94	80	120	
Bi-209 (IS)	209	1	He	5665304	0.80	6042462	93.76	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-11-f@20
Data File Name	053SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:20:30-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3405
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.479	0.479	17.77	122	15.51	100	
Na	23	1	He	734.915	734.915	0.66	3580202	1.15	75000	
Mg	24	1	He	4524.666	4524.666	0.15	10097565	0.72	125000	
Al	27	1	He	13978.601	13978.601	0.96	15197808	1.08	4000	>LDR
K	39	1	He	1743.052	1743.052	1.24	3657436	1.41	100000	
Ca	44	1	He	7347.539	7347.539	0.42	770437	0.34	250000	
V	51	1	He	103.380	103.380	0.99	1795198	0.67	4000	
Cr	52	1	He	21.318	21.318	1.22	439412	1.12	4000	
Mn	55	1	He	347.086	347.086	1.48	4653049	1.66	4000	
Fe	56	1	He	34745.022	34745.022	0.86	634408970	0.85	40000	
Co	59	1	He	8.894	8.894	0.65	276885	0.84	4000	
Ni	60	1	He	10.285	10.285	1.17	82280	0.54	4000	
[Cu]	63	1	He	24.897	24.897	0.40	566000	0.45	4000	
Cu	65	1	He	25.164	25.164	0.85	274032	0.53	4000	
Zn	66	1	He	52.341	52.341	0.68	197429	0.73	4000	
As	75	1	He	11.685	11.685	1.34	27896	1.50	4000	
Se	78	1	He	1.046	1.046	10.66	402	5.48	4000	
Sr	88	1	He	108.131	108.131	1.41	1778577	1.19	4000	
Mo	95	1	He	0.850	0.850	4.96	8384	5.21	4000	
Ag	107	1	He	0.074	0.074	3.72	2407	2.93	100	
Cd	111	1	He	0.092	0.092	11.02	464	10.99	3500	
Sn	118	1	He	1.842	1.842	2.08	21697	1.51	4000	
Sb	123	1	He	0.708	0.708	3.08	8569	2.65	4000	
Ba	137	1	He	105.790	105.790	0.46	527417	0.41	4000	
Ce	140	1	He	51.199	51.199	0.59	3318119	0.68	4000	
Tl	205	1	He	0.170	0.170	1.66	10346	1.97	3500	
Pb	208	1	He	6.512	6.512	0.90	489783	0.83	4000	
U	238	1	He	3.112	3.112	0.99	241565	0.59	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	702400	0.62	683823	102.72	80	120	
Ge (IS)	72	1	He	382420	0.44	390615	97.90	80	120	
In-115 (IS)	115	1	He	3443564	0.55	3613234	95.30	80	120	
Tb-159 (IS)	159	1	He	8064577	0.40	8473761	95.17	80	120	
Bi-209 (IS)	209	1	He	5590221	0.95	6042462	92.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-12-d@20
Data File Name	054SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:22:57-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3406
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.399	0.399	10.82	102	9.96	100	
Na	23	1	He	537.693	537.693	1.28	2731221	0.46	75000	
Mg	24	1	He	4002.927	4002.927	0.69	8745717	0.72	125000	
Al	27	1	He	10639.712	10639.712	1.84	11317946	1.25	4000	>LDR
K	39	1	He	1478.365	1478.365	0.67	3062693	0.78	100000	
Ca	44	1	He	6259.272	6259.272	0.22	642888	1.00	250000	
V	51	1	He	121.379	121.379	3.08	2061727	2.37	4000	
Cr	52	1	He	22.109	22.109	1.38	445798	1.13	4000	
Mn	55	1	He	536.812	536.812	0.71	7041075	0.45	4000	
Fe	56	1	He	42071.500	42071.500	0.35	751652628	0.77	40000	>LDR
Co	59	1	He	7.801	7.801	1.18	237694	1.41	4000	
Ni	60	1	He	10.930	10.930	0.55	85506	1.29	4000	
[Cu]	63	1	He	22.576	22.576	0.86	505352	0.25	4000	
Cu	65	1	He	22.859	22.859	1.54	245011	1.37	4000	
Zn	66	1	He	53.360	53.360	0.47	199670	0.63	4000	
As	75	1	He	14.609	14.609	0.16	34585	0.59	4000	
Se	78	1	He	1.008	1.008	4.38	391	2.83	4000	
Sr	88	1	He	75.450	75.450	1.36	1235284	0.50	4000	
Mo	95	1	He	1.288	1.288	3.14	12350	2.07	4000	
Ag	107	1	He	0.059	0.059	4.39	1971	4.83	100	
Cd	111	1	He	0.072	0.072	19.66	366	17.41	3500	
Sn	118	1	He	1.809	1.809	0.72	21163	1.74	4000	
Sb	123	1	He	0.599	0.599	3.51	7279	2.61	4000	
Ba	137	1	He	87.510	87.510	0.65	432985	0.52	4000	
Ce	140	1	He	58.775	58.775	1.58	3779956	1.32	4000	
Tl	205	1	He	0.147	0.147	1.91	8958	1.94	3500	
Pb	208	1	He	5.667	5.667	1.08	430397	0.09	4000	
U	238	1	He	3.908	3.908	1.99	302636	0.91	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	687283	0.82	683823	100.51	80	120	
Ge (IS)	72	1	He	379507	0.45	390615	97.16	80	120	
In-115 (IS)	115	1	He	3417492	1.18	3613234	94.58	80	120	
Tb-159 (IS)	159	1	He	8053535	1.77	8473761	95.04	80	120	
Bi-209 (IS)	209	1	He	5643461	1.03	6042462	93.40	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-13-d@20
Data File Name	055SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:25:25-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3407
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.499	0.499	7.28	122	6.86	100	
Na	23	1	He	572.806	572.806	2.80	2828547	1.69	75000	
Mg	24	1	He	8285.689	8285.689	0.36	17805439	0.82	125000	
Al	27	1	He	13294.867	13294.867	0.79	13945876	0.27	4000	>LDR
K	39	1	He	2910.161	2910.161	1.67	5771866	1.18	100000	
Ca	44	1	He	5174.214	5174.214	0.12	524801	0.42	250000	
V	51	1	He	42.476	42.476	0.33	713091	0.85	4000	
Cr	52	1	He	8.877	8.877	0.39	178118	0.90	4000	
Mn	55	1	He	234.136	234.136	0.23	3028639	0.61	4000	
Fe	56	1	He	21216.994	21216.994	0.39	373786110	0.45	40000	
Co	59	1	He	6.384	6.384	1.11	191855	1.49	4000	
Ni	60	1	He	11.295	11.295	2.48	87090	1.95	4000	
[Cu]	63	1	He	619.660	619.660	0.75	12787031	0.57	4000	
Cu	65	1	He	624.972	624.972	1.32	6198318	0.87	4000	
Zn	66	1	He	35.288	35.288	0.19	132371	0.22	4000	
As	75	1	He	9.968	9.968	0.23	23463	0.29	4000	
Se	78	1	He	1.780	1.780	1.92	550	1.21	4000	
Sr	88	1	He	111.817	111.817	2.14	1802772	1.28	4000	
Mo	95	1	He	2.001	2.001	4.04	18680	2.96	4000	
Ag	107	1	He	0.090	0.090	6.81	2801	4.48	100	
Cd	111	1	He	0.080	0.080	8.93	399	9.17	3500	
Sn	118	1	He	2.504	2.504	1.45	28534	0.83	4000	
Sb	123	1	He	0.587	0.587	3.24	7069	4.08	4000	
Ba	137	1	He	95.128	95.128	1.79	464972	0.35	4000	
Ce	140	1	He	30.427	30.427	1.73	1933431	0.69	4000	
Tl	205	1	He	0.650	0.650	1.12	37878	0.25	3500	
Pb	208	1	He	4.230	4.230	0.33	316615	0.16	4000	
U	238	1	He	2.450	2.450	1.06	188861	0.34	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	677701	0.53	683823	99.10	80	120	
Ge (IS)	72	1	He	376786	0.11	390615	96.46	80	120	
In-115 (IS)	115	1	He	3376626	1.57	3613234	93.45	80	120	
Tb-159 (IS)	159	1	He	7999117	0.89	8473761	94.40	80	120	
Bi-209 (IS)	209	1	He	5557925	0.24	6042462	91.98	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-14-d@20
Data File Name	056SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:27:51-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3408
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.839	0.839	18.60	197	17.69	100	
Na	23	1	He	693.871	693.871	0.54	3320898	0.60	75000	
Mg	24	1	He	5480.002	5480.002	1.27	11880686	1.85	125000	
Al	27	1	He	13754.017	13754.017	0.25	14537579	0.72	4000	>LDR
K	39	1	He	2462.714	2462.714	2.66	4949488	2.71	100000	
Ca	44	1	He	6131.716	6131.716	0.40	625820	0.96	250000	
V	51	1	He	57.897	57.897	0.52	978475	0.76	4000	
Cr	52	1	He	11.525	11.525	0.43	232190	0.78	4000	
Mn	55	1	He	271.088	271.088	0.30	3533235	0.98	4000	
Fe	56	1	He	24677.325	24677.325	1.60	438053947	1.74	40000	
Co	59	1	He	7.705	7.705	0.93	233240	1.48	4000	
Ni	60	1	He	11.409	11.409	0.62	88632	0.15	4000	
[Cu]	63	1	He	302.778	302.778	0.30	6313053	1.01	4000	
Cu	65	1	He	312.165	312.165	0.46	3127465	0.98	4000	
Zn	66	1	He	58.174	58.174	0.17	215875	0.91	4000	
As	75	1	He	18.040	18.040	0.90	42395	1.25	4000	
Se	78	1	He	1.609	1.609	7.66	515	5.73	4000	
Sr	88	1	He	114.896	114.896	0.69	1846467	0.83	4000	
Mo	95	1	He	1.530	1.530	0.78	14354	1.35	4000	
Ag	107	1	He	0.082	0.082	5.70	2580	4.36	100	
Cd	111	1	He	0.153	0.153	5.28	740	6.19	3500	
Sn	118	1	He	1.903	1.903	2.05	21869	0.59	4000	
Sb	123	1	He	0.522	0.522	2.87	6330	2.37	4000	
Ba	137	1	He	102.282	102.282	0.80	498412	0.64	4000	
Ce	140	1	He	56.053	56.053	1.03	3550614	0.79	4000	
Tl	205	1	He	0.282	0.282	1.96	16623	2.63	3500	
Pb	208	1	He	5.660	5.660	0.39	429597	1.11	4000	
U	238	1	He	2.901	2.901	0.50	222886	0.87	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	682855	0.71	683823	99.86	80	120	
Ge (IS)	72	1	He	376947	0.88	390615	96.50	80	120	
In-115 (IS)	115	1	He	3366010	1.43	3613234	93.16	80	120	
Tb-159 (IS)	159	1	He	7978654	0.73	8473761	94.16	80	120	
Bi-209 (IS)	209	1	He	5640033	1.23	6042462	93.34	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-15-d@20
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:30:17-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3409
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.257	1.257	7.90	299	7.91	100	
Na	23	1	He	1147.046	1147.046	1.47	5294643	1.32	75000	
Mg	24	1	He	10182.811	10182.811	0.90	22956946	0.70	125000	
Al	27	1	He	29391.082	29391.082	0.63	32360556	1.03	4000	>LDR
K	39	1	He	4290.263	4290.263	0.99	8842527	0.23	100000	
Ca	44	1	He	10219.680	10219.680	0.69	1083376	0.50	250000	
V	51	1	He	107.761	107.761	1.05	1894958	0.76	4000	
Cr	52	1	He	23.967	23.967	0.22	499944	0.62	4000	
Mn	55	1	He	445.927	445.927	1.30	6053509	0.49	4000	
Fe	56	1	He	39102.620	39102.620	1.68	723039118	1.60	40000	>LDR
Co	59	1	He	11.385	11.385	1.05	358830	0.27	4000	
Ni	60	1	He	16.797	16.797	1.56	135468	0.71	4000	
[Cu]	63	1	He	222.164	222.164	0.46	4834809	1.14	4000	
Cu	65	1	He	230.752	230.752	1.14	2412325	0.72	4000	
Zn	66	1	He	94.409	94.409	1.11	349696	0.64	4000	
As	75	1	He	28.271	28.271	0.83	66704	0.52	4000	
Se	78	1	He	2.122	2.122	9.98	626	7.19	4000	
Sr	88	1	He	182.087	182.087	1.19	2920038	0.54	4000	
Mo	95	1	He	1.138	1.138	4.92	10812	5.31	4000	
Ag	107	1	He	0.178	0.178	5.03	5228	5.43	100	
Cd	111	1	He	0.169	0.169	4.13	813	3.69	3500	
Sn	118	1	He	2.246	2.246	1.22	25634	0.75	4000	
Sb	123	1	He	1.094	1.094	3.40	12646	2.79	4000	
Ba	137	1	He	275.395	275.395	0.88	1342226	0.18	4000	
Ce	140	1	He	112.619	112.619	0.61	7136045	0.93	4000	
Tl	205	1	He	0.408	0.408	2.19	24096	1.26	3500	
Pb	208	1	He	13.000	13.000	1.15	968328	0.38	4000	
U	238	1	He	4.864	4.864	1.40	376355	0.56	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	711333	0.84	683823	104.02	80	120	
Ge (IS)	72	1	He	378802	0.47	390615	96.98	80	120	
In-115 (IS)	115	1	He	3367032	0.71	3613234	93.19	80	120	
Tb-159 (IS)	159	1	He	8049760	0.88	8473761	95.00	80	120	
Bi-209 (IS)	209	1	He	5541592	0.76	6042462	91.71	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-16-d@20
Data File Name	058SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:32:42-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3410
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.821	0.821	19.35	204	17.88	100	
Na	23	1	He	1119.740	1119.740	0.75	5281153	1.58	75000	
Mg	24	1	He	12536.737	12536.737	0.79	28781600	1.09	125000	
Al	27	1	He	33812.225	33812.225	0.42	37923346	1.03	4000	>LDR
K	39	1	He	5664.886	5664.886	1.59	11833811	2.22	100000	
Ca	44	1	He	10005.256	10005.256	0.25	1080583	1.03	250000	
V	51	1	He	126.181	126.181	1.14	2259903	1.32	4000	
Cr	52	1	He	21.322	21.322	0.70	453409	1.38	4000	
Mn	55	1	He	497.158	497.158	1.35	6874829	0.51	4000	
Fe	56	1	He	42754.014	42754.014	0.55	805322279	0.74	40000	>LDR
Co	59	1	He	10.990	10.990	0.18	352880	0.81	4000	
Ni	60	1	He	15.551	15.551	0.49	127841	0.45	4000	
[Cu]	63	1	He	89.871	89.871	1.33	2013809	1.93	4000	
Cu	65	1	He	89.839	89.839	1.08	966787	0.20	4000	
Zn	66	1	He	105.282	105.282	1.07	384257	0.41	4000	
As	75	1	He	42.710	42.710	0.55	99356	0.87	4000	
Se	78	1	He	1.620	1.620	4.90	512	2.28	4000	
Sr	88	1	He	189.807	189.807	2.31	3005951	0.16	4000	
Mo	95	1	He	1.855	1.855	1.47	17099	1.03	4000	
Ag	107	1	He	0.174	0.174	3.91	5057	4.83	100	
Cd	111	1	He	0.125	0.125	3.65	602	4.15	3500	
Sn	118	1	He	2.643	2.643	2.68	29603	0.72	4000	
Sb	123	1	He	1.298	1.298	0.96	14730	3.05	4000	
Ba	137	1	He	280.146	280.146	1.68	1348717	0.52	4000	
Ce	140	1	He	83.842	83.842	2.15	5247562	1.18	4000	
Tl	205	1	He	0.460	0.460	1.44	26630	1.00	3500	
Pb	208	1	He	16.832	16.832	0.84	1250869	0.55	4000	
U	238	1	He	9.526	9.526	1.59	723322	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	724612	0.94	683823	105.96	80	120	
Ge (IS)	72	1	He	373680	0.95	390615	95.66	80	120	
In-115 (IS)	115	1	He	3326611	2.17	3613234	92.07	80	120	
Tb-159 (IS)	159	1	He	7910798	1.66	8473761	93.36	80	120	
Bi-209 (IS)	209	1	He	5530028	1.24	6042462	91.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-17-d@20
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:35:07-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3411
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.908	0.908	35.88	216	32.78	100	
Na	23	1	He	1060.277	1060.277	0.22	4844753	0.38	75000	
Mg	24	1	He	9398.435	9398.435	1.11	20770753	1.52	125000	
Al	27	1	He	29072.007	29072.007	1.57	31372692	2.07	4000	>LDR
K	39	1	He	7230.108	7230.108	1.46	14480165	1.86	100000	
Ca	44	1	He	10638.371	10638.371	0.60	1105120	0.79	250000	
V	51	1	He	80.197	80.197	0.59	1382783	0.17	4000	
Cr	52	1	He	20.291	20.291	1.16	415240	0.63	4000	
Mn	55	1	He	592.116	592.116	1.00	7878062	0.96	4000	
Fe	56	1	He	35073.187	35073.187	0.81	635610393	0.60	40000	
Co	59	1	He	9.669	9.669	0.64	298744	1.15	4000	
Ni	60	1	He	13.060	13.060	0.58	103448	0.44	4000	
[Cu]	63	1	He	59.269	59.269	0.79	1289485	0.25	4000	
Cu	65	1	He	60.240	60.240	0.83	628973	0.92	4000	
Zn	66	1	He	76.903	76.903	0.75	280743	0.86	4000	
As	75	1	He	9.567	9.567	1.14	22260	1.04	4000	
Se	78	1	He	1.246	1.246	11.27	433	6.60	4000	
Sr	88	1	He	137.506	137.506	1.13	2192418	1.57	4000	
Mo	95	1	He	0.895	0.895	0.86	8542	1.42	4000	
Ag	107	1	He	0.089	0.089	1.85	2749	0.57	100	
Cd	111	1	He	0.239	0.239	6.78	1138	7.65	3500	
Sn	118	1	He	2.191	2.191	0.59	24855	1.56	4000	
Sb	123	1	He	0.639	0.639	0.21	7567	1.24	4000	
Ba	137	1	He	175.558	175.558	0.75	849582	1.17	4000	
Ce	140	1	He	63.360	63.360	1.68	3985797	0.99	4000	
Tl	205	1	He	0.253	0.253	0.67	15094	1.45	3500	
Pb	208	1	He	13.170	13.170	0.73	980049	0.32	4000	
U	238	1	He	2.402	2.402	0.75	185979	0.40	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	697150	0.54	683823	101.95	80	120	
Ge (IS)	72	1	He	372409	0.16	390615	95.34	80	120	
In-115 (IS)	115	1	He	3342926	1.05	3613234	92.52	80	120	
Tb-159 (IS)	159	1	He	8035299	0.87	8473761	94.83	80	120	
Bi-209 (IS)	209	1	He	5535997	0.83	6042462	91.62	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-18-d@20
Data File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:37:34-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3412
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.028	1.028	13.18	248	11.60	100	
Na	23	1	He	1692.631	1692.631	0.97	7524264	0.18	75000	
Mg	24	1	He	10081.000	10081.000	0.47	22790015	0.87	125000	
Al	27	1	He	30953.342	30953.342	0.55	34171931	0.39	4000	>LDR
K	39	1	He	5775.941	5775.941	0.92	11872981	1.71	100000	
Ca	44	1	He	12294.120	12294.120	0.78	1305839	0.08	250000	
V	51	1	He	101.497	101.497	1.30	1789747	0.83	4000	
Cr	52	1	He	24.486	24.486	1.09	512072	0.90	4000	
Mn	55	1	He	624.787	624.787	1.40	8504712	1.43	4000	
Fe	56	1	He	40275.907	40275.907	1.07	746729073	0.30	40000	>LDR
Co	59	1	He	11.752	11.752	0.18	371427	0.79	4000	
Ni	60	1	He	16.185	16.185	1.25	130927	0.43	4000	
[Cu]	63	1	He	55.498	55.498	0.28	1237633	1.08	4000	
Cu	65	1	He	56.274	56.274	0.76	602216	1.19	4000	
Zn	66	1	He	86.544	86.544	0.99	316908	1.41	4000	
As	75	1	He	16.658	16.658	0.14	38859	0.75	4000	
Se	78	1	He	1.500	1.500	11.61	488	6.78	4000	
Sr	88	1	He	170.331	170.331	1.63	2720848	1.00	4000	
Mo	95	1	He	2.220	2.220	2.25	20530	1.19	4000	
Ag	107	1	He	0.153	0.153	4.13	4512	2.85	100	
Cd	111	1	He	0.198	0.198	13.93	950	14.28	3500	
Sn	118	1	He	2.206	2.206	1.10	25086	0.48	4000	
Sb	123	1	He	0.752	0.752	2.38	8827	1.49	4000	
Ba	137	1	He	218.790	218.790	1.19	1061892	0.20	4000	
Ce	140	1	He	72.600	72.600	1.41	4580957	1.05	4000	
Tl	205	1	He	0.330	0.330	0.98	19426	1.92	3500	
Pb	208	1	He	12.203	12.203	1.45	910554	0.26	4000	
U	238	1	He	4.484	4.484	1.45	344108	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	713256	0.81	683823	104.30	80	120	
Ge (IS)	72	1	He	374098	0.71	390615	95.77	80	120	
In-115 (IS)	115	1	He	3353024	1.01	3613234	92.80	80	120	
Tb-159 (IS)	159	1	He	7982892	0.97	8473761	94.21	80	120	
Bi-209 (IS)	209	1	He	5551141	1.19	6042462	91.87	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-19-e@20
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:39:59-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3501
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.560	0.560	17.58	137	14.83	100	
Na	23	1	He	1162.942	1162.942	0.18	5158379	0.78	75000	
Mg	24	1	He	4941.251	4941.251	0.67	10744921	0.60	125000	
Al	27	1	He	14198.339	14198.339	1.10	15047157	1.07	4000	>LDR
K	39	1	He	1848.626	1848.626	0.99	3770092	0.80	100000	
Ca	44	1	He	6079.214	6079.214	0.24	622156	0.68	250000	
V	51	1	He	76.070	76.070	1.84	1288243	1.45	4000	
Cr	52	1	He	16.342	16.342	1.01	328977	0.81	4000	
Mn	55	1	He	432.429	432.429	1.09	5650949	1.59	4000	
Fe	56	1	He	27407.816	27407.816	0.59	487820407	0.67	40000	
Co	59	1	He	7.546	7.546	0.41	229036	0.56	4000	
Ni	60	1	He	9.690	9.690	1.16	75621	0.40	4000	
[Cu]	63	1	He	23.082	23.082	0.86	513975	0.15	4000	
Cu	65	1	He	23.520	23.520	2.03	250664	1.01	4000	
Zn	66	1	He	52.838	52.838	0.54	196341	0.85	4000	
As	75	1	He	11.549	11.549	1.12	27167	0.83	4000	
Se	78	1	He	0.821	0.821	6.93	348	3.51	4000	
Sr	88	1	He	111.199	111.199	3.27	1805208	1.92	4000	
Mo	95	1	He	0.993	0.993	2.29	9584	2.25	4000	
Ag	107	1	He	0.050	0.050	2.38	1710	1.88	100	
Cd	111	1	He	0.074	0.074	16.26	374	13.39	3500	
Sn	118	1	He	1.731	1.731	1.78	20195	1.31	4000	
Sb	123	1	He	0.451	0.451	1.02	5597	1.80	4000	
Ba	137	1	He	215.471	215.471	2.43	1060346	0.67	4000	
Ce	140	1	He	50.052	50.052	2.41	3202833	2.38	4000	
Tl	205	1	He	0.169	0.169	1.87	10226	2.17	3500	
Pb	208	1	He	6.142	6.142	0.88	462946	0.10	4000	
U	238	1	He	2.592	2.592	0.24	200775	0.61	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684692	0.91	683823	100.13	80	120	
Ge (IS)	72	1	He	376796	0.59	390615	96.46	80	120	
In-115 (IS)	115	1	He	3400529	2.04	3613234	94.11	80	120	
Tb-159 (IS)	159	1	He	8040639	0.44	8473761	94.89	80	120	
Bi-209 (IS)	209	1	He	5601465	0.86	6042462	92.70	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	062_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:44:04-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.574	0.934	10364	1.33	50	101.1	89.5	110.49	
Na	23	1	He	1211.758	1.698	5057293	1.70	1250	96.9	89.5	110.49	
Mg	24	1	He	1295.147	1.472	2693043	1.86	1250	103.6	89.5	110.49	
Al	27	1	He	61.917	0.392	62445	0.11	50	123.8	89.5	110.49	>+\-10%
K	39	1	He	1312.647	2.296	2580770	2.55	1250	105.0	89.5	110.49	
Ca	44	1	He	2539.332	0.787	248207	0.87	2500	101.6	89.5	110.49	
V	51	1	He	50.104	0.471	803092	0.76	50	100.2	89.5	110.49	
Cr	52	1	He	49.679	0.260	940372	0.54	50	99.4	89.5	110.49	
Mn	55	1	He	51.191	0.385	632953	0.04	50	102.4	89.5	110.49	
Fe	56	1	He	535.343	0.924	9021645	0.98	500	107.1	89.5	110.49	
Co	59	1	He	50.761	2.381	1455060	2.24	50	101.5	89.5	110.49	
Ni	60	1	He	50.414	0.298	368306	0.43	50	100.8	89.5	110.49	
Cu	65	1	He	49.360	0.676	481240	0.82	50	98.7	89.5	110.49	
Zn	66	1	He	51.126	0.723	187718	0.83	50	102.3	89.5	110.49	
As	75	1	He	49.667	0.408	115028	0.27	50	99.3	89.5	110.49	
Se	78	1	He	49.377	1.148	10439	1.26	50	98.8	89.5	110.49	
Sr	88	1	He	47.064	1.706	778019	0.29	50	94.1	89.5	110.49	
Mo	95	1	He	49.736	1.904	459811	0.81	50	99.5	89.5	110.49	
Ag	107	1	He	49.570	1.601	1385689	0.65	50	99.1	89.5	110.49	
Cd	111	1	He	49.374	1.745	235671	0.46	50	98.7	89.5	110.49	
Sn	118	1	He	49.632	1.902	553720	0.86	50	99.3	89.5	110.49	
Sb	123	1	He	49.491	1.820	557642	0.95	50	99.0	89.5	110.49	
Ba	137	1	He	49.959	1.289	248136	0.22	50	99.9	89.5	110.49	
Ce	140	1	He	50.846	0.624	3282255	1.10	50	101.7	89.5	110.49	
Tl	205	1	He	49.612	0.838	2830093	0.79	50	99.2	89.5	110.49	
Pb	208	1	He	50.188	1.178	3799998	0.16	50	100.4	89.5	110.49	
U	238	1	He	50.641	1.811	3848573	1.27	50	101.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647376	0.41	683823	94.67	80	120	
Ge (IS)	72	1	He	372077	0.16	390615	95.25	80	120	
In-115 (IS)	115	1	He	3430088	1.48	3613234	94.93	80	120	
Tb-159 (IS)	159	1	He	7925536	1.62	8473761	93.53	80	120	
Bi-209 (IS)	209	1	He	5636979	1.09	6042462	93.29	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	063_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:46:31-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.023	-122.3	10	57.7	0.5	
Na	23	1	He	-123.630	-0.2	135656	0.3	110	
Mg	24	1	He	-14.796	-1.5	10392	4.3	110	
Al	27	1	He	7.856	1.5	8297	1.0	10	
K	39	1	He	-9.729	-7.4	153009	0.5	110	
Ca	44	1	He	-33.658	-1.1	1043	3.5	110	
V	51	1	He	0.002	1083.9	2297	12.3	2	
Cr	52	1	He	0.009	27.6	2755	1.3	2	
Mn	55	1	He	0.172	4.1	2671	3.3	1	
Fe	56	1	He	12.724	3.3	227416	3.1	20	
Co	59	1	He	0.015	28.2	742	16.4	1	
Ni	60	1	He	0.036	10.8	1144	2.2	2	
Cu	65	1	He	-1.015	-0.7	5171	1.2	1	
Zn	66	1	He	0.075	35.3	3973	2.1	20	
As	75	1	He	0.023	37.4	156	13.2	1	
Se	78	1	He	0.076	122.4	189	10.1	2	
Sr	88	1	He	-0.688	-1.6	1232	13.6	2	
Mo	95	1	He	0.030	28.0	768	10.8	2	
Ag	107	1	He	0.025	25.0	1036	15.8	1	
Cd	111	1	He	0.008	80.2	62	48.6	1	
Sn	118	1	He	0.056	8.0	1705	2.9	2	
Sb	123	1	He	0.190	12.2	2672	10.5	1	
Ba	137	1	He	0.068	15.8	458	10.6	1	
Ce	140	1	He	0.026	12.5	2010	9.3	1	
Tl	205	1	He	0.017	21.7	1411	15.4	1	
Pb	208	1	He	0.017	30.0	2180	17.6	1	
U	238	1	He	0.018	18.5	2291	11.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	649263	0.42	683823	94.95	80	120	
Ge (IS)	72	1	He	371193	0.97	390615	95.03	80	120	
In-115 (IS)	115	1	He	3389419	1.01	3613234	93.81	80	120	
Tb-159 (IS)	159	1	He	7866732	0.54	8473761	92.84	80	120	
Bi-209 (IS)	209	1	He	5620641	2.01	6042462	93.02	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	064_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:49:06-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL BP CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.993	22.197	221	21.39	1	99.3	50	150	
Na	23	1	He	81.994	0.855	905072	0.90	200	41.0	50	150	>+/-50%
Mg	24	1	He	191.929	0.313	439510	1.38	200	96.0	50	150	
Al	27	1	He	26.414	1.601	27228	1.85	20	132.1	50	150	
K	39	1	He	196.549	0.458	538437	1.44	200	98.3	50	150	
Ca	44	1	He	953.741	0.313	97173	1.08	1000	95.4	50	150	
V	51	1	He	1.974	2.611	34256	1.45	2	98.7	50	150	
Cr	52	1	He	1.962	0.438	40145	1.27	2	98.1	50	150	
Mn	55	1	He	2.161	2.812	27595	2.91	2	108.0	50	150	
Fe	56	1	He	49.106	1.209	850159	0.25	40	122.8	50	150	
Co	59	1	He	1.943	0.631	56747	1.76	2	97.2	50	150	
Ni	60	1	He	2.088	1.827	16307	0.87	2	104.4	50	150	
Cu	65	1	He	1.040	5.575	24901	1.25	2	52.0	50	150	
Zn	66	1	He	20.903	1.065	79415	0.82	20	104.5	50	150	
As	75	1	He	2.111	2.923	5019	3.52	2	105.5	50	150	
Se	78	1	He	2.066	3.923	607	3.18	2	103.3	50	150	
Sr	88	1	He	1.278	3.423	33212	1.82	2	63.9	50	150	
Mo	95	1	He	2.012	3.027	19077	2.38	2	100.6	50	150	
Ag	107	1	He	1.924	1.639	54104	2.37	2	96.2	50	150	
Cd	111	1	He	1.992	3.501	9529	3.63	2	99.6	50	150	
Sn	118	1	He	20.290	0.884	226994	1.02	20	101.5	50	150	
Sb	123	1	He	1.902	2.599	21974	2.00	2	95.1	50	150	
Ba	137	1	He	2.138	0.984	10740	1.12	2	106.9	50	150	
Ce	140	1	He	1.962	1.413	126961	0.91	2	98.1	50	150	
Tl	205	1	He	1.923	1.216	111034	0.94	2	96.1	50	150	
Pb	208	1	He	2.098	1.235	160871	0.83	2	104.9	50	150	
U	238	1	He	1.902	1.581	146643	1.92	2	95.1	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656030	1.15	683823	95.94	80	120	
Ge (IS)	72	1	He	374352	1.84	390615	95.84	80	120	
In-115 (IS)	115	1	He	3429218	0.78	3613234	94.91	80	120	
Tb-159 (IS)	159	1	He	7990714	0.56	8473761	94.30	80	120	
Bi-209 (IS)	209	1	He	5677701	1.05	6042462	93.96	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	065ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:51:39-07:00
Sample Type	ICSA
Dilution	1
Comment	BP CHK A
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.044	-58.050	6	91.64	-1	1	
Na	23	1	He	103020.028	0.662	373262865	0.70	100000	100000	
Mg	24	1	He	100885.678	1.052	202810490	0.56	100000	100000	
Al	27	1	He	100613.204	1.406	98947878	0.90	100000	100000	
K	39	1	He	102838.053	0.763	185496397	0.70	100000	100000	
Ca	44	1	He	95502.845	0.472	9008799	0.88	100000	100000	
V	51	1	He	0.043	24.015	2894	5.27	-4	4	
Cr	52	1	He	1.274	2.022	26132	0.98	-4	4	
Mn	55	1	He	0.434	4.970	5795	4.53	-2	2	
Co	59	1	He	0.035	4.373	1290	2.98	-2	2	
Ni	60	1	He	0.452	0.969	4094	0.33	-4	4	
Cu	65	1	He	-0.143	-26.503	13150	1.80	-4	4	
Zn	66	1	He	1.231	5.892	7733	2.70	-40	40	
As	75	1	He	0.096	4.033	310	3.07	-2	2	
Se	78	1	He	0.191	30.889	202	4.95	-4	4	
Sr	88	1	He	-0.011	-238.889	11060	2.17	-2	2	
Mo	95	1	He	2119.101	2.203	17663700	0.53	2000	2000	
Ag	107	1	He	0.028	18.216	1022	11.89	-2	2	
Cd	111	1	He	0.818	5.063	3546	4.19	-2	2	
Sn	118	1	He	0.037	12.919	1361	2.38	-20	20	
Sb	123	1	He	0.086	14.302	1388	8.34	-4	4	
Ba	137	1	He	0.118	23.147	642	19.21	-2	2	
Ce	140	1	He	0.036	2.407	2410	1.80	-2	2	
Tl	205	1	He	0.005	18.751	703	5.94	-2	2	
Pb	208	1	He	0.228	1.673	15916	0.55	-2	2	
U	238	1	He	-0.001	-107.829	782	12.25	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	635417	1.00	683823	92.92	80	120	
Ge (IS)	72	1	He	353371	0.86	390615	90.47	80	120	
In-115 (IS)	115	1	He	3096177	1.73	3613234	85.69	80	120	
Tb-159 (IS)	159	1	He	7465951	1.64	8473761	88.11	80	120	
Bi-209 (IS)	209	1	He	4927718	1.43	6042462	81.55	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	066ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:54:06-07:00
Sample Type	ICSB
Dilution	1
Comment	BP CHK B
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	18.578	3.231	3759	3.65	20	92.9	79.5	120.49	
Na	23	1	He	103771.442	0.868	377305656	0.57	101000	102.7	79.5	120.49	
Mg	24	1	He	100380.230	0.770	202510983	0.38	101000	99.4	79.5	120.49	
Al	27	1	He	98764.947	1.853	97473616	1.46	101000	97.8	79.5	120.49	
K	39	1	He	102259.850	1.110	185107353	1.08	101000	101.2	79.5	120.49	
Ca	44	1	He	96826.254	1.817	9165312	1.38	101000	95.9	79.5	120.49	
V	51	1	He	19.769	0.257	313461	0.21	20	98.8	79.5	120.49	
Cr	52	1	He	20.129	0.541	376800	0.70	20	100.6	79.5	120.49	
Mn	55	1	He	19.653	0.946	239672	0.90	20	98.3	79.5	120.49	
Fe	56	1	He	94978.632	0.339	1574338462	0.45	101000	94.0	79.5	120.49	
Co	59	1	He	18.548	0.798	523873	0.62	20	92.7	79.5	120.49	
Ni	60	1	He	18.764	0.237	135566	0.21	20	93.8	79.5	120.49	
Cu	65	1	He	17.955	1.825	181664	1.26	20	89.8	79.5	120.49	
Zn	66	1	He	18.872	1.601	68224	1.52	20	94.4	79.5	120.49	
As	75	1	He	19.871	0.829	43890	0.78	20	99.4	79.5	120.49	
Se	78	1	He	18.621	1.808	3852	1.34	20	93.1	79.5	120.49	
Sr	88	1	He	20.420	0.370	308043	0.29	20	102.1	79.5	120.49	
Mo	95	1	He	2164.632	1.082	17870198	1.24	2020	107.2	79.5	120.49	
Ag	107	1	He	19.122	0.871	477996	1.03	20	95.6	79.5	120.49	
Cd	111	1	He	19.830	1.089	84622	1.25	20	99.1	79.5	120.49	
Sn	118	1	He	20.509	0.805	205106	0.85	20	102.5	79.5	120.49	
Sb	123	1	He	20.931	0.404	211116	0.59	20	104.7	79.5	120.49	
Ba	137	1	He	21.013	0.944	93357	0.81	20	105.1	79.5	120.49	
Ce	140	1	He	20.394	0.345	1176899	0.54	20	102.0	79.5	120.49	
Tl	205	1	He	18.334	1.156	979248	0.46	20	91.7	79.5	120.49	
Pb	208	1	He	20.424	1.448	1329687	0.31	20	102.1	79.5	120.49	
U	238	1	He	19.584	1.667	1393689	1.01	20	97.9	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	637648	0.43	683823	93.25	80	120	
Ge (IS)	72	1	He	354364	0.64	390615	90.72	80	120	
In-115 (IS)	115	1	He	3065679	0.19	3613234	84.85	80	120	
Tb-159 (IS)	159	1	He	7418404	0.72	8473761	87.55	80	120	
Bi-209 (IS)	209	1	He	4845351	1.23	6042462	80.19	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	067SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:56:34-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.045	-0.045	-54.72	6	91.64	100	
Na	23	1	He	-71.055	-71.055	-17.63	332260	14.76	75000	
Mg	24	1	He	25.179	25.179	50.57	93190	29.00	125000	
Al	27	1	He	42.346	42.346	29.54	43282	30.00	4000	
K	39	1	He	35.108	35.108	34.68	237138	10.24	100000	
Ca	44	1	He	7.107	7.107	190.13	5007	26.92	250000	
V	51	1	He	0.004	0.004	225.35	2350	6.73	4000	
Cr	52	1	He	0.007	0.007	123.67	2736	6.90	4000	
Mn	55	1	He	0.064	0.064	14.78	1338	9.43	4000	
Fe	56	1	He	50.065	50.065	23.24	863868	23.63	40000	
Co	59	1	He	0.006	0.006	42.08	484	15.91	4000	
Ni	60	1	He	0.034	0.034	23.21	1136	5.22	4000	
[Cu]	63	1	He	-0.937	-0.937	-1.16	13878	1.99	4000	
Cu	65	1	He	-0.880	-0.880	-2.22	6492	3.59	4000	
Zn	66	1	He	0.456	0.456	13.10	5366	4.30	4000	
As	75	1	He	0.003	0.003	15.16	112	1.55	4000	
Se	78	1	He	0.124	0.124	37.02	200	5.07	4000	
Sr	88	1	He	-0.721	-0.721	-0.79	708	14.30	4000	
Mo	95	1	He	1.979	1.979	4.78	18683	5.88	4000	
Ag	107	1	He	0.018	0.018	53.86	832	33.19	100	
Cd	111	1	He	0.011	0.011	54.73	78	38.65	3500	
Sn	118	1	He	-0.039	-0.039	-15.64	664	11.38	4000	
Sb	123	1	He	-0.009	-0.009	-35.49	470	6.84	4000	
Ba	137	1	He	0.022	0.022	11.13	238	6.32	4000	
Ce	140	1	He	0.009	0.009	20.59	972	14.06	4000	
Tl	205	1	He	0.022	0.022	3.72	1661	1.34	3500	
Pb	208	1	He	0.008	0.008	45.00	1530	18.10	4000	
U	238	1	He	0.002	0.002	89.61	1092	15.98	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	653268	0.72	683823	95.53	80	120	
Ge (IS)	72	1	He	372997	0.51	390615	95.49	80	120	
In-115 (IS)	115	1	He	3412280	1.21	3613234	94.44	80	120	
Tb-159 (IS)	159	1	He	7860211	1.69	8473761	92.76	80	120	
Bi-209 (IS)	209	1	He	5570925	0.08	6042462	92.20	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	068SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:59:09-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.035	-0.035	-69.37	8	65.47	100	
Na	23	1	He	-99.466	-99.466	-2.31	230633	3.59	75000	
Mg	24	1	He	0.758	0.758	187.41	43399	6.71	125000	
Al	27	1	He	19.046	19.046	10.12	20033	9.73	4000	
K	39	1	He	9.545	9.545	25.00	193244	2.14	100000	
Ca	44	1	He	-15.424	-15.424	-15.88	2870	8.25	250000	
V	51	1	He	-0.008	-0.008	-82.26	2190	5.38	4000	
Cr	52	1	He	0.001	0.001	618.54	2667	4.75	4000	
Mn	55	1	He	0.047	0.047	4.71	1153	2.47	4000	
Fe	56	1	He	22.655	22.655	4.94	404948	4.59	40000	
Co	59	1	He	0.001	0.001	48.13	349	4.71	4000	
Ni	60	1	He	0.027	0.027	44.15	1103	8.13	4000	
[Cu]	63	1	He	-1.029	-1.029	-1.26	12291	1.94	4000	
Cu	65	1	He	-0.964	-0.964	-1.86	5798	2.83	4000	
Zn	66	1	He	0.473	0.473	15.51	5518	4.45	4000	
As	75	1	He	-0.001	-0.001	-1342.11	105	16.88	4000	
Se	78	1	He	0.036	0.036	85.55	184	4.00	4000	
Sr	88	1	He	-0.725	-0.725	-0.31	656	4.83	4000	
Mo	95	1	He	0.575	0.575	8.17	5879	8.80	4000	
Ag	107	1	He	0.000	0.000	2546.35	348	24.10	100	
Cd	111	1	He	0.003	0.003	67.75	40	25.00	3500	
Sn	118	1	He	-0.042	-0.042	-7.79	643	7.01	4000	
Sb	123	1	He	-0.022	-0.022	-1.88	326	0.59	4000	
Ba	137	1	He	0.021	0.021	42.22	233	20.00	4000	
Ce	140	1	He	0.004	0.004	42.28	634	16.06	4000	
Tl	205	1	He	0.005	0.005	19.05	732	6.60	3500	
Pb	208	1	He	0.003	0.003	23.46	1140	4.12	4000	
U	238	1	He	-0.006	-0.006	-3.25	463	3.14	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665604	0.19	683823	97.34	80	120	
Ge (IS)	72	1	He	379158	0.51	390615	97.07	80	120	
In-115 (IS)	115	1	He	3469193	1.33	3613234	96.01	80	120	
Tb-159 (IS)	159	1	He	7880582	0.91	8473761	93.00	80	120	
Bi-209 (IS)	209	1	He	5610857	0.41	6042462	92.86	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	069_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:01:44-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	48.603	1.076	10448	1.73	50	97.2	89.5	110.49	
Na	23	1	He	1207.899	0.178	5290059	1.43	1250	96.6	89.5	110.49	
Mg	24	1	He	1300.767	1.399	2836575	0.13	1250	104.1	89.5	110.49	
Al	27	1	He	64.671	0.506	68400	1.77	50	129.3	89.5	110.49	>+\-10%
K	39	1	He	1317.384	1.734	2715810	0.76	1250	105.4	89.5	110.49	
Ca	44	1	He	2536.443	0.422	260066	0.94	2500	101.5	89.5	110.49	
V	51	1	He	49.869	1.494	838397	0.61	50	99.7	89.5	110.49	
Cr	52	1	He	49.525	0.841	983317	0.69	50	99.1	89.5	110.49	
Mn	55	1	He	50.446	0.246	654305	1.11	50	100.9	89.5	110.49	
Fe	56	1	He	520.319	1.046	9197634	0.68	500	104.1	89.5	110.49	
Co	59	1	He	50.857	2.623	1528981	1.90	50	101.7	89.5	110.49	
Ni	60	1	He	49.843	1.777	381923	0.49	50	99.7	89.5	110.49	
Cu	65	1	He	49.015	1.400	501341	0.34	50	98.0	89.5	110.49	
Zn	66	1	He	51.289	0.447	195957	1.01	50	102.6	89.5	110.49	
As	75	1	He	49.620	0.331	119589	0.82	50	99.2	89.5	110.49	
Se	78	1	He	48.851	2.910	10748	2.00	50	97.7	89.5	110.49	
Sr	88	1	He	48.011	1.417	809314	0.77	50	96.0	89.5	110.49	
Mo	95	1	He	50.431	0.908	475590	0.70	50	100.9	89.5	110.49	
Ag	107	1	He	49.725	0.502	1417911	0.51	50	99.5	89.5	110.49	
Cd	111	1	He	49.641	0.978	241694	0.09	50	99.3	89.5	110.49	
Sn	118	1	He	50.177	1.291	571003	0.64	50	100.4	89.5	110.49	
Sb	123	1	He	49.916	1.037	573703	0.64	50	99.8	89.5	110.49	
Ba	137	1	He	50.189	1.481	254259	0.62	50	100.4	89.5	110.49	
Ce	140	1	He	50.984	0.269	3357011	1.15	50	102.0	89.5	110.49	
Tl	205	1	He	49.450	1.548	2846012	0.87	50	98.9	89.5	110.49	
Pb	208	1	He	49.806	0.511	3852163	0.35	50	99.6	89.5	110.49	
U	238	1	He	50.378	1.790	3863743	2.81	50	100.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	679086	1.29	683823	99.31	80	120	
Ge (IS)	72	1	He	387202	1.07	390615	99.13	80	120	
In-115 (IS)	115	1	He	3498527	1.01	3613234	96.83	80	120	
Tb-159 (IS)	159	1	He	7996336	1.18	8473761	94.37	80	120	
Bi-209 (IS)	209	1	He	5757794	0.60	6042462	95.29	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	070_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:04:11-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.040	-104.8	7	132.3	0.5	
Na	23	1	He	-111.554	-0.8	185968	1.2	110	
Mg	24	1	He	-6.807	-6.3	27642	2.8	110	
Al	27	1	He	11.250	1.6	12078	1.7	10	CCB Main CR1 Failed
K	39	1	He	-0.009	-9485.9	176293	0.8	110	
Ca	44	1	He	-27.404	-1.2	1698	2.4	110	
V	51	1	He	-0.007	-43.8	2234	2.7	2	
Cr	52	1	He	-0.001	-797.2	2648	3.8	2	
Mn	55	1	He	0.048	13.9	1171	6.7	1	
Fe	56	1	He	13.125	0.3	241572	0.3	20	
Co	59	1	He	0.012	60.6	684	31.9	1	
Ni	60	1	He	0.034	33.5	1165	7.9	2	
Cu	65	1	He	-1.043	-0.8	5067	1.5	1	
Zn	66	1	He	0.028	303.6	3918	8.1	20	
As	75	1	He	0.018	42.0	149	12.3	1	
Se	78	1	He	0.124	54.8	205	7.1	2	
Sr	88	1	He	-0.714	-0.6	833	7.7	2	
Mo	95	1	He	0.328	13.4	3587	12.5	2	
Ag	107	1	He	0.030	43.0	1188	29.4	1	
Cd	111	1	He	0.009	79.5	70	50.4	1	
Sn	118	1	He	0.064	9.0	1839	4.1	2	
Sb	123	1	He	0.197	4.3	2832	4.5	1	
Ba	137	1	He	0.024	23.9	251	11.1	1	
Ce	140	1	He	0.010	33.2	1019	19.8	1	
Tl	205	1	He	0.017	19.6	1407	13.5	1	
Pb	208	1	He	0.016	37.1	2122	21.0	1	
U	238	1	He	0.021	8.1	2510	4.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	669719	0.56	683823	97.94	80	120	
Ge (IS)	72	1	He	382351	0.43	390615	97.88	80	120	
In-115 (IS)	115	1	He	3487452	1.08	3613234	96.52	80	120	
Tb-159 (IS)	159	1	He	8009136	0.98	8473761	94.52	80	120	
Bi-209 (IS)	209	1	He	5665612	0.29	6042462	93.76	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-325847/1-a@20
Data File Name	071_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:27:51-07:00
Sample Type	MB
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-70.5	8	65.5	0.5	
Na	23	1	He	-99.774	-3.3	227449	5.0	110	
Mg	24	1	He	7.622	52.4	57342	14.4	110	
Al	27	1	He	26.302	13.0	27268	12.7	10	OUT OF RANGE
K	39	1	He	7.440	27.3	187624	1.7	110	
Ca	44	1	He	-6.777	-53.0	3692	9.3	110	
V	51	1	He	-0.016	-33.7	2047	4.3	2	
Cr	52	1	He	0.054	13.9	3659	4.4	2	
Mn	55	1	He	0.113	3.9	1973	3.4	1	
Fe	56	1	He	29.036	11.9	510867	11.5	20	OUT OF RANGE
Co	59	1	He	0.005	38.1	467	12.4	1	
Ni	60	1	He	0.003	71.9	921	1.4	2	
Cu	65	1	He	-1.094	-2.2	4495	5.9	1	
Zn	66	1	He	-0.002	-1109.9	3718	0.5	20	
As	75	1	He	0.004	64.4	114	6.1	1	
Se	78	1	He	0.004	1911.4	175	7.6	2	
Sr	88	1	He	-0.671	-0.5	1527	2.4	2	
Mo	95	1	He	0.598	8.3	6050	6.8	2	
Ag	107	1	He	-0.003	-12.6	267	3.3	1	
Cd	111	1	He	0.003	167.5	38	58.7	1	
Sn	118	1	He	2.319	1.4	27065	1.0	2	OUT OF RANGE
Sb	123	1	He	0.029	43.3	897	15.5	1	
Ba	137	1	He	0.050	15.4	378	10.7	1	
Ce	140	1	He	0.009	18.9	957	10.8	1	
Tl	205	1	He	0.002	72.8	548	11.3	1	
Pb	208	1	He	0.012	3.0	1845	3.1	1	
U	238	1	He	-0.004	-18.8	664	8.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	659829	0.64	683823	96.49	80	120	
Ge (IS)	72	1	He	373382	1.26	390615	95.59	80	120	
In-115 (IS)	115	1	He	3448597	0.83	3613234	95.44	80	120	
Tb-159 (IS)	159	1	He	8033181	1.58	8473761	94.80	80	120	
Bi-209 (IS)	209	1	He	5678359	1.60	6042462	93.97	80	120	

Sample Report

Sample Table

Sample Name	lcs 440-325847/2-a@20
Data File Name	072SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:30:25-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3102
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	105.163	105.163	0.94	21971	0.78	100	>LDR
Na	23	1	He	1002.707	1002.707	0.95	4373685	0.61	75000	
Mg	24	1	He	535.772	535.772	1.34	1160974	1.55	125000	
Al	27	1	He	113.885	113.885	1.75	116833	0.70	4000	
K	39	1	He	1108.755	1108.755	1.57	2251082	1.62	100000	
Ca	44	1	He	757.520	757.520	0.37	78614	1.65	250000	
V	51	1	He	108.148	108.148	1.48	1766124	2.18	4000	
Cr	52	1	He	107.237	107.237	2.18	2068004	2.07	4000	
Mn	55	1	He	110.705	110.705	3.57	1395734	2.67	4000	
Fe	56	1	He	118.055	118.055	1.51	2039822	0.87	40000	
Co	59	1	He	107.432	107.432	1.33	3141772	1.31	4000	
Ni	60	1	He	106.511	106.511	1.24	792899	0.62	4000	
[Cu]	63	1	He	105.142	105.142	1.60	2141799	0.29	4000	
Cu	65	1	He	105.019	105.019	1.61	1027640	0.61	4000	
Zn	66	1	He	104.341	104.341	0.37	380461	0.79	4000	
As	75	1	He	105.371	105.371	0.20	244707	0.81	4000	
Se	78	1	He	100.459	100.459	0.80	21127	1.28	4000	
Sr	88	1	He	109.194	109.194	0.93	1802559	1.30	4000	
Mo	95	1	He	107.487	107.487	1.02	1000792	0.13	4000	
Ag	107	1	He	47.172	47.172	0.82	1328846	0.98	100	
Cd	111	1	He	104.322	104.322	0.39	501784	0.86	3500	
Sn	118	1	He	109.403	109.403	0.74	1228675	0.83	4000	
Sb	123	1	He	109.092	109.092	0.92	1237979	0.31	4000	
Ba	137	1	He	106.109	106.109	1.21	530934	1.19	4000	
Ce	140	1	He	-0.001	-0.001	-71.73	334	8.06	4000	
Tl	205	1	He	104.102	104.102	1.96	5960680	1.31	3500	
Pb	208	1	He	107.644	107.644	1.75	8063479	0.46	4000	
U	238	1	He	-0.010	-0.010	-6.81	187	27.72	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660557	1.30	683823	96.60	80	120	
Ge (IS)	72	1	He	373271	0.72	390615	95.56	80	120	
In-115 (IS)	115	1	He	3456229	1.16	3613234	95.65	80	120	
Tb-159 (IS)	159	1	He	7955813	0.69	8473761	93.89	80	120	
Bi-209 (IS)	209	1	He	5578035	1.31	6042462	92.31	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-a@20
Data File Name	073SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:32:47-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3103
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.097	1.097	13.63	254	13.12	100	
Na	23	1	He	2843.184	2843.184	0.13	11771575	1.03	75000	
Mg	24	1	He	7725.613	7725.613	1.39	16865112	0.81	125000	
Al	27	1	He	22325.551	22325.551	0.76	23788555	1.36	4000	>LDR
K	39	1	He	5148.250	5148.250	1.34	10232118	0.66	100000	
Ca	44	1	He	9839.079	9839.079	0.91	1009521	0.15	250000	
V	51	1	He	89.665	89.665	1.67	1526343	1.92	4000	
Cr	52	1	He	18.078	18.078	0.31	365606	1.01	4000	
Mn	55	1	He	534.450	534.450	0.68	7021345	0.71	4000	
Fe	56	1	He	32703.389	32703.389	1.38	585173826	0.50	40000	
Co	59	1	He	10.945	10.945	1.13	333853	0.68	4000	
Ni	60	1	He	13.604	13.604	1.28	106355	0.32	4000	
[Cu]	63	1	He	121.657	121.657	1.67	2577406	1.28	4000	
Cu	65	1	He	121.909	121.909	0.69	1240748	0.45	4000	
Zn	66	1	He	75.026	75.026	0.69	274120	0.67	4000	
As	75	1	He	35.577	35.577	1.64	82536	0.99	4000	
Se	78	1	He	1.325	1.325	7.17	450	5.15	4000	
Sr	88	1	He	177.118	177.118	0.64	2793854	0.84	4000	
Mo	95	1	He	3.953	3.953	2.60	35726	1.97	4000	
Ag	107	1	He	0.133	0.133	4.48	3929	4.73	100	
Cd	111	1	He	0.275	0.275	9.72	1290	9.86	3500	
Sn	118	1	He	2.543	2.543	0.48	28402	1.08	4000	
Sb	123	1	He	0.641	0.641	1.27	7521	1.06	4000	
Ba	137	1	He	196.519	196.519	1.26	941980	0.64	4000	
Ce	140	1	He	57.654	57.654	2.25	3592653	1.65	4000	
Tl	205	1	He	0.383	0.383	0.20	22118	0.79	3500	
Pb	208	1	He	10.465	10.465	1.32	776712	0.21	4000	
U	238	1	He	6.185	6.185	1.03	466766	0.38	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	688388	1.05	683823	100.67	80	120	
Ge (IS)	72	1	He	372606	0.91	390615	95.39	80	120	
In-115 (IS)	115	1	He	3311345	0.63	3613234	91.64	80	120	
Tb-159 (IS)	159	1	He	7856216	0.71	8473761	92.71	80	120	
Bi-209 (IS)	209	1	He	5520570	1.11	6042462	91.36	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-b ms@20
Data File Name	074SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:35:12-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3104
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	93.900	93.900	2.73	20750	2.79	100	>LDR
Na	23	1	He	3903.582	3903.582	1.43	16161969	0.72	75000	
Mg	24	1	He	8496.338	8496.338	1.51	18817492	0.81	125000	
Al	27	1	He	25674.899	25674.899	0.89	27760335	0.26	4000	>LDR
K	39	1	He	6529.795	6529.795	0.40	13121373	0.75	100000	
Ca	44	1	He	12375.819	12375.819	1.01	1287410	0.66	250000	
V	51	1	He	188.235	188.235	0.79	3248822	0.23	4000	
Cr	52	1	He	112.778	112.778	0.68	2299980	0.78	4000	
Mn	55	1	He	637.873	637.873	0.70	8504254	1.26	4000	
Fe	56	1	He	35349.168	35349.168	1.26	641883512	0.57	40000	
Co	59	1	He	106.382	106.382	1.14	3290164	1.03	4000	
Ni	60	1	He	106.581	106.581	1.05	839106	0.44	4000	
[Cu]	63	1	He	220.992	220.992	2.06	4722641	1.38	4000	
Cu	65	1	He	228.680	228.680	0.18	2347995	0.77	4000	
Zn	66	1	He	174.450	174.450	0.88	632303	0.30	4000	
As	75	1	He	137.871	137.871	0.90	319493	0.22	4000	
Se	78	1	He	96.147	96.147	1.56	20185	0.62	4000	
Sr	88	1	He	275.282	275.282	1.11	4329168	0.82	4000	
Mo	95	1	He	109.756	109.756	0.70	977693	0.35	4000	
Ag	107	1	He	53.600	53.600	0.71	1444486	0.45	100	
Cd	111	1	He	102.029	102.029	0.68	469493	0.29	3500	
Sn	118	1	He	109.351	109.351	0.84	1174907	0.66	4000	
Sb	123	1	He	94.509	94.509	0.37	1026155	0.31	4000	
Ba	137	1	He	289.993	289.993	0.80	1387979	0.52	4000	
Ce	140	1	He	67.014	67.014	0.90	4170029	0.60	4000	
Tl	205	1	He	99.038	99.038	0.46	5635840	1.04	3500	
Pb	208	1	He	113.983	113.983	0.88	8420422	1.11	4000	
U	238	1	He	7.078	7.078	0.91	537426	0.82	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	698561	0.71	683823	102.16	80	120	
Ge (IS)	72	1	He	372528	1.03	390615	95.37	80	120	
In-115 (IS)	115	1	He	3306478	0.44	3613234	91.51	80	120	
Tb-159 (IS)	159	1	He	7906300	1.22	8473761	93.30	80	120	
Bi-209 (IS)	209	1	He	5500333	1.09	6042462	91.03	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-c msd@20
Data File Name	075SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:37:30-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3105
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	96.766	96.766	2.03	21213	2.00	100	>LDR
Na	23	1	He	3885.837	3885.837	0.41	15964399	0.46	75000	
Mg	24	1	He	9210.039	9210.039	0.23	20233699	0.29	125000	
Al	27	1	He	26570.834	26570.834	0.75	28501670	0.78	4000	>LDR
K	39	1	He	6610.344	6610.344	1.27	13175423	1.31	100000	
Ca	44	1	He	11675.719	11675.719	1.35	1205219	1.32	250000	
V	51	1	He	225.953	225.953	0.65	3868441	0.62	4000	
Cr	52	1	He	116.508	116.508	1.44	2357097	1.42	4000	
Mn	55	1	He	695.110	695.110	1.32	9193401	1.33	4000	
Fe	56	1	He	37732.037	37732.037	1.18	679742622	1.22	40000	>LDR
Co	59	1	He	108.074	108.074	0.96	3315995	1.01	4000	
Ni	60	1	He	108.667	108.667	0.26	848745	0.26	4000	
[Cu]	63	1	He	217.849	217.849	0.36	4619357	0.38	4000	
Cu	65	1	He	224.689	224.689	0.15	2288935	0.13	4000	
Zn	66	1	He	177.330	177.330	0.62	641224	0.99	4000	
As	75	1	He	182.719	182.719	0.63	422417	0.35	4000	
Se	78	1	He	95.418	95.418	0.17	19989	0.54	4000	
Sr	88	1	He	281.566	281.566	2.24	4418911	1.33	4000	
Mo	95	1	He	108.975	108.975	0.96	968876	0.22	4000	
Ag	107	1	He	53.899	53.899	0.90	1449776	0.51	100	
Cd	111	1	He	102.229	102.229	0.59	469530	0.70	3500	
Sn	118	1	He	107.932	107.932	1.73	1157410	1.02	4000	
Sb	123	1	He	97.311	97.311	1.97	1054458	1.04	4000	
Ba	137	1	He	322.732	322.732	1.78	1541619	0.81	4000	
Ce	140	1	He	67.852	67.852	1.82	4213830	0.84	4000	
Tl	205	1	He	98.481	98.481	1.15	5642627	0.67	3500	
Pb	208	1	He	115.146	115.146	1.07	8452291	0.72	4000	
U	238	1	He	7.361	7.361	0.79	562771	1.13	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693004	0.06	683823	101.34	80	120	
Ge (IS)	72	1	He	371658	0.37	390615	95.15	80	120	
In-115 (IS)	115	1	He	3300288	0.98	3613234	91.34	80	120	
Tb-159 (IS)	159	1	He	7960814	0.79	8473761	93.95	80	120	
Bi-209 (IS)	209	1	He	5465858	1.65	6042462	90.46	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-a@20
Data File Name	076SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:39:49-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3106
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	93.403	93.403	3.10	20218	2.87	100	>LDR
Na	23	1	He	5149.943	5149.943	0.10	20689221	0.51	75000	
Mg	24	1	He	10078.807	10078.807	0.96	21859913	0.53	125000	
Al	27	1	He	22223.008	22223.008	0.23	23538882	0.40	4000	>LDR
K	39	1	He	7544.924	7544.924	1.37	14823456	0.94	100000	
Ca	44	1	He	14921.396	14921.396	1.42	1519620	1.00	250000	
V	51	1	He	180.615	180.615	0.89	3053997	1.29	4000	
Cr	52	1	He	109.138	109.138	0.69	2180430	0.47	4000	
Mn	55	1	He	629.459	629.459	1.20	8220471	0.81	4000	
Fe	56	1	He	33780.348	33780.348	1.29	600899141	0.91	40000	
Co	59	1	He	103.846	103.846	0.58	3146251	0.32	4000	
Ni	60	1	He	102.307	102.307	0.11	789104	0.32	4000	
[Cu]	63	1	He	206.242	206.242	0.68	4320163	0.57	4000	
Cu	65	1	He	213.546	213.546	0.66	2148917	0.85	4000	
Zn	66	1	He	165.521	165.521	0.53	597911	0.31	4000	
As	75	1	He	131.055	131.055	1.20	302574	0.76	4000	
Se	78	1	He	91.382	91.382	0.42	19124	0.81	4000	
Sr	88	1	He	275.233	275.233	0.90	4351072	0.52	4000	
Mo	95	1	He	101.902	101.902	0.72	912518	0.44	4000	
Ag	107	1	He	98.064	98.064	1.25	2656305	0.87	100	>LDR
Cd	111	1	He	95.430	95.430	0.17	441435	0.31	3500	
Sn	118	1	He	101.962	101.962	0.46	1101331	0.29	4000	
Sb	123	1	He	100.680	100.680	0.31	1098848	0.29	4000	
Ba	137	1	He	294.201	294.201	0.34	1415513	0.36	4000	
Ce	140	1	He	153.452	153.452	0.31	9598390	0.34	4000	
Tl	205	1	He	91.554	91.554	1.67	5272608	1.43	3500	
Pb	208	1	He	107.073	107.073	0.64	7873720	1.31	4000	
U	238	1	He	99.103	99.103	0.55	7603822	0.59	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684312	0.43	683823	100.07	80	120	
Ge (IS)	72	1	He	371134	0.44	390615	95.01	80	120	
In-115 (IS)	115	1	He	3323791	0.38	3613234	91.99	80	120	
Tb-159 (IS)	159	1	He	8001422	0.25	8473761	94.43	80	120	
Bi-209 (IS)	209	1	He	5474815	0.78	6042462	90.61	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-2-a PDS@20
Data File Name	077SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:42:06-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.005	1.005	22.56	237	21.27	100	
Na	23	1	He	4327.826	4327.826	1.66	17765543	1.67	75000	
Mg	24	1	He	8706.295	8706.295	0.62	19190973	0.42	125000	
Al	27	1	He	24333.967	24333.967	0.92	26186808	1.09	4000	>LDR
K	39	1	He	6253.631	6253.631	1.90	12514287	1.75	100000	
Ca	44	1	He	13327.198	13327.198	0.58	1379491	0.68	250000	
V	51	1	He	76.199	76.199	1.55	1310418	1.69	4000	
Cr	52	1	He	18.665	18.665	0.12	381160	0.15	4000	
Mn	55	1	He	578.460	578.460	0.86	7675316	0.67	4000	
Fe	56	1	He	28966.399	28966.399	0.87	523511784	0.73	40000	
Co	59	1	He	10.006	10.006	1.55	308299	1.34	4000	
Ni	60	1	He	13.207	13.207	1.15	104316	1.05	4000	
[Cu]	63	1	He	46.006	46.006	0.96	1005935	0.74	4000	
Cu	65	1	He	46.805	46.805	0.20	490892	0.35	4000	
Zn	66	1	He	68.537	68.537	1.25	251408	0.77	4000	
As	75	1	He	23.314	23.314	1.03	54272	0.16	4000	
Se	78	1	He	1.462	1.462	9.88	479	6.32	4000	
Sr	88	1	He	163.252	163.252	0.98	2598754	0.78	4000	
Mo	95	1	He	4.184	4.184	1.21	38126	1.14	4000	
Ag	107	1	He	0.174	0.174	6.60	5066	6.36	100	
Cd	111	1	He	0.230	0.230	15.70	1094	15.23	3500	
Sn	118	1	He	2.280	2.280	2.28	25793	2.02	4000	
Sb	123	1	He	0.744	0.744	2.30	8716	1.97	4000	
Ba	137	1	He	187.253	187.253	0.49	905530	0.36	4000	
Ce	140	1	He	59.247	59.247	0.97	3724806	1.02	4000	
Tl	205	1	He	0.335	0.335	2.43	19694	1.50	3500	
Pb	208	1	He	10.946	10.946	0.19	808699	0.53	4000	
U	238	1	He	3.331	3.331	1.06	256131	1.49	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	695241	0.21	683823	101.67	80	120	
Ge (IS)	72	1	He	373630	1.13	390615	95.65	80	120	
In-115 (IS)	115	1	He	3340544	0.20	3613234	92.45	80	120	
Tb-159 (IS)	159	1	He	7989922	1.10	8473761	94.29	80	120	
Bi-209 (IS)	209	1	He	5495402	0.65	6042462	90.95	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	078SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:44:31-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.009	0.009	349.28	17	39.99	100	
Na	23	1	He	-125.535	-125.535	-0.47	128933	1.37	75000	
Mg	24	1	He	-11.620	-11.620	-7.31	16954	10.00	125000	
Al	27	1	He	14.887	14.887	16.85	15398	16.06	4000	
K	39	1	He	-8.478	-8.478	-7.92	155697	0.42	100000	
Ca	44	1	He	-24.014	-24.014	-8.00	1977	8.91	250000	
V	51	1	He	0.049	0.049	6.02	3071	1.73	4000	
Cr	52	1	He	0.027	0.027	37.87	3106	6.18	4000	
Mn	55	1	He	0.380	0.380	20.61	5257	18.22	4000	
Fe	56	1	He	22.245	22.245	13.15	388992	12.44	40000	
Co	59	1	He	0.032	0.032	15.16	1229	10.77	4000	
Ni	60	1	He	0.066	0.066	19.12	1370	7.13	4000	
[Cu]	63	1	He	-1.142	-1.142	-0.99	9783	2.49	4000	
Cu	65	1	He	-1.069	-1.069	-2.88	4677	6.68	4000	
Zn	66	1	He	0.570	0.570	17.91	5715	5.79	4000	
As	75	1	He	0.038	0.038	7.80	190	3.03	4000	
Se	78	1	He	0.060	0.060	78.81	184	5.16	4000	
Sr	88	1	He	-0.617	-0.617	-3.22	2372	13.51	4000	
Mo	95	1	He	0.039	0.039	57.01	852	23.78	4000	
Ag	107	1	He	0.018	0.018	16.25	836	9.81	100	
Cd	111	1	He	0.017	0.017	34.40	104	26.58	3500	
Sn	118	1	He	0.047	0.047	12.45	1612	3.73	4000	
Sb	123	1	He	0.001	0.001	538.84	581	15.20	4000	
Ba	137	1	He	0.132	0.132	14.78	779	12.36	4000	
Ce	140	1	He	0.039	0.039	12.99	2881	11.43	4000	
Tl	205	1	He	0.033	0.033	8.12	2367	7.30	3500	
Pb	208	1	He	0.035	0.035	8.25	3632	6.49	4000	
U	238	1	He	0.008	0.008	3.18	1535	1.74	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650875	0.70	683823	95.18	80	120	
Ge (IS)	72	1	He	369199	0.88	390615	94.52	80	120	
In-115 (IS)	115	1	He	3402229	0.31	3613234	94.16	80	120	
Tb-159 (IS)	159	1	He	7972540	0.85	8473761	94.09	80	120	
Bi-209 (IS)	209	1	He	5686495	0.43	6042462	94.11	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	079SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:47:04-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.043	0.043	166.44	23	62.27	100	
Na	23	1	He	-126.354	-126.354	-0.07	124589	0.44	75000	
Mg	24	1	He	-14.331	-14.331	-1.38	11256	3.37	125000	
Al	27	1	He	7.831	7.831	5.60	8206	5.11	4000	
K	39	1	He	-8.759	-8.759	-10.71	153566	1.34	100000	
Ca	44	1	He	-28.092	-28.092	-5.93	1567	9.97	250000	
V	51	1	He	0.032	0.032	30.43	2761	5.43	4000	
Cr	52	1	He	0.016	0.016	41.16	2854	4.09	4000	
Mn	55	1	He	0.198	0.198	10.13	2970	8.11	4000	
Fe	56	1	He	12.489	12.489	4.81	221658	4.33	40000	
Co	59	1	He	0.028	0.028	5.86	1110	4.17	4000	
Ni	60	1	He	0.057	0.057	8.21	1291	2.59	4000	
[Cu]	63	1	He	-1.173	-1.173	-0.77	9078	2.16	4000	
Cu	65	1	He	-1.091	-1.091	-2.14	4419	4.82	4000	
Zn	66	1	He	0.451	0.451	16.82	5286	5.64	4000	
As	75	1	He	0.030	0.030	24.29	173	10.20	4000	
Se	78	1	He	0.024	0.024	307.03	177	8.65	4000	
Sr	88	1	He	-0.660	-0.660	-0.14	1686	0.30	4000	
Mo	95	1	He	0.024	0.024	71.64	713	22.91	4000	
Ag	107	1	He	0.011	0.011	14.33	641	6.03	100	
Cd	111	1	He	0.023	0.023	42.18	131	34.70	3500	
Sn	118	1	He	0.007	0.007	102.08	1166	7.55	4000	
Sb	123	1	He	-0.009	-0.009	-18.99	467	2.86	4000	
Ba	137	1	He	0.083	0.083	16.07	532	11.42	4000	
Ce	140	1	He	0.021	0.021	15.87	1709	11.37	4000	
Tl	205	1	He	0.026	0.026	4.20	1928	3.87	3500	
Pb	208	1	He	0.024	0.024	6.00	2779	4.84	4000	
U	238	1	He	0.000	0.000	-878.27	916	11.78	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	644078	0.22	683823	94.19	80	120	
Ge (IS)	72	1	He	368573	0.54	390615	94.36	80	120	
In-115 (IS)	115	1	He	3392653	1.11	3613234	93.90	80	120	
Tb-159 (IS)	159	1	He	7958096	0.79	8473761	93.91	80	120	
Bi-209 (IS)	209	1	He	5654573	1.10	6042462	93.58	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	080_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:49:38-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.801	1.424	10451	1.99	50	99.6	89.5	110.49	
Na	23	1	He	1171.983	1.957	5028008	1.35	1250	93.8	89.5	110.49	
Mg	24	1	He	1266.588	1.162	2697437	0.43	1250	101.3	89.5	110.49	
Al	27	1	He	55.228	2.801	57071	2.13	50	110.5	89.5	110.49	
K	39	1	He	1287.947	1.527	2595839	0.61	1250	103.0	89.5	110.49	
Ca	44	1	He	2508.273	1.044	251088	0.19	2500	100.3	89.5	110.49	
V	51	1	He	49.500	0.410	812440	0.57	50	99.0	89.5	110.49	
Cr	52	1	He	48.953	0.353	948867	0.88	50	97.9	89.5	110.49	
Mn	55	1	He	50.131	0.495	634712	0.39	50	100.3	89.5	110.49	
Fe	56	1	He	510.582	0.663	8811083	0.78	500	102.1	89.5	110.49	
Co	59	1	He	49.853	1.088	1463386	1.84	50	99.7	89.5	110.49	
Ni	60	1	He	49.990	1.585	373941	0.82	50	100.0	89.5	110.49	
Cu	65	1	He	48.721	0.677	486586	0.92	50	97.4	89.5	110.49	
Zn	66	1	He	51.731	0.699	191318	0.40	50	103.5	89.5	110.49	
As	75	1	He	49.607	0.317	115753	0.64	50	99.2	89.5	110.49	
Se	78	1	He	48.483	1.529	10330	1.51	50	97.0	89.5	110.49	
Sr	88	1	He	47.695	1.278	788496	0.22	50	95.4	89.5	110.49	
Mo	95	1	He	50.525	1.711	467216	0.71	50	101.1	89.5	110.49	
Ag	107	1	He	49.976	1.269	1397399	0.20	50	100.0	89.5	110.49	
Cd	111	1	He	49.998	0.617	238730	0.87	50	100.0	89.5	110.49	
Sn	118	1	He	50.154	1.231	559697	0.67	50	100.3	89.5	110.49	
Sb	123	1	He	50.223	0.638	566075	0.93	50	100.4	89.5	110.49	
Ba	137	1	He	50.216	1.762	249463	0.61	50	100.4	89.5	110.49	
Ce	140	1	He	51.168	1.969	3303342	0.77	50	102.3	89.5	110.49	
Tl	205	1	He	49.245	0.569	2874328	0.56	50	98.5	89.5	110.49	
Pb	208	1	He	49.540	0.737	3839335	0.39	50	99.1	89.5	110.49	
U	238	1	He	49.320	1.128	3835460	1.46	50	98.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	662895	0.85	683823	96.94	80	120	
Ge (IS)	72	1	He	374876	0.91	390615	95.97	80	120	
In-115 (IS)	115	1	He	3430916	1.46	3613234	94.95	80	120	
Tb-159 (IS)	159	1	He	8108954	1.13	8473761	95.69	80	120	
Bi-209 (IS)	209	1	He	5769593	1.06	6042462	95.48	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	081_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:52:04-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.079	63.4	31	32.7	0.5	
Na	23	1	He	-128.422	-0.1	119015	0.5	110	
Mg	24	1	He	-15.961	-1.5	8073	6.4	110	
Al	27	1	He	3.818	3.5	4279	3.7	10	
K	39	1	He	-11.790	-9.1	150565	0.8	110	
Ca	44	1	He	-34.235	-0.4	997	0.9	110	
V	51	1	He	0.008	74.8	2414	4.6	2	
Cr	52	1	He	0.012	50.0	2832	4.2	2	
Mn	55	1	He	0.124	11.2	2100	8.8	1	
Fe	56	1	He	6.251	1.2	119240	1.1	20	
Co	59	1	He	0.026	11.4	1072	8.8	1	
Ni	60	1	He	0.043	12.5	1206	4.0	2	
Cu	65	1	He	-1.144	-2.0	3987	5.6	1	
Zn	66	1	He	0.082	72.8	4034	5.2	20	
As	75	1	He	0.029	43.1	171	16.8	1	
Se	78	1	He	0.007	643.6	176	5.1	2	
Sr	88	1	He	-0.694	-0.9	1153	9.3	2	
Mo	95	1	He	0.059	5.8	1052	3.4	2	
Ag	107	1	He	0.031	45.8	1220	32.9	1	
Cd	111	1	He	0.014	61.4	90	44.9	1	
Sn	118	1	He	0.118	11.3	2420	6.2	2	
Sb	123	1	He	0.225	12.2	3117	10.4	1	
Ba	137	1	He	0.065	19.7	450	14.3	1	
Ce	140	1	He	0.017	31.3	1486	23.6	1	
Tl	205	1	He	0.034	15.0	2408	11.7	1	
Pb	208	1	He	0.030	25.0	3274	17.8	1	
U	238	1	He	0.026	10.7	2899	6.7	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655167	0.81	683823	95.81	80	120	
Ge (IS)	72	1	He	374674	0.21	390615	95.92	80	120	
In-115 (IS)	115	1	He	3445594	0.61	3613234	95.36	80	120	
Tb-159 (IS)	159	1	He	7925225	0.59	8473761	93.53	80	120	
Bi-209 (IS)	209	1	He	5711591	0.21	6042462	94.52	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-2-a@20
Data File Name	082SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:54:38-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3108
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.200	0.200	61.06	57	44.41	100	
Na	23	1	He	831.122	831.122	1.68	3733491	0.97	75000	
Mg	24	1	He	1838.717	1838.717	1.40	3888868	1.71	125000	
Al	27	1	He	5124.164	5124.164	0.28	5246552	0.80	4000	>LDR
K	39	1	He	1334.829	1334.829	1.57	2678337	1.69	100000	
Ca	44	1	He	2732.565	2732.565	0.62	272561	0.39	250000	
V	51	1	He	16.044	16.044	0.25	264317	0.85	4000	
Cr	52	1	He	4.408	4.408	0.97	87651	0.14	4000	
Mn	55	1	He	127.764	127.764	1.07	1613200	0.30	4000	
Fe	56	1	He	6194.627	6194.627	0.72	106521269	0.24	40000	
Co	59	1	He	2.191	2.191	1.74	64474	0.88	4000	
Ni	60	1	He	2.865	2.865	1.69	22238	2.35	4000	
[Cu]	63	1	He	9.086	9.086	0.53	215385	0.42	4000	
Cu	65	1	He	9.245	9.245	0.15	104344	0.82	4000	
Zn	66	1	He	14.189	14.189	0.59	55070	0.60	4000	
As	75	1	He	4.733	4.733	1.06	11114	0.69	4000	
Se	78	1	He	0.150	0.150	45.37	206	6.90	4000	
Sr	88	1	He	30.590	30.590	0.45	511332	0.52	4000	
Mo	95	1	He	1.135	1.135	2.39	11010	2.56	4000	
Ag	107	1	He	0.023	0.023	12.42	981	7.82	100	
Cd	111	1	He	0.049	0.049	8.52	258	7.90	3500	
Sn	118	1	He	0.511	0.511	4.86	6809	4.07	4000	
Sb	123	1	He	0.190	0.190	8.57	2719	6.71	4000	
Ba	137	1	He	37.368	37.368	0.38	186092	0.18	4000	
Ce	140	1	He	11.518	11.518	0.50	745569	0.49	4000	
Tl	205	1	He	0.062	0.062	2.24	4011	3.40	3500	
Pb	208	1	He	2.193	2.193	0.31	169228	0.34	4000	
U	238	1	He	0.666	0.666	1.39	52007	0.50	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661450	0.87	683823	96.73	80	120	
Ge (IS)	72	1	He	374073	1.15	390615	95.77	80	120	
In-115 (IS)	115	1	He	3438231	0.28	3613234	95.16	80	120	
Tb-159 (IS)	159	1	He	8001286	1.77	8473761	94.42	80	120	
Bi-209 (IS)	209	1	He	5714421	0.28	6042462	94.57	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-3-a SD@100
Data File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:57:07-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3109
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.899	0.899	17.44	217	15.61	100	
Na	23	1	He	1457.052	1457.052	1.09	6505864	0.92	75000	
Mg	24	1	He	8221.215	8221.215	0.89	18418369	1.01	125000	
Al	27	1	He	24816.536	24816.536	1.32	27139483	1.54	4000	>LDR
K	39	1	He	5798.231	5798.231	1.64	11805359	1.95	100000	
Ca	44	1	He	10674.628	10674.628	1.03	1123800	1.38	250000	
V	51	1	He	94.983	94.983	2.82	1659189	2.46	4000	
Cr	52	1	He	22.331	22.331	1.05	462876	1.34	4000	
Mn	55	1	He	606.982	606.982	1.20	8184136	0.61	4000	
Fe	56	1	He	35241.203	35241.203	1.62	647215192	1.06	40000	
Co	59	1	He	10.976	10.976	0.74	343621	0.64	4000	
Ni	60	1	He	15.291	15.291	1.30	122584	1.13	4000	
[Cu]	63	1	He	46.289	46.289	0.99	1028345	1.19	4000	
Cu	65	1	He	46.750	46.750	1.23	498271	0.96	4000	
Zn	66	1	He	72.474	72.474	0.59	269529	0.86	4000	
As	75	1	He	16.107	16.107	0.61	38078	0.99	4000	
Se	78	1	He	1.195	1.195	7.86	430	4.73	4000	
Sr	88	1	He	167.898	167.898	1.23	2681226	0.23	4000	
Mo	95	1	He	2.198	2.198	1.60	20327	1.52	4000	
Ag	107	1	He	0.125	0.125	3.13	3762	4.10	100	
Cd	111	1	He	0.217	0.217	7.74	1034	7.76	3500	
Sn	118	1	He	2.341	2.341	1.24	26552	2.17	4000	
Sb	123	1	He	0.850	0.850	2.62	9901	1.70	4000	
Ba	137	1	He	208.996	208.996	2.31	1013913	1.00	4000	
Ce	140	1	He	63.231	63.231	2.40	3988028	1.29	4000	
Tl	205	1	He	0.316	0.316	1.49	18831	0.83	3500	
Pb	208	1	He	11.203	11.203	1.23	844972	0.88	4000	
U	238	1	He	4.628	4.628	1.46	359564	0.25	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	706524	0.61	683823	103.32	80	120	
Ge (IS)	72	1	He	379072	0.38	390615	97.04	80	120	
In-115 (IS)	115	1	He	3351929	1.29	3613234	92.77	80	120	
Tb-159 (IS)	159	1	He	8082637	1.21	8473761	95.38	80	120	
Bi-209 (IS)	209	1	He	5610555	1.25	6042462	92.85	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-4-a@20
Data File Name	084SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:59:33-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3110
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.824	0.824	18.65	201	17.41	100	
Na	23	1	He	1743.974	1743.974	0.48	7698175	0.70	75000	
Mg	24	1	He	7727.019	7727.019	0.21	17399773	0.16	125000	
Al	27	1	He	24289.956	24289.956	0.69	26694780	0.38	4000	>LDR
K	39	1	He	4164.103	4164.103	0.91	8572575	0.60	100000	
Ca	44	1	He	9042.592	9042.592	0.65	957405	0.68	250000	
V	51	1	He	109.460	109.460	1.17	1921386	1.52	4000	
Cr	52	1	He	26.807	26.807	0.53	557831	0.26	4000	
Mn	55	1	He	583.090	583.090	1.03	7901410	1.09	4000	
Fe	56	1	He	39315.407	39315.407	1.37	725644113	1.05	40000	>LDR
Co	59	1	He	11.972	11.972	1.23	376652	0.94	4000	
Ni	60	1	He	16.288	16.288	0.41	131163	0.56	4000	
[Cu]	63	1	He	42.581	42.581	0.53	953488	0.73	4000	
Cu	65	1	He	43.057	43.057	0.25	462481	0.12	4000	
Zn	66	1	He	73.940	73.940	0.36	275184	0.38	4000	
As	75	1	He	13.245	13.245	0.12	31363	0.18	4000	
Se	78	1	He	1.332	1.332	4.98	459	3.13	4000	
Sr	88	1	He	157.585	157.585	2.03	2570727	0.87	4000	
Mo	95	1	He	2.141	2.141	4.67	20224	3.30	4000	
Ag	107	1	He	0.109	0.109	4.88	3390	5.22	100	
Cd	111	1	He	0.161	0.161	4.29	792	4.09	3500	
Sn	118	1	He	2.128	2.128	1.22	24751	1.33	4000	
Sb	123	1	He	0.785	0.785	4.41	9388	3.86	4000	
Ba	137	1	He	205.891	205.891	0.82	1020254	0.52	4000	
Ce	140	1	He	69.959	69.959	0.18	4507209	1.44	4000	
Tl	205	1	He	0.296	0.296	3.32	17670	2.57	3500	
Pb	208	1	He	11.112	11.112	1.05	834222	0.22	4000	
U	238	1	He	5.350	5.350	0.61	415006	0.14	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710030	0.35	683823	103.83	80	120	
Ge (IS)	72	1	He	379462	0.30	390615	97.14	80	120	
In-115 (IS)	115	1	He	3423311	1.31	3613234	94.74	80	120	
Tb-159 (IS)	159	1	He	8071669	0.68	8473761	95.25	80	120	
Bi-209 (IS)	209	1	He	5584192	1.01	6042462	92.42	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-5-a@20
Data File Name	085SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:01:59-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3111
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.828	0.828	29.40	200	27.44	100	
Na	23	1	He	3416.733	3416.733	1.19	14320151	1.35	75000	
Mg	24	1	He	8189.588	8189.588	1.06	18259998	1.16	125000	
Al	27	1	He	25128.879	25128.879	0.84	27348643	0.43	4000	>LDR
K	39	1	He	4815.380	4815.380	0.37	9788499	0.74	100000	
Ca	44	1	He	10993.634	10993.634	0.24	1151694	0.65	250000	
V	51	1	He	88.987	88.987	0.66	1547274	0.54	4000	
Cr	52	1	He	21.667	21.667	0.92	447050	1.15	4000	
Mn	55	1	He	740.721	740.721	1.01	9940210	1.43	4000	
Fe	56	1	He	33023.134	33023.134	1.17	603612172	1.17	40000	
Co	59	1	He	11.750	11.750	0.40	366098	0.81	4000	
Ni	60	1	He	15.885	15.885	0.86	126704	1.15	4000	
[Cu]	63	1	He	40.090	40.090	0.47	891037	0.24	4000	
Cu	65	1	He	40.504	40.504	0.61	431794	1.00	4000	
Zn	66	1	He	70.597	70.597	0.88	261810	1.75	4000	
As	75	1	He	18.850	18.850	0.11	44400	1.00	4000	
Se	78	1	He	1.853	1.853	5.38	567	4.23	4000	
Sr	88	1	He	177.932	177.932	1.45	2837991	0.60	4000	
Mo	95	1	He	3.950	3.950	3.52	36095	2.47	4000	
Ag	107	1	He	0.110	0.110	7.99	3341	6.59	100	
Cd	111	1	He	0.159	0.159	11.02	766	9.63	3500	
Sn	118	1	He	2.037	2.037	3.80	23213	2.60	4000	
Sb	123	1	He	0.855	0.855	2.33	9956	1.38	4000	
Ba	137	1	He	239.395	239.395	1.08	1160376	0.17	4000	
Ce	140	1	He	137.354	137.354	1.68	8654884	0.94	4000	
Tl	205	1	He	0.305	0.305	0.52	18354	1.93	3500	
Pb	208	1	He	11.220	11.220	1.36	834771	0.24	4000	
U	238	1	He	5.638	5.638	1.99	441061	1.07	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	703143	0.42	683823	102.83	80	120	
Ge (IS)	72	1	He	377858	1.10	390615	96.73	80	120	
In-115 (IS)	115	1	He	3348651	1.03	3613234	92.68	80	120	
Tb-159 (IS)	159	1	He	8143187	1.43	8473761	96.10	80	120	
Bi-209 (IS)	209	1	He	5534718	1.41	6042462	91.60	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-6-a@20
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:04:24-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3112
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.982	0.982	4.30	237	5.08	100	
Na	23	1	He	4694.059	4694.059	1.40	19639398	1.86	75000	
Mg	24	1	He	8720.807	8720.807	1.22	19645580	0.39	125000	
Al	27	1	He	27566.662	27566.662	1.91	30319163	2.02	4000	>LDR
K	39	1	He	4878.148	4878.148	1.33	10017664	0.64	100000	
Ca	44	1	He	11001.527	11001.527	0.99	1164636	0.61	250000	
V	51	1	He	100.218	100.218	0.99	1760720	1.62	4000	
Cr	52	1	He	24.563	24.563	0.61	511747	0.80	4000	
Mn	55	1	He	1066.105	1066.105	0.65	14457705	1.47	4000	
Fe	56	1	He	35593.421	35593.421	0.68	657490907	1.47	40000	
Co	59	1	He	13.907	13.907	0.62	437808	0.72	4000	
Ni	60	1	He	17.632	17.632	0.57	142020	1.42	4000	
[Cu]	63	1	He	42.116	42.116	0.68	944161	0.71	4000	
Cu	65	1	He	43.108	43.108	0.40	463367	1.13	4000	
Zn	66	1	He	74.400	74.400	0.13	273368	0.95	4000	
As	75	1	He	28.573	28.573	0.55	66677	0.84	4000	
Se	78	1	He	1.379	1.379	6.24	463	4.62	4000	
Sr	88	1	He	179.194	179.194	0.35	2858783	0.72	4000	
Mo	95	1	He	7.068	7.068	2.24	64221	1.54	4000	
Ag	107	1	He	0.131	0.131	3.43	3917	2.98	100	
Cd	111	1	He	0.151	0.151	6.29	728	6.63	3500	
Sn	118	1	He	2.199	2.199	1.52	24988	0.63	4000	
Sb	123	1	He	0.701	0.701	1.98	8258	1.78	4000	
Ba	137	1	He	316.658	316.658	1.26	1535118	0.40	4000	
Ce	140	1	He	67.935	67.935	0.48	4282006	0.74	4000	
Tl	205	1	He	0.336	0.336	1.36	19712	1.42	3500	
Pb	208	1	He	11.936	11.936	1.06	892355	0.39	4000	
U	238	1	He	6.167	6.167	1.01	472576	0.99	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710587	1.17	683823	103.91	80	120	
Ge (IS)	72	1	He	374661	1.00	390615	95.92	80	120	
In-115 (IS)	115	1	He	3349250	0.86	3613234	92.69	80	120	
Tb-159 (IS)	159	1	He	7976671	0.74	8473761	94.13	80	120	
Bi-209 (IS)	209	1	He	5561818	1.16	6042462	92.05	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-7-a@20
Data File Name	087SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:06:49-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3201
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.123	1.123	7.98	268	6.39	100	
Na	23	1	He	2596.496	2596.496	1.26	11131793	0.74	75000	
Mg	24	1	He	9470.657	9470.657	1.02	21292534	1.00	125000	
Al	27	1	He	27439.756	27439.756	1.43	30122495	1.05	4000	>LDR
K	39	1	He	4761.168	4761.168	0.53	9764323	0.57	100000	
Ca	44	1	He	13521.219	13521.219	0.99	1427646	0.22	250000	
V	51	1	He	107.563	107.563	0.96	1885944	0.25	4000	
Cr	52	1	He	25.900	25.900	1.03	538444	0.31	4000	
Mn	55	1	He	1700.794	1700.794	1.72	23018873	0.76	4000	
Fe	56	1	He	40207.322	40207.322	0.85	741290726	0.25	40000	>LDR
Co	59	1	He	17.940	17.940	1.23	563605	0.45	4000	
Ni	60	1	He	19.477	19.477	1.51	156472	0.78	4000	
[Cu]	63	1	He	54.096	54.096	0.82	1200435	0.30	4000	
Cu	65	1	He	55.026	55.026	1.13	585876	0.03	4000	
Zn	66	1	He	84.346	84.346	1.13	311037	0.81	4000	
As	75	1	He	20.750	20.750	0.76	48706	0.07	4000	
Se	78	1	He	1.430	1.430	6.90	476	3.62	4000	
Sr	88	1	He	202.459	202.459	0.82	3242429	0.92	4000	
Mo	95	1	He	4.496	4.496	1.00	41216	1.04	4000	
Ag	107	1	He	0.111	0.111	4.32	3389	4.02	100	
Cd	111	1	He	0.190	0.190	1.32	911	1.12	3500	
Sn	118	1	He	2.133	2.133	1.75	24374	1.83	4000	
Sb	123	1	He	0.872	0.872	3.82	10189	3.79	4000	
Ba	137	1	He	306.048	306.048	0.51	1490239	0.69	4000	
Ce	140	1	He	78.496	78.496	0.28	4969159	0.17	4000	
Tl	205	1	He	0.386	0.386	2.66	22783	2.40	3500	
Pb	208	1	He	12.433	12.433	0.62	929544	0.37	4000	
U	238	1	He	5.613	5.613	0.72	433576	0.31	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	709272	1.09	683823	103.72	80	120	
Ge (IS)	72	1	He	376640	0.76	390615	96.42	80	120	
In-115 (IS)	115	1	He	3363777	0.18	3613234	93.10	80	120	
Tb-159 (IS)	159	1	He	8039057	1.03	8473761	94.87	80	120	
Bi-209 (IS)	209	1	He	5561739	0.47	6042462	92.04	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:09:15-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.050	-0.050	-50.52	4	114.60	100	
Na	23	1	He	-129.274	-129.274	-0.25	113671	1.28	75000	
Mg	24	1	He	-11.549	-11.549	-9.24	16897	13.06	125000	
Al	27	1	He	16.950	16.950	17.51	17270	17.33	4000	
K	39	1	He	-8.331	-8.331	-3.23	154057	0.04	100000	
Ca	44	1	He	-23.289	-23.289	-6.74	2022	7.53	250000	
V	51	1	He	0.039	0.039	29.76	2865	6.61	4000	
Cr	52	1	He	0.008	0.008	62.42	2712	3.58	4000	
Mn	55	1	He	0.829	0.829	20.85	10704	20.03	4000	
Fe	56	1	He	27.720	27.720	13.14	475886	13.02	40000	
Co	59	1	He	0.015	0.015	16.92	742	10.21	4000	
Ni	60	1	He	0.059	0.059	20.55	1302	7.03	4000	
[Cu]	63	1	He	-1.204	-1.204	-1.54	8455	4.35	4000	
Cu	65	1	He	-1.132	-1.132	-1.57	4026	4.43	4000	
Zn	66	1	He	0.477	0.477	16.14	5368	5.11	4000	
As	75	1	He	0.009	0.009	68.97	123	11.48	4000	
Se	78	1	He	0.037	0.037	79.36	179	3.35	4000	
Sr	88	1	He	-0.640	-0.640	-2.34	1983	11.79	4000	
Mo	95	1	He	-0.020	-0.020	-26.76	311	15.20	4000	
Ag	107	1	He	-0.003	-0.003	-50.38	243	19.32	100	
Cd	111	1	He	0.003	0.003	205.29	37	72.15	3500	
Sn	118	1	He	-0.045	-0.045	-13.39	591	11.30	4000	
Sb	123	1	He	-0.025	-0.025	-11.24	287	10.66	4000	
Ba	137	1	He	0.179	0.179	13.93	998	11.86	4000	
Ce	140	1	He	0.045	0.045	18.35	3223	15.89	4000	
Tl	205	1	He	0.002	0.002	72.18	566	14.34	3500	
Pb	208	1	He	0.009	0.009	10.17	1604	4.72	4000	
U	238	1	He	-0.005	-0.005	-8.21	570	5.94	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	642884	0.29	683823	94.01	80	120	
Ge (IS)	72	1	He	367840	0.06	390615	94.17	80	120	
In-115 (IS)	115	1	He	3365847	0.54	3613234	93.15	80	120	
Tb-159 (IS)	159	1	He	7926841	0.84	8473761	93.55	80	120	
Bi-209 (IS)	209	1	He	5652708	0.95	6042462	93.55	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:11:49-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.028	-0.028	-267.99	9	173.21	100	
Na	23	1	He	-130.086	-130.086	-0.14	111403	0.51	75000	
Mg	24	1	He	-14.317	-14.317	-1.93	11337	4.97	125000	
Al	27	1	He	9.939	9.939	4.49	10355	4.17	4000	
K	39	1	He	-10.171	-10.171	-7.88	151665	0.83	100000	
Ca	44	1	He	-28.677	-28.677	-5.52	1518	9.92	250000	
V	51	1	He	0.006	0.006	70.88	2358	2.79	4000	
Cr	52	1	He	0.013	0.013	15.29	2817	1.51	4000	
Mn	55	1	He	0.410	0.410	10.98	5598	9.85	4000	
Fe	56	1	He	15.481	15.481	3.54	272991	3.30	40000	
Co	59	1	He	0.010	0.010	4.00	583	1.71	4000	
Ni	60	1	He	0.042	0.042	52.87	1187	13.80	4000	
[Cu]	63	1	He	-1.223	-1.223	-0.87	8136	2.40	4000	
Cu	65	1	He	-1.162	-1.162	-0.58	3767	1.71	4000	
Zn	66	1	He	0.483	0.483	17.61	5475	5.89	4000	
As	75	1	He	0.004	0.004	79.86	114	5.99	4000	
Se	78	1	He	-0.017	-0.017	-668.08	171	14.52	4000	
Sr	88	1	He	-0.679	-0.679	-0.29	1372	3.51	4000	
Mo	95	1	He	-0.024	-0.024	-17.66	272	14.30	4000	
Ag	107	1	He	-0.005	-0.005	-12.91	210	8.84	100	
Cd	111	1	He	0.000	0.000	-2433.48	23	65.46	3500	
Sn	118	1	He	-0.043	-0.043	-16.72	612	13.36	4000	
Sb	123	1	He	-0.024	-0.024	-9.34	293	9.71	4000	
Ba	137	1	He	0.089	0.089	8.20	562	6.28	4000	
Ce	140	1	He	0.023	0.023	14.10	1836	10.06	4000	
Tl	205	1	He	0.002	0.002	58.65	541	9.75	3500	
Pb	208	1	He	0.006	0.006	25.83	1408	8.89	4000	
U	238	1	He	-0.006	-0.006	-14.20	433	16.06	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	646989	0.19	683823	94.61	80	120	
Ge (IS)	72	1	He	373828	0.86	390615	95.70	80	120	
In-115 (IS)	115	1	He	3387198	1.24	3613234	93.74	80	120	
Tb-159 (IS)	159	1	He	7939652	0.49	8473761	93.70	80	120	
Bi-209 (IS)	209	1	He	5668497	0.15	6042462	93.81	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	090_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:14:23-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.117	1.794	10414	2.00	50	100.2	89.5	110.49	
Na	23	1	He	1182.802	0.814	5019777	1.17	1250	94.6	89.5	110.49	
Mg	24	1	He	1287.277	0.561	2714225	0.70	1250	103.0	89.5	110.49	
Al	27	1	He	57.216	2.375	58537	1.97	50	114.4	89.5	110.49	>+\-10%
K	39	1	He	1305.661	1.833	2603705	1.84	1250	104.5	89.5	110.49	
Ca	44	1	He	2528.074	0.063	250580	0.48	2500	101.1	89.5	110.49	
V	51	1	He	49.838	0.322	810008	0.49	50	99.7	89.5	110.49	
Cr	52	1	He	49.463	0.665	949353	0.52	50	98.9	89.5	110.49	
Mn	55	1	He	50.728	1.104	636022	1.44	50	101.5	89.5	110.49	
Fe	56	1	He	519.461	1.011	8876514	0.71	500	103.9	89.5	110.49	
Co	59	1	He	50.135	2.707	1457242	2.80	50	100.3	89.5	110.49	
Ni	60	1	He	50.518	0.769	374213	0.47	50	101.0	89.5	110.49	
Cu	65	1	He	49.071	1.767	485171	1.26	50	98.1	89.5	110.49	
Zn	66	1	He	51.651	0.513	190377	0.23	50	103.3	89.5	110.49	
As	75	1	He	49.921	0.781	116088	0.95	50	99.8	89.5	110.49	
Se	78	1	He	49.412	0.290	10489	0.34	50	98.8	89.5	110.49	
Sr	88	1	He	47.397	1.068	786886	0.47	50	94.8	89.5	110.49	
Mo	95	1	He	50.264	0.585	466749	0.53	50	100.5	89.5	110.49	
Ag	107	1	He	49.705	0.504	1395593	0.83	50	99.4	89.5	110.49	
Cd	111	1	He	49.799	1.061	238744	0.24	50	99.6	89.5	110.49	
Sn	118	1	He	49.870	1.331	558813	0.87	50	99.7	89.5	110.49	
Sb	123	1	He	49.867	1.882	564313	1.04	50	99.7	89.5	110.49	
Ba	137	1	He	50.330	0.880	251074	0.82	50	100.7	89.5	110.49	
Ce	140	1	He	50.872	1.028	3297953	0.47	50	101.7	89.5	110.49	
Tl	205	1	He	49.371	1.278	2871270	1.29	50	98.7	89.5	110.49	
Pb	208	1	He	50.048	1.659	3839324	1.10	50	100.1	89.5	110.49	
U	238	1	He	49.805	2.861	3858094	1.08	50	99.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656423	0.46	683823	95.99	80	120	
Ge (IS)	72	1	He	373592	0.31	390615	95.64	80	120	
In-115 (IS)	115	1	He	3444816	0.89	3613234	95.34	80	120	
Tb-159 (IS)	159	1	He	8080219	1.88	8473761	95.36	80	120	
Bi-209 (IS)	209	1	He	5711186	0.93	6042462	94.52	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	091_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:16:49-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.012	-198.4	12	41.7	0.5	
Na	23	1	He	-131.344	-0.6	106355	0.5	110	
Mg	24	1	He	-15.892	-1.7	8077	4.5	110	
Al	27	1	He	5.091	7.1	5478	5.1	10	
K	39	1	He	-10.888	-18.3	149785	0.8	110	
Ca	44	1	He	-32.697	-0.7	1128	1.6	110	
V	51	1	He	0.005	167.5	2330	4.4	2	
Cr	52	1	He	0.001	817.4	2587	8.3	2	
Mn	55	1	He	0.207	10.0	3079	8.1	1	
Fe	56	1	He	8.486	3.6	154751	1.7	20	
Co	59	1	He	0.017	38.9	779	21.9	1	
Ni	60	1	He	0.038	43.7	1150	8.8	2	
Cu	65	1	He	-1.170	-2.6	3677	5.6	1	
Zn	66	1	He	0.052	25.7	3853	1.3	20	
As	75	1	He	0.022	34.9	154	10.5	1	
Se	78	1	He	0.065	168.0	185	12.3	2	
Sr	88	1	He	-0.697	-1.7	1095	15.6	2	
Mo	95	1	He	0.047	27.7	924	14.7	2	
Ag	107	1	He	0.027	46.7	1091	30.7	1	
Cd	111	1	He	0.011	82.7	78	55.9	1	
Sn	118	1	He	0.091	6.8	2102	4.9	2	
Sb	123	1	He	0.221	15.8	3041	14.6	1	
Ba	137	1	He	0.060	28.7	420	18.6	1	
Ce	140	1	He	0.021	33.6	1719	25.0	1	
Tl	205	1	He	0.021	11.1	1650	8.2	1	
Pb	208	1	He	0.022	31.4	2605	20.1	1	
U	238	1	He	0.024	0.9	2737	0.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	644797	2.49	683823	94.29	80	120	
Ge (IS)	72	1	He	367759	1.09	390615	94.15	80	120	
In-115 (IS)	115	1	He	3407049	1.81	3613234	94.29	80	120	
Tb-159 (IS)	159	1	He	7947387	0.13	8473761	93.79	80	120	
Bi-209 (IS)	209	1	He	5615034	1.12	6042462	92.93	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-8-a@20
Data File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:19:23-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3202
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.167	1.167	3.89	287	4.19	100	
Na	23	1	He	3697.590	3697.590	1.06	16078734	1.52	75000	
Mg	24	1	He	12134.137	12134.137	2.16	28144237	2.46	125000	
Al	27	1	He	35198.434	35198.434	0.76	39880593	0.90	4000	>LDR
K	39	1	He	5227.391	5227.391	0.79	11045237	0.12	100000	
Ca	44	1	He	13644.415	13644.415	0.98	1486902	1.29	250000	
V	51	1	He	113.455	113.455	0.84	2053087	1.49	4000	
Cr	52	1	He	31.879	31.879	0.68	683343	0.05	4000	
Mn	55	1	He	1233.706	1233.706	0.94	17233899	0.38	4000	
Fe	56	1	He	43274.738	43274.738	1.32	823418030	0.70	40000	>LDR
Co	59	1	He	14.837	14.837	0.81	481145	0.22	4000	
Ni	60	1	He	22.004	22.004	0.56	182323	0.35	4000	
[Cu]	63	1	He	54.056	54.056	0.74	1238101	1.19	4000	
Cu	65	1	He	54.649	54.649	1.14	600668	1.23	4000	
Zn	66	1	He	94.870	94.870	0.28	351971	0.34	4000	
As	75	1	He	19.685	19.685	0.94	46556	1.23	4000	
Se	78	1	He	1.498	1.498	4.94	494	3.07	4000	
Sr	88	1	He	207.978	207.978	1.89	3319790	1.45	4000	
Mo	95	1	He	3.717	3.717	0.48	34047	0.94	4000	
Ag	107	1	He	0.158	0.158	4.00	4656	3.22	100	
Cd	111	1	He	0.190	0.190	10.23	912	9.90	3500	
Sn	118	1	He	2.445	2.445	1.43	27697	1.81	4000	
Sb	123	1	He	1.141	1.141	2.81	13117	2.58	4000	
Ba	137	1	He	261.663	261.663	1.12	1270072	0.73	4000	
Ce	140	1	He	78.446	78.446	1.86	4950508	2.09	4000	
Tl	205	1	He	0.420	0.420	1.05	24723	1.66	3500	
Pb	208	1	He	15.003	15.003	1.44	1113378	0.36	4000	
U	238	1	He	6.661	6.661	1.54	513134	0.65	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	732005	0.66	683823	107.05	80	120	
Ge (IS)	72	1	He	379422	0.31	390615	97.13	80	120	
In-115 (IS)	115	1	He	3353190	0.50	3613234	92.80	80	120	
Tb-159 (IS)	159	1	He	8020579	1.52	8473761	94.65	80	120	
Bi-209 (IS)	209	1	He	5522043	1.08	6042462	91.39	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-9-a@20
Data File Name	093SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:21:48-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3203
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.790	0.790	13.87	191	12.85	100	
Na	23	1	He	948.042	948.042	1.06	4429326	1.26	75000	
Mg	24	1	He	7804.442	7804.442	1.51	17371747	1.17	125000	
Al	27	1	He	23169.904	23169.904	0.25	25172357	0.37	4000	>LDR
K	39	1	He	5163.543	5163.543	1.12	10463918	0.86	100000	
Ca	44	1	He	9533.656	9533.656	0.22	997581	0.44	250000	
V	51	1	He	90.733	90.733	0.95	1574759	0.62	4000	
Cr	52	1	He	23.870	23.870	0.27	491321	0.14	4000	
Mn	55	1	He	542.149	542.149	0.66	7262386	0.52	4000	
Fe	56	1	He	34377.508	34377.508	1.02	627240348	0.72	40000	
Co	59	1	He	10.712	10.712	1.03	333172	0.95	4000	
Ni	60	1	He	15.435	15.435	1.83	122916	1.53	4000	
[Cu]	63	1	He	84.477	84.477	1.85	1835664	2.01	4000	
Cu	65	1	He	84.222	84.222	0.42	878980	0.39	4000	
Zn	66	1	He	104.609	104.609	0.97	386311	0.37	4000	
As	75	1	He	11.133	11.133	0.68	26280	0.53	4000	
Se	78	1	He	1.200	1.200	7.09	430	4.71	4000	
Sr	88	1	He	150.857	150.857	0.44	2420943	0.51	4000	
Mo	95	1	He	1.522	1.522	1.19	14285	0.95	4000	
Ag	107	1	He	0.095	0.095	3.18	2953	3.11	100	
Cd	111	1	He	0.608	0.608	1.48	2871	1.16	3500	
Sn	118	1	He	2.755	2.755	1.25	31193	1.31	4000	
Sb	123	1	He	0.839	0.839	1.39	9824	1.10	4000	
Ba	137	1	He	174.020	174.020	0.58	848042	0.43	4000	
Ce	140	1	He	62.029	62.029	1.29	3929833	1.41	4000	
Tl	205	1	He	0.290	0.290	1.39	17261	1.18	3500	
Pb	208	1	He	12.096	12.096	0.66	907554	0.54	4000	
U	238	1	He	6.221	6.221	0.52	481486	0.93	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	701892	0.36	683823	102.64	80	120	
Ge (IS)	72	1	He	378068	0.90	390615	96.79	80	120	
In-115 (IS)	115	1	He	3366351	0.39	3613234	93.17	80	120	
Tb-159 (IS)	159	1	He	8056705	0.41	8473761	95.08	80	120	
Bi-209 (IS)	209	1	He	5581204	0.31	6042462	92.37	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-10-a@20
Data File Name	094SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:24:13-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3204
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.757	0.757	24.45	183	22.34	100	
Na	23	1	He	2381.344	2381.344	1.47	10124921	0.73	75000	
Mg	24	1	He	7562.870	7562.870	0.66	16783512	0.36	125000	
Al	27	1	He	21205.648	21205.648	0.86	22966297	0.12	4000	>LDR
K	39	1	He	5322.884	5322.884	1.30	10747335	0.49	100000	
Ca	44	1	He	11336.446	11336.446	0.70	1181654	0.53	250000	
V	51	1	He	85.738	85.738	0.41	1483649	1.03	4000	
Cr	52	1	He	20.574	20.574	1.07	422534	0.09	4000	
Mn	55	1	He	522.517	522.517	0.81	6977791	0.90	4000	
Fe	56	1	He	30046.351	30046.351	0.94	546510058	0.05	40000	
Co	59	1	He	9.638	9.638	0.86	298884	0.21	4000	
Ni	60	1	He	12.920	12.920	0.29	102729	0.98	4000	
[Cu]	63	1	He	40.965	40.965	1.06	905249	0.21	4000	
Cu	65	1	He	41.787	41.787	1.04	442782	0.86	4000	
Zn	66	1	He	66.071	66.071	1.12	243663	0.43	4000	
As	75	1	He	20.585	20.585	1.86	48160	1.28	4000	
Se	78	1	He	1.037	1.037	12.03	392	5.98	4000	
Sr	88	1	He	161.200	161.200	1.37	2617088	1.48	4000	
Mo	95	1	He	2.295	2.295	1.10	21550	0.21	4000	
Ag	107	1	He	0.097	0.097	5.77	3040	4.09	100	
Cd	111	1	He	0.170	0.170	4.39	828	3.28	3500	
Sn	118	1	He	2.090	2.090	1.07	24213	1.73	4000	
Sb	123	1	He	0.675	0.675	2.49	8116	2.09	4000	
Ba	137	1	He	165.730	165.730	1.74	817258	0.73	4000	
Ce	140	1	He	53.800	53.800	0.07	3449442	0.98	4000	
Tl	205	1	He	0.239	0.239	2.35	14250	1.81	3500	
Pb	208	1	He	10.354	10.354	1.03	777601	0.27	4000	
U	238	1	He	4.130	4.130	0.38	318032	0.44	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	699734	0.97	683823	102.33	80	120	
Ge (IS)	72	1	He	375416	0.73	390615	96.11	80	120	
In-115 (IS)	115	1	He	3406779	1.05	3613234	94.29	80	120	
Tb-159 (IS)	159	1	He	8007435	0.50	8473761	94.50	80	120	
Bi-209 (IS)	209	1	He	5586298	1.28	6042462	92.45	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-11-a@20
Data File Name	095SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:26:39-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3205
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.964	0.964	14.22	232	12.04	100	
Na	23	1	He	1089.824	1089.824	2.69	5051965	0.90	75000	
Mg	24	1	He	8476.977	8476.977	2.96	19076730	1.60	125000	
Al	27	1	He	26041.178	26041.178	0.29	28616670	1.62	4000	>LDR
K	39	1	He	5189.538	5189.538	2.19	10634490	1.03	100000	
Ca	44	1	He	10041.536	10041.536	1.53	1062370	0.24	250000	
V	51	1	He	93.438	93.438	2.08	1639980	0.97	4000	
Cr	52	1	He	27.145	27.145	2.34	564665	1.58	4000	
Mn	55	1	He	573.879	573.879	1.16	7774829	0.57	4000	
Fe	56	1	He	36035.738	36035.738	2.80	664866445	1.27	40000	>LDR
Co	59	1	He	11.998	11.998	1.49	377371	0.77	4000	
Ni	60	1	He	16.198	16.198	2.67	130397	1.22	4000	
[Cu]	63	1	He	117.074	117.074	2.30	2558926	0.74	4000	
Cu	65	1	He	116.657	116.657	1.92	1225052	1.15	4000	
Zn	66	1	He	107.533	107.533	1.53	397671	1.08	4000	
As	75	1	He	10.703	10.703	1.28	25312	0.88	4000	
Se	78	1	He	1.359	1.359	13.58	464	7.98	4000	
Sr	88	1	He	166.854	166.854	2.01	2685467	0.45	4000	
Mo	95	1	He	1.514	1.514	3.75	14260	1.96	4000	
Ag	107	1	He	0.126	0.126	6.32	3796	4.37	100	
Cd	111	1	He	0.321	0.321	7.43	1530	6.45	3500	
Sn	118	1	He	2.325	2.325	4.25	26579	3.33	4000	
Sb	123	1	He	0.694	0.694	7.59	8249	5.40	4000	
Ba	137	1	He	219.295	219.295	1.47	1072378	0.92	4000	
Ce	140	1	He	69.282	69.282	2.72	4404124	1.71	4000	
Tl	205	1	He	0.304	0.304	1.10	18081	0.62	3500	
Pb	208	1	He	12.886	12.886	1.25	963567	0.82	4000	
U	238	1	He	6.751	6.751	2.50	521924	1.63	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	709953	1.60	683823	103.82	80	120	
Ge (IS)	72	1	He	378701	0.44	390615	96.95	80	120	
In-115 (IS)	115	1	He	3378608	1.87	3613234	93.51	80	120	
Tb-159 (IS)	159	1	He	8050500	1.68	8473761	95.01	80	120	
Bi-209 (IS)	209	1	He	5563007	1.17	6042462	92.07	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-12-a@20
Data File Name	096SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:29:04-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3206
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.893	0.893	7.91	213	6.81	100	
Na	23	1	He	2390.603	2390.603	2.53	10167754	1.97	75000	
Mg	24	1	He	8313.977	8313.977	0.63	18457021	0.20	125000	
Al	27	1	He	25796.625	25796.625	1.05	27956313	1.30	4000	>LDR
K	39	1	He	6362.577	6362.577	1.59	12818225	0.99	100000	
Ca	44	1	He	10282.843	10282.843	0.83	1072888	0.25	250000	
V	51	1	He	80.609	80.609	0.71	1395887	1.28	4000	
Cr	52	1	He	22.507	22.507	0.92	462259	0.45	4000	
Mn	55	1	He	571.245	571.245	0.22	7633040	0.49	4000	
Fe	56	1	He	32602.191	32602.191	1.41	593343781	0.83	40000	
Co	59	1	He	13.199	13.199	1.22	409423	0.81	4000	
Ni	60	1	He	15.915	15.915	1.42	126392	0.87	4000	
[Cu]	63	1	He	132.204	132.204	1.17	2845744	0.70	4000	
Cu	65	1	He	134.530	134.530	0.59	1390963	0.17	4000	
Zn	66	1	He	74.713	74.713	0.80	276148	0.38	4000	
As	75	1	He	9.205	9.205	0.48	21681	0.20	4000	
Se	78	1	He	1.401	1.401	8.95	471	5.99	4000	
Sr	88	1	He	147.713	147.713	1.25	2377949	0.83	4000	
Mo	95	1	He	2.472	2.472	1.44	22971	1.14	4000	
Ag	107	1	He	0.107	0.107	8.64	3269	7.21	100	
Cd	111	1	He	0.227	0.227	6.31	1092	5.97	3500	
Sn	118	1	He	2.345	2.345	0.65	26787	0.14	4000	
Sb	123	1	He	0.738	0.738	1.22	8735	1.08	4000	
Ba	137	1	He	167.796	167.796	1.75	820181	1.17	4000	
Ce	140	1	He	59.090	59.090	0.13	3755097	0.46	4000	
Tl	205	1	He	0.266	0.266	0.23	15952	0.42	3500	
Pb	208	1	He	13.486	13.486	0.99	1018371	0.14	4000	
U	238	1	He	3.837	3.837	0.91	298815	0.42	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	700139	0.59	683823	102.39	80	120	
Ge (IS)	72	1	He	376911	0.42	390615	96.49	80	120	
In-115 (IS)	115	1	He	3376701	0.58	3613234	93.45	80	120	
Tb-159 (IS)	159	1	He	8097420	0.58	8473761	95.56	80	120	
Bi-209 (IS)	209	1	He	5618293	1.13	6042462	92.98	80	120	

Sample Report

Sample Table

Sample Name	440-144969-a-1-a@20
Data File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:31:29-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3207
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.428	0.428	23.22	110	19.87	100	
Na	23	1	He	279.725	279.725	0.70	1744214	0.41	75000	
Mg	24	1	He	9939.869	9939.869	0.51	21933602	0.43	125000	
Al	27	1	He	21436.040	21436.040	1.07	23099352	1.18	4000	>LDR
K	39	1	He	5929.049	5929.049	1.09	11890575	1.18	100000	
Ca	44	1	He	13049.223	13049.223	2.04	1352653	2.14	250000	
V	51	1	He	84.611	84.611	0.60	1456758	0.64	4000	
Cr	52	1	He	43.714	43.714	0.47	890162	0.58	4000	
Mn	55	1	He	592.523	592.523	0.43	7872611	0.50	4000	
Fe	56	1	He	36307.621	36307.621	0.61	657078783	0.65	40000	>LDR
Co	59	1	He	12.542	12.542	0.26	386862	0.37	4000	
Ni	60	1	He	23.402	23.402	1.07	184359	1.10	4000	
[Cu]	63	1	He	38.358	38.358	0.28	845607	0.24	4000	
Cu	65	1	He	39.109	39.109	0.81	413338	0.75	4000	
Zn	66	1	He	115.847	115.847	0.97	420469	0.61	4000	
As	75	1	He	16.437	16.437	1.44	38121	1.47	4000	
Se	78	1	He	1.223	1.223	4.02	427	1.89	4000	
Sr	88	1	He	60.143	60.143	0.73	974566	0.72	4000	
Mo	95	1	He	1.423	1.423	3.40	13420	3.32	4000	
Ag	107	1	He	0.237	0.237	1.83	6841	1.14	100	
Cd	111	1	He	0.714	0.714	6.88	3376	5.57	3500	
Sn	118	1	He	3.439	3.439	1.77	38746	0.48	4000	
Sb	123	1	He	1.997	1.997	1.65	22667	0.59	4000	
Ba	137	1	He	287.744	287.744	1.05	1405111	0.63	4000	
Ce	140	1	He	49.429	49.429	1.00	3138247	0.89	4000	
Tl	205	1	He	0.226	0.226	2.22	13317	2.21	3500	
Pb	208	1	He	66.569	66.569	0.71	4984812	0.35	4000	
U	238	1	He	1.218	1.218	1.75	93245	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	696180	0.11	683823	101.81	80	120	
Ge (IS)	72	1	He	371923	0.50	390615	95.21	80	120	
In-115 (IS)	115	1	He	3373681	1.38	3613234	93.37	80	120	
Tb-159 (IS)	159	1	He	7906594	0.77	8473761	93.31	80	120	
Bi-209 (IS)	209	1	He	5575018	0.98	6042462	92.26	80	120	

Sample Report

Sample Table

Sample Name	440-145041-a-1-b@20
Data File Name	098SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:33:54-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3208
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.670	0.670	15.23	164	13.19	100	
Na	23	1	He	1099.692	1099.692	0.94	5035335	1.83	75000	
Mg	24	1	He	9139.479	9139.479	1.15	20334463	0.65	125000	
Al	27	1	He	23930.859	23930.859	1.05	25996830	0.79	4000	>LDR
K	39	1	He	5033.987	5033.987	1.76	10204883	1.13	100000	
Ca	44	1	He	13972.010	13972.010	2.02	1459607	1.16	250000	
V	51	1	He	68.978	68.978	0.48	1197734	0.80	4000	
Cr	52	1	He	50.323	50.323	0.41	1032681	0.90	4000	
Mn	55	1	He	512.637	512.637	0.77	6866547	0.26	4000	
Fe	56	1	He	32756.147	32756.147	0.73	597656527	1.40	40000	
Co	59	1	He	12.144	12.144	0.78	377667	1.30	4000	
Ni	60	1	He	31.335	31.335	0.82	248539	0.36	4000	
[Cu]	63	1	He	43.485	43.485	0.25	961776	0.81	4000	
Cu	65	1	He	44.194	44.194	0.59	468798	0.50	4000	
Zn	66	1	He	177.258	177.258	1.28	649205	0.69	4000	
As	75	1	He	10.247	10.247	2.22	24094	1.83	4000	
Se	78	1	He	0.996	0.996	8.92	385	3.12	4000	
Sr	88	1	He	102.205	102.205	1.89	1652699	1.45	4000	
Mo	95	1	He	2.054	2.054	5.15	19205	4.58	4000	
Ag	107	1	He	0.362	0.362	2.65	10318	3.02	100	
Cd	111	1	He	1.000	1.000	4.31	4734	3.93	3500	
Sn	118	1	He	4.314	4.314	1.00	48485	0.64	4000	
Sb	123	1	He	2.430	2.430	1.20	27552	0.80	4000	
Ba	137	1	He	716.770	716.770	2.31	3511018	2.28	4000	
Ce	140	1	He	45.663	45.663	2.66	2908355	2.81	4000	
Tl	205	1	He	0.199	0.199	1.96	11947	3.18	3500	
Pb	208	1	He	53.097	53.097	0.73	4013498	0.58	4000	
U	238	1	He	1.151	1.151	1.87	89341	0.11	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	701867	1.03	683823	102.64	80	120	
Ge (IS)	72	1	He	376499	1.88	390615	96.39	80	120	
In-115 (IS)	115	1	He	3384100	0.46	3613234	93.66	80	120	
Tb-159 (IS)	159	1	He	8010950	1.83	8473761	94.54	80	120	
Bi-209 (IS)	209	1	He	5627189	0.71	6042462	93.13	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	099SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:36:18-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.039	-0.039	-42.25	7	50.03	100	
Na	23	1	He	-132.601	-132.601	-0.12	101345	0.56	75000	
Mg	24	1	He	-11.277	-11.277	-8.88	17419	11.47	125000	
Al	27	1	He	16.644	16.644	15.19	16933	14.63	4000	
K	39	1	He	-10.325	-10.325	-2.59	150204	0.18	100000	
Ca	44	1	He	-23.874	-23.874	-5.41	1963	6.17	250000	
V	51	1	He	0.021	0.021	23.13	2579	2.85	4000	
Cr	52	1	He	0.018	0.018	61.64	2895	6.99	4000	
Mn	55	1	He	0.416	0.416	12.78	5626	11.33	4000	
Fe	56	1	He	25.984	25.984	11.25	446067	10.73	40000	
Co	59	1	He	0.010	0.010	9.70	600	4.84	4000	
Ni	60	1	He	0.055	0.055	23.62	1271	7.60	4000	
[Cu]	63	1	He	-1.227	-1.227	-0.98	7985	2.63	4000	
Cu	65	1	He	-1.159	-1.159	-2.39	3764	7.09	4000	
Zn	66	1	He	0.503	0.503	8.17	5472	2.60	4000	
As	75	1	He	0.001	0.001	447.10	105	6.36	4000	
Se	78	1	He	-0.058	-0.058	-60.21	160	4.72	4000	
Sr	88	1	He	-0.678	-0.678	-0.51	1389	4.03	4000	
Mo	95	1	He	-0.023	-0.023	-5.59	287	5.07	4000	
Ag	107	1	He	-0.002	-0.002	-85.75	292	11.98	100	
Cd	111	1	He	0.001	0.001	316.87	29	53.30	3500	
Sn	118	1	He	-0.046	-0.046	-10.29	582	10.25	4000	
Sb	123	1	He	-0.027	-0.027	-7.13	259	7.09	4000	
Ba	137	1	He	0.326	0.326	18.97	1731	17.34	4000	
Ce	140	1	He	0.028	0.028	7.13	2171	6.69	4000	
Tl	205	1	He	-0.001	-0.001	-206.65	421	14.65	3500	
Pb	208	1	He	0.040	0.040	17.97	3994	13.71	4000	
U	238	1	He	-0.008	-0.008	-8.28	350	14.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	641946	0.34	683823	93.88	80	120	
Ge (IS)	72	1	He	368841	0.38	390615	94.43	80	120	
In-115 (IS)	115	1	He	3398324	1.33	3613234	94.05	80	120	
Tb-159 (IS)	159	1	He	8003422	0.48	8473761	94.45	80	120	
Bi-209 (IS)	209	1	He	5725980	0.16	6042462	94.76	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	100SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:38:52-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.039	-0.039	-71.09	7	86.65	100	
Na	23	1	He	-132.360	-132.360	-0.25	103841	1.12	75000	
Mg	24	1	He	-13.841	-13.841	-1.14	12407	2.56	125000	
Al	27	1	He	10.203	10.203	5.34	10703	5.11	4000	
K	39	1	He	-11.166	-11.166	-1.87	151024	0.21	100000	
Ca	44	1	He	-27.951	-27.951	-7.36	1600	12.43	250000	
V	51	1	He	0.012	0.012	43.82	2476	3.56	4000	
Cr	52	1	He	0.009	0.009	26.51	2764	1.69	4000	
Mn	55	1	He	0.284	0.284	4.44	4076	3.87	4000	
Fe	56	1	He	15.835	15.835	2.38	281145	2.24	40000	
Co	59	1	He	0.008	0.008	23.21	546	10.18	4000	
Ni	60	1	He	0.028	0.028	32.24	1094	6.05	4000	
[Cu]	63	1	He	-1.251	-1.251	-0.63	7644	2.00	4000	
Cu	65	1	He	-1.183	-1.183	-1.01	3597	3.22	4000	
Zn	66	1	He	0.463	0.463	7.74	5410	2.02	4000	
As	75	1	He	0.003	0.003	210.61	111	11.50	4000	
Se	78	1	He	0.086	0.086	87.08	192	7.79	4000	
Sr	88	1	He	-0.703	-0.703	-0.53	1010	6.37	4000	
Mo	95	1	He	-0.025	-0.025	-16.31	268	14.16	4000	
Ag	107	1	He	-0.005	-0.005	-29.44	200	21.67	100	
Cd	111	1	He	0.000	0.000	1115.85	26	39.85	3500	
Sn	118	1	He	-0.053	-0.053	-6.03	520	6.11	4000	
Sb	123	1	He	-0.029	-0.029	-7.34	249	9.50	4000	
Ba	137	1	He	0.121	0.121	10.84	740	9.31	4000	
Ce	140	1	He	0.019	0.019	14.07	1611	11.65	4000	
Tl	205	1	He	-0.002	-0.002	-37.30	354	10.36	3500	
Pb	208	1	He	0.017	0.017	14.14	2221	7.55	4000	
U	238	1	He	-0.008	-0.008	-4.44	309	8.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	652104	0.11	683823	95.36	80	120	
Ge (IS)	72	1	He	374340	0.51	390615	95.83	80	120	
In-115 (IS)	115	1	He	3481400	0.84	3613234	96.35	80	120	
Tb-159 (IS)	159	1	He	8064950	0.37	8473761	95.18	80	120	
Bi-209 (IS)	209	1	He	5750714	0.58	6042462	95.17	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	101_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:41:26-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.029	2.030	10272	1.73	50	98.1	89.5	110.49	
Na	23	1	He	1175.936	1.479	5035090	0.93	1250	94.1	89.5	110.49	
Mg	24	1	He	1267.190	0.692	2694597	0.83	1250	101.4	89.5	110.49	
Al	27	1	He	57.776	1.488	59600	1.74	50	115.6	89.5	110.49	>+\-10%
K	39	1	He	1287.327	0.881	2590836	1.27	1250	103.0	89.5	110.49	
Ca	44	1	He	2502.193	0.597	250106	0.59	2500	100.1	89.5	110.49	
V	51	1	He	49.605	0.464	812901	0.91	50	99.2	89.5	110.49	
Cr	52	1	He	49.203	0.253	952200	0.31	50	98.4	89.5	110.49	
Mn	55	1	He	50.464	0.193	637933	0.51	50	100.9	89.5	110.49	
Fe	56	1	He	515.588	0.707	8883596	1.13	500	103.1	89.5	110.49	
Co	59	1	He	49.962	2.172	1464257	2.46	50	99.9	89.5	110.49	
Ni	60	1	He	49.858	0.908	372392	0.98	50	99.7	89.5	110.49	
Cu	65	1	He	48.783	0.601	486427	0.86	50	97.6	89.5	110.49	
Zn	66	1	He	51.294	1.336	190123	1.04	50	102.6	89.5	110.49	
As	75	1	He	49.647	1.515	116083	1.30	50	99.3	89.5	110.49	
Se	78	1	He	48.978	0.473	10455	0.49	50	98.0	89.5	110.49	
Sr	88	1	He	46.807	0.838	785338	1.24	50	93.6	89.5	110.49	
Mo	95	1	He	49.554	1.242	464913	0.73	50	99.1	89.5	110.49	
Ag	107	1	He	49.229	0.803	1396593	1.46	50	98.5	89.5	110.49	
Cd	111	1	He	48.823	0.616	236503	1.09	50	97.6	89.5	110.49	
Sn	118	1	He	49.552	0.970	561022	0.74	50	99.1	89.5	110.49	
Sb	123	1	He	49.495	1.497	565917	0.90	50	99.0	89.5	110.49	
Ba	137	1	He	49.716	1.350	250564	0.28	50	99.4	89.5	110.49	
Ce	140	1	He	50.337	0.335	3297447	1.64	50	100.7	89.5	110.49	
Tl	205	1	He	48.871	1.210	2852066	0.73	50	97.7	89.5	110.49	
Pb	208	1	He	49.741	0.598	3852119	0.60	50	99.5	89.5	110.49	
U	238	1	He	49.894	0.366	3879671	1.17	50	99.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661846	0.44	683823	96.79	80	120	
Ge (IS)	72	1	He	375645	0.61	390615	96.17	80	120	
In-115 (IS)	115	1	He	3480679	1.60	3613234	96.33	80	120	
Tb-159 (IS)	159	1	He	8108264	1.53	8473761	95.69	80	120	
Bi-209 (IS)	209	1	He	5765344	1.11	6042462	95.41	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	102_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:43:53-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.055	-50.7	3	173.2	0.5	
Na	23	1	He	-134.079	-0.2	96737	0.6	110	
Mg	24	1	He	-15.851	-0.9	8200	3.3	110	
Al	27	1	He	5.518	5.7	5930	5.1	10	
K	39	1	He	-11.501	-1.1	149290	0.4	110	
Ca	44	1	He	-34.146	-1.9	993	6.7	110	
V	51	1	He	0.004	551.2	2321	13.6	2	
Cr	52	1	He	0.010	39.3	2764	2.4	2	
Mn	55	1	He	0.187	14.7	2845	11.8	1	
Fe	56	1	He	8.862	4.6	161728	4.1	20	
Co	59	1	He	0.015	14.4	730	8.1	1	
Ni	60	1	He	0.026	35.6	1069	6.1	2	
Cu	65	1	He	-1.204	-2.2	3374	7.6	1	
Zn	66	1	He	0.091	30.5	4000	3.1	20	
As	75	1	He	0.013	27.2	133	6.6	1	
Se	78	1	He	0.042	222.1	180	11.0	2	
Sr	88	1	He	-0.706	-1.3	939	17.3	2	
Mo	95	1	He	0.028	23.9	742	6.7	2	
Ag	107	1	He	0.021	41.6	923	28.5	1	
Cd	111	1	He	0.011	24.7	74	17.0	1	
Sn	118	1	He	0.081	20.5	1970	8.4	2	
Sb	123	1	He	0.198	16.6	2742	11.7	1	
Ba	137	1	He	0.047	18.3	356	13.7	1	
Ce	140	1	He	0.018	13.7	1486	11.2	1	
Tl	205	1	He	0.017	20.5	1442	14.1	1	
Pb	208	1	He	0.023	19.3	2696	13.1	1	
U	238	1	He	0.018	7.5	2338	4.3	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647267	0.34	683823	94.65	80	120	
Ge (IS)	72	1	He	368461	0.59	390615	94.33	80	120	
In-115 (IS)	115	1	He	3370556	2.18	3613234	93.28	80	120	
Tb-159 (IS)	159	1	He	8003055	0.13	8473761	94.45	80	120	
Bi-209 (IS)	209	1	He	5656546	0.44	6042462	93.61	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	103_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:46:27-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL BP CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.976	23.345	216	21.89	1	97.6	50	150	
Na	23	1	He	73.654	1.664	866558	0.13	200	36.8	50	150	>+/-50%
Mg	24	1	He	189.216	0.769	430207	0.21	200	94.6	50	150	
Al	27	1	He	25.219	2.784	25794	2.25	20	126.1	50	150	
K	39	1	He	192.527	0.420	526463	0.40	200	96.3	50	150	
Ca	44	1	He	942.866	1.698	95303	1.48	1000	94.3	50	150	
V	51	1	He	2.009	0.286	34534	0.57	2	100.4	50	150	
Cr	52	1	He	1.956	1.251	39691	1.19	2	97.8	50	150	
Mn	55	1	He	2.196	1.059	27806	1.38	2	109.8	50	150	
Fe	56	1	He	46.123	1.316	792595	0.85	40	115.3	50	150	
Co	59	1	He	1.988	1.580	57563	1.88	2	99.4	50	150	
Ni	60	1	He	2.122	1.400	16424	1.08	2	106.1	50	150	
Cu	65	1	He	0.815	8.075	22563	2.23	2	40.8	50	150	>+/-50%
Zn	66	1	He	20.650	1.058	78819	0.93	20	103.3	50	150	
As	75	1	He	2.134	1.329	5092	1.12	2	106.7	50	150	
Se	78	1	He	1.925	14.139	579	10.04	2	96.2	50	150	
Sr	88	1	He	1.225	2.302	32590	0.17	2	61.2	50	150	
Mo	95	1	He	1.996	0.836	19072	1.08	2	99.8	50	150	
Ag	107	1	He	1.929	1.776	54627	0.31	2	96.4	50	150	
Cd	111	1	He	1.966	2.823	9473	1.40	2	98.3	50	150	
Sn	118	1	He	20.220	1.876	227837	0.58	20	101.1	50	150	
Sb	123	1	He	1.959	0.515	22784	1.86	2	97.9	50	150	
Ba	137	1	He	2.057	1.846	10414	0.87	2	102.9	50	150	
Ce	140	1	He	1.961	1.996	127822	0.84	2	98.0	50	150	
Tl	205	1	He	1.903	1.046	112221	1.22	2	95.1	50	150	
Pb	208	1	He	2.083	0.995	163539	0.60	2	104.1	50	150	
U	238	1	He	1.905	0.733	150011	1.35	2	95.2	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650502	0.55	683823	95.13	80	120	
Ge (IS)	72	1	He	375822	0.24	390615	96.21	80	120	
In-115 (IS)	115	1	He	3454429	1.45	3613234	95.60	80	120	
Tb-159 (IS)	159	1	He	8160643	0.74	8473761	96.30	80	120	
Bi-209 (IS)	209	1	He	5812367	0.94	6042462	96.19	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	104ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:49:02-07:00
Sample Type	ICSA
Dilution	1
Comment	BP CHK A
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.061	-15.676	2	86.60	-1	1	
Na	23	1	He	101451.067	1.587	369854696	0.80	100000	100000	
Mg	24	1	He	98913.951	1.425	200081765	0.66	100000	100000	
Al	27	1	He	98673.363	0.444	97652798	1.18	100000	100000	
K	39	1	He	100782.565	1.516	182923788	1.39	100000	100000	
Ca	44	1	He	94683.096	0.357	8987322	1.06	100000	100000	
V	51	1	He	0.031	47.554	2730	9.35	-4	4	
Cr	52	1	He	1.276	1.149	26331	0.41	-4	4	
Mn	55	1	He	0.445	8.509	5959	8.38	-2	2	
Co	59	1	He	0.040	11.061	1430	9.03	-2	2	
Ni	60	1	He	0.452	6.332	4121	5.23	-4	4	
Cu	65	1	He	-0.356	-2.327	11245	0.46	-4	4	
Zn	66	1	He	1.229	6.587	7896	4.43	-40	40	
As	75	1	He	0.094	11.367	311	8.03	-2	2	
Se	78	1	He	0.084	195.100	185	17.02	-4	4	
Sr	88	1	He	-0.057	-9.556	10544	0.84	-2	2	
Mo	95	1	He	2102.354	0.891	17785377	0.48	2000	2000	
Ag	107	1	He	0.029	1.627	1048	2.23	-2	2	
Cd	111	1	He	0.765	6.106	3366	5.34	-2	2	
Sn	118	1	He	0.042	24.560	1437	7.98	-20	20	
Sb	123	1	He	0.093	10.754	1482	6.83	-4	4	
Ba	137	1	He	0.133	4.365	720	4.04	-2	2	
Ce	140	1	He	0.028	17.340	2001	15.34	-2	2	
Tl	205	1	He	0.006	21.069	731	8.73	-2	2	
Pb	208	1	He	0.229	4.291	16221	3.68	-2	2	
U	238	1	He	-0.002	-209.004	764	32.44	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	639372	0.83	683823	93.50	80	120	
Ge (IS)	72	1	He	361032	0.97	390615	92.43	80	120	
In-115 (IS)	115	1	He	3141747	1.17	3613234	86.95	80	120	
Tb-159 (IS)	159	1	He	7557253	0.26	8473761	89.18	80	120	
Bi-209 (IS)	209	1	He	5012380	0.38	6042462	82.95	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	105ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:51:30-07:00
Sample Type	ICSB
Dilution	1
Comment	BP CHK B
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	19.021	2.253	3873	1.68	20	95.1	79.5	120.49	
Na	23	1	He	102585.613	1.452	375378687	1.15	101000	101.6	79.5	120.49	
Mg	24	1	He	99147.207	0.978	201299708	0.48	101000	98.2	79.5	120.49	
Al	27	1	He	98693.397	0.464	98029496	0.53	101000	97.7	79.5	120.49	
K	39	1	He	101956.787	0.987	185738357	0.98	101000	100.9	79.5	120.49	
Ca	44	1	He	97428.315	0.952	9281387	0.45	101000	96.5	79.5	120.49	
V	51	1	He	19.849	1.611	316709	1.06	20	99.2	79.5	120.49	
Cr	52	1	He	20.323	0.788	382829	0.35	20	101.6	79.5	120.49	
Mn	55	1	He	19.922	1.095	244493	0.65	20	99.6	79.5	120.49	
Fe	56	1	He	96661.305	1.266	1612405163	0.78	101000	95.7	79.5	120.49	
Co	59	1	He	18.712	1.049	531884	0.48	20	93.6	79.5	120.49	
Ni	60	1	He	18.953	1.354	137792	1.04	20	94.8	79.5	120.49	
Cu	65	1	He	17.786	0.906	181245	0.37	20	88.9	79.5	120.49	
Zn	66	1	He	18.603	0.631	68672	0.98	20	93.0	79.5	120.49	
As	75	1	He	19.803	0.470	44631	0.55	20	99.0	79.5	120.49	
Se	78	1	He	18.810	0.888	3969	0.34	20	94.1	79.5	120.49	
Sr	88	1	He	20.137	0.636	310627	0.46	20	100.7	79.5	120.49	
Mo	95	1	He	2148.001	0.168	18124077	0.10	2020	106.3	79.5	120.49	
Ag	107	1	He	19.195	0.403	490420	0.49	20	96.0	79.5	120.49	
Cd	111	1	He	19.790	0.629	86316	0.45	20	99.0	79.5	120.49	
Sn	118	1	He	20.569	0.376	210246	0.44	20	102.8	79.5	120.49	
Sb	123	1	He	20.843	0.275	214869	0.14	20	104.2	79.5	120.49	
Ba	137	1	He	20.853	1.057	94690	1.06	20	104.3	79.5	120.49	
Ce	140	1	He	20.458	0.431	1206629	0.30	20	102.3	79.5	120.49	
Tl	205	1	He	18.275	0.746	1005148	0.39	20	91.4	79.5	120.49	
Pb	208	1	He	20.279	0.546	1374210	0.61	20	101.4	79.5	120.49	
U	238	1	He	19.549	0.083	1432717	0.82	20	97.7	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	641724	0.56	683823	93.84	80	120	
Ge (IS)	72	1	He	361583	0.67	390615	92.57	80	120	
In-115 (IS)	115	1	He	3133345	0.18	3613234	86.72	80	120	
Tb-159 (IS)	159	1	He	7638966	0.77	8473761	90.15	80	120	
Bi-209 (IS)	209	1	He	5042877	0.11	6042462	83.46	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	106SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:53:58-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.034	-0.034	-118.34	8	107.84	100	
Na	23	1	He	-87.045	-87.045	-9.20	275408	11.89	75000	
Mg	24	1	He	19.296	19.296	40.41	81795	20.90	125000	
Al	27	1	He	37.025	37.025	20.64	38262	21.44	4000	
K	39	1	He	25.587	25.587	29.32	221619	7.30	100000	
Ca	44	1	He	1.530	1.530	436.84	4508	15.54	250000	
V	51	1	He	-0.003	-0.003	-80.69	2251	2.52	4000	
Cr	52	1	He	0.006	0.006	118.20	2732	4.70	4000	
Mn	55	1	He	0.079	0.079	12.30	1538	7.97	4000	
Fe	56	1	He	44.940	44.940	15.74	784236	16.49	40000	
Co	59	1	He	0.005	0.005	23.69	472	8.36	4000	
Ni	60	1	He	0.042	0.042	35.62	1210	10.06	4000	
[Cu]	63	1	He	-1.127	-1.127	-2.42	10224	6.30	4000	
Cu	65	1	He	-1.052	-1.052	-1.70	4901	4.49	4000	
Zn	66	1	He	0.447	0.447	4.60	5423	0.44	4000	
As	75	1	He	0.007	0.007	103.79	124	15.39	4000	
Se	78	1	He	0.078	0.078	117.35	193	10.60	4000	
Sr	88	1	He	-0.732	-0.732	-0.49	544	11.85	4000	
Mo	95	1	He	1.925	1.925	4.10	18601	3.88	4000	
Ag	107	1	He	0.019	0.019	28.86	882	19.14	100	
Cd	111	1	He	0.007	0.007	29.60	59	18.19	3500	
Sn	118	1	He	-0.037	-0.037	-24.69	697	14.02	4000	
Sb	123	1	He	-0.009	-0.009	-27.28	474	4.57	4000	
Ba	137	1	He	0.027	0.027	55.25	269	29.29	4000	
Ce	140	1	He	0.008	0.008	34.98	933	22.45	4000	
Tl	205	1	He	0.019	0.019	6.94	1583	5.91	3500	
Pb	208	1	He	0.011	0.011	19.24	1816	9.43	4000	
U	238	1	He	0.001	0.001	96.42	1048	9.46	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	659639	0.97	683823	96.46	80	120	
Ge (IS)	72	1	He	379384	1.43	390615	97.12	80	120	
In-115 (IS)	115	1	He	3490123	1.56	3613234	96.59	80	120	
Tb-159 (IS)	159	1	He	8161914	0.99	8473761	96.32	80	120	
Bi-209 (IS)	209	1	He	5793554	0.86	6042462	95.88	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	107SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:56:32-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.041	-0.041	-37.45	7	50.03	100	
Na	23	1	He	-110.979	-110.979	-1.99	192260	4.42	75000	
Mg	24	1	He	-0.789	-0.789	-174.09	41269	7.10	125000	
Al	27	1	He	17.821	17.821	6.45	19300	6.25	4000	
K	39	1	He	3.450	3.450	37.11	186841	1.35	100000	
Ca	44	1	He	-16.833	-16.833	-2.54	2808	1.72	250000	
V	51	1	He	-0.003	-0.003	-157.15	2338	3.94	4000	
Cr	52	1	He	-0.003	-0.003	-229.14	2664	4.38	4000	
Mn	55	1	He	0.054	0.054	16.19	1277	8.63	4000	
Fe	56	1	He	21.150	21.150	3.48	389564	3.32	40000	
Co	59	1	He	0.002	0.002	20.64	377	3.19	4000	
Ni	60	1	He	0.016	0.016	61.92	1054	6.82	4000	
[Cu]	63	1	He	-1.197	-1.197	-1.33	9142	3.23	4000	
Cu	65	1	He	-1.144	-1.144	-1.44	4161	4.17	4000	
Zn	66	1	He	0.444	0.444	19.63	5564	5.51	4000	
As	75	1	He	-0.003	-0.003	-57.14	101	4.54	4000	
Se	78	1	He	0.082	0.082	121.06	200	11.04	4000	
Sr	88	1	He	-0.726	-0.726	-0.40	646	8.07	4000	
Mo	95	1	He	0.576	0.576	5.49	6039	5.85	4000	
Ag	107	1	He	0.001	0.001	88.45	397	9.69	100	
Cd	111	1	He	0.003	0.003	98.36	41	38.32	3500	
Sn	118	1	He	-0.048	-0.048	-21.03	589	19.98	4000	
Sb	123	1	He	-0.021	-0.021	-6.61	348	3.99	4000	
Ba	137	1	He	0.039	0.039	4.52	334	3.05	4000	
Ce	140	1	He	0.003	0.003	20.91	607	8.64	4000	
Tl	205	1	He	0.005	0.005	6.10	793	2.62	3500	
Pb	208	1	He	0.006	0.006	28.52	1429	8.79	4000	
U	238	1	He	-0.006	-0.006	-27.29	499	25.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684279	0.49	683823	100.07	80	120	
Ge (IS)	72	1	He	390088	0.45	390615	99.87	80	120	
In-115 (IS)	115	1	He	3558325	0.95	3613234	98.48	80	120	
Tb-159 (IS)	159	1	He	8276414	0.49	8473761	97.67	80	120	
Bi-209 (IS)	209	1	He	5811842	0.74	6042462	96.18	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	108_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:59:07-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.118	3.551	10671	2.60	50	98.2	89.5	110.49	
Na	23	1	He	1194.841	1.659	5296247	1.69	1250	95.6	89.5	110.49	
Mg	24	1	He	1266.933	0.542	2794170	1.04	1250	101.4	89.5	110.49	
Al	27	1	He	64.144	2.292	68575	2.04	50	128.3	89.5	110.49	>+\-10%
K	39	1	He	1303.066	1.622	2717471	0.81	1250	104.2	89.5	110.49	
Ca	44	1	He	2533.983	0.424	262638	0.87	2500	101.4	89.5	110.49	
V	51	1	He	50.003	1.169	849789	0.38	50	100.0	89.5	110.49	
Cr	52	1	He	49.580	1.085	995055	0.04	50	99.2	89.5	110.49	
Mn	55	1	He	50.384	1.437	660523	0.37	50	100.8	89.5	110.49	
Fe	56	1	He	521.654	2.163	9320854	1.55	500	104.3	89.5	110.49	
Co	59	1	He	51.190	1.030	1555836	0.05	50	102.4	89.5	110.49	
Ni	60	1	He	50.046	1.105	387658	0.09	50	100.1	89.5	110.49	
Cu	65	1	He	48.758	1.453	504204	0.43	50	97.5	89.5	110.49	
Zn	66	1	He	51.007	1.165	197725	0.71	50	102.0	89.5	110.49	
As	75	1	He	49.372	0.262	120722	0.47	50	98.7	89.5	110.49	
Se	78	1	He	49.379	0.838	11022	1.16	50	98.8	89.5	110.49	
Sr	88	1	He	47.498	1.339	818857	0.21	50	95.0	89.5	110.49	
Mo	95	1	He	50.620	0.971	488131	0.40	50	101.2	89.5	110.49	
Ag	107	1	He	49.875	1.506	1454156	0.20	50	99.8	89.5	110.49	
Cd	111	1	He	49.645	2.230	247147	1.18	50	99.3	89.5	110.49	
Sn	118	1	He	49.971	1.119	581511	0.91	50	99.9	89.5	110.49	
Sb	123	1	He	49.747	1.593	584633	0.86	50	99.5	89.5	110.49	
Ba	137	1	He	49.803	1.606	257991	0.67	50	99.6	89.5	110.49	
Ce	140	1	He	51.104	0.970	3440598	0.71	50	102.2	89.5	110.49	
Tl	205	1	He	49.153	2.138	2926437	2.45	50	98.3	89.5	110.49	
Pb	208	1	He	49.755	0.742	3915390	0.22	50	99.5	89.5	110.49	
U	238	1	He	49.641	0.995	3937680	1.57	50	99.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	686449	1.08	683823	100.38	80	120	
Ge (IS)	72	1	He	392819	0.46	390615	100.56	80	120	
In-115 (IS)	115	1	He	3577536	1.33	3613234	99.01	80	120	
Tb-159 (IS)	159	1	He	8270881	0.59	8473761	97.61	80	120	
Bi-209 (IS)	209	1	He	5858340	0.58	6042462	96.95	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:01:33-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-62.7	9	43.3	0.5	
Na	23	1	He	-119.323	-0.6	156158	1.5	110	
Mg	24	1	He	-5.991	-13.8	29330	5.4	110	
Al	27	1	He	12.382	1.4	13236	2.2	10	CCB Main CR1 Failed
K	39	1	He	-2.227	-27.1	171873	1.3	110	
Ca	44	1	He	-25.476	-3.2	1887	4.0	110	
V	51	1	He	0.001	1547.1	2350	7.0	2	
Cr	52	1	He	0.002	131.5	2691	2.1	2	
Mn	55	1	He	0.050	16.7	1193	8.1	1	
Fe	56	1	He	14.280	2.6	261321	1.9	20	
Co	59	1	He	0.011	54.5	651	27.6	1	
Ni	60	1	He	0.029	45.5	1129	9.3	2	
Cu	65	1	He	-1.180	-1.0	3717	3.2	1	
Zn	66	1	He	0.096	36.5	4179	3.6	20	
As	75	1	He	0.009	109.1	128	17.0	1	
Se	78	1	He	0.095	54.3	199	6.5	2	
Sr	88	1	He	-0.721	-1.3	720	20.5	2	
Mo	95	1	He	0.348	6.3	3805	6.1	2	
Ag	107	1	He	0.028	42.4	1159	28.2	1	
Cd	111	1	He	0.009	60.7	68	36.9	1	
Sn	118	1	He	0.060	23.4	1815	9.9	2	
Sb	123	1	He	0.223	5.5	3153	5.8	1	
Ba	137	1	He	0.049	6.8	381	5.8	1	
Ce	140	1	He	0.011	53.3	1089	33.2	1	
Tl	205	1	He	0.019	30.0	1552	18.9	1	
Pb	208	1	He	0.019	33.4	2442	20.0	1	
U	238	1	He	0.017	16.6	2312	8.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	668888	0.93	683823	97.82	80	120	
Ge (IS)	72	1	He	383299	1.00	390615	98.13	80	120	
In-115 (IS)	115	1	He	3512218	1.41	3613234	97.20	80	120	
Tb-159 (IS)	159	1	He	8172278	2.22	8473761	96.44	80	120	
Bi-209 (IS)	209	1	He	5770806	1.05	6042462	95.50	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	110_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:04:09-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.061	-29.2	2	173.2	0.5	
Na	23	1	He	-122.303	-0.2	147081	0.8	110	
Mg	24	1	He	-8.312	-2.4	24808	1.8	110	
Al	27	1	He	10.278	1.5	11230	1.7	10	CCB Main CR1 Failed
K	39	1	He	-3.460	-13.2	172186	0.7	110	
Ca	44	1	He	-27.613	-2.4	1701	4.3	110	
V	51	1	He	-0.017	-47.7	2089	6.9	2	
Cr	52	1	He	-0.009	-15.5	2530	1.3	2	
Mn	55	1	He	0.036	19.0	1029	8.9	1	
Fe	56	1	He	11.575	1.5	217679	1.6	20	
Co	59	1	He	0.006	46.4	490	16.0	1	
Ni	60	1	He	0.014	91.3	1029	9.4	2	
Cu	65	1	He	-1.219	-1.2	3390	4.4	1	
Zn	66	1	He	0.058	47.7	4076	2.7	20	
As	75	1	He	-0.005	-192.0	96	25.3	1	
Se	78	1	He	-0.017	-1190.3	177	24.0	2	
Sr	88	1	He	-0.722	-0.2	708	3.3	2	
Mo	95	1	He	0.216	4.2	2577	3.9	2	
Ag	107	1	He	0.003	54.0	440	9.9	1	
Cd	111	1	He	0.001	507.1	32	113.5	1	
Sn	118	1	He	-0.025	-15.2	848	4.7	2	
Sb	123	1	He	0.045	21.4	1112	10.9	1	
Ba	137	1	He	0.033	12.9	303	6.7	1	
Ce	140	1	He	0.002	55.9	509	14.7	1	
Tl	205	1	He	0.003	28.7	659	6.9	1	
Pb	208	1	He	0.005	24.1	1363	7.1	1	
U	238	1	He	-0.004	-26.8	686	11.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	679356	0.34	683823	99.35	80	120	
Ge (IS)	72	1	He	386920	0.17	390615	99.05	80	120	
In-115 (IS)	115	1	He	3549919	0.86	3613234	98.25	80	120	
Tb-159 (IS)	159	1	He	8239592	1.57	8473761	97.24	80	120	
Bi-209 (IS)	209	1	He	5828754	0.54	6042462	96.46	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326257/1-a
Data File Name	111_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:06:43-07:00
Sample Type	MB
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.051	-46.9	4	114.6	0.5	
Na	23	1	He	-118.892	-0.6	159368	1.3	110	
Mg	24	1	He	-8.575	-2.4	24106	1.4	110	
Al	27	1	He	8.456	5.9	9260	5.3	10	
K	39	1	He	-5.371	-13.1	167554	0.3	110	
Ca	44	1	He	97.129	4.2	14195	2.7	110	
V	51	1	He	0.017	47.3	2642	4.9	2	
Cr	52	1	He	0.057	7.5	3804	2.5	2	
Mn	55	1	He	0.094	8.2	1768	5.1	1	
Fe	56	1	He	9.141	3.5	173689	2.9	20	
Co	59	1	He	0.002	68.2	376	10.4	1	
Ni	60	1	He	-0.020	-61.6	763	12.8	2	
Cu	65	1	He	-1.164	-1.1	3914	3.6	1	
Zn	66	1	He	0.312	18.5	4964	3.9	20	
As	75	1	He	0.001	780.1	110	24.2	1	
Se	78	1	He	0.050	219.5	189	12.6	2	
Sr	88	1	He	-0.631	-0.6	2248	3.1	2	
Mo	95	1	He	0.409	3.1	4424	2.9	2	
Ag	107	1	He	0.000	-647.3	344	15.1	1	
Cd	111	1	He	-0.001	-277.5	20	72.7	1	
Sn	118	1	He	-0.027	-31.4	832	11.9	2	
Sb	123	1	He	0.008	19.5	688	2.0	1	
Ba	137	1	He	0.069	12.9	486	10.0	1	
Ce	140	1	He	0.000	65.4	416	4.6	1	
Tl	205	1	He	-0.001	-7.4	400	1.7	1	
Pb	208	1	He	0.009	6.0	1678	3.1	1	
U	238	1	He	-0.008	-4.9	356	8.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	675550	0.50	683823	98.79	80	120	
Ge (IS)	72	1	He	382088	0.43	390615	97.82	80	120	
In-115 (IS)	115	1	He	3550879	0.80	3613234	98.27	80	120	
Tb-159 (IS)	159	1	He	8218045	0.50	8473761	96.98	80	120	
Bi-209 (IS)	209	1	He	5849770	1.11	6042462	96.81	80	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326257/2-a
Data File Name	112_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:09:17-07:00
Sample Type	LCS
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	78.317	78.317	2.401	17133	2.41	80	97.9	85	115	
Na	23	1	He	1947.360	1947.360	1.282	8297568	1.35	2000	97.4	85	115	
Mg	24	1	He	1951.925	1951.925	0.457	4312851	0.24	2000	97.6	85	115	
Al	27	1	He	85.336	85.336	1.033	91760	0.86	80	106.7	85	115	
K	39	1	He	2029.412	2029.412	0.701	4162041	0.72	2000	101.5	85	115	
Ca	44	1	He	3930.669	3930.669	0.665	407869	0.90	4000	98.3	85	115	
V	51	1	He	79.920	79.920	0.409	1366785	0.52	80	99.9	85	115	
Cr	52	1	He	79.122	79.122	1.391	1598041	1.42	80	98.9	85	115	
Mn	55	1	He	79.298	79.298	0.585	1046946	0.40	80	99.1	85	115	
Fe	56	1	He	808.341	808.341	0.434	14542917	0.37	800	101.0	85	115	
Co	59	1	He	79.892	79.892	0.978	2445871	0.91	80	99.9	85	115	
Ni	60	1	He	78.671	78.671	0.710	613357	0.90	80	98.3	85	115	
Cu	65	1	He	77.483	77.483	0.418	797896	0.62	80	96.9	85	115	
Zn	66	1	He	79.235	79.235	1.402	304842	1.41	80	99.0	85	115	
As	75	1	He	79.263	79.263	0.796	193643	0.27	80	99.1	85	115	
Se	78	1	He	77.123	77.123	2.366	17101	1.36	80	96.4	85	115	
Sr	88	1	He	76.205	76.205	1.461	1320742	0.10	80	95.3	85	115	
Mo	95	1	He	78.384	78.384	1.442	764122	0.12	80	98.0	85	115	
Ag	107	1	He	80.362	80.362	1.487	2369499	0.85	80	100.5	85	115	
Cd	111	1	He	78.363	78.363	0.832	394576	0.74	80	98.0	85	115	
Sn	118	1	He	78.027	78.027	1.427	917618	0.51	80	97.5	85	115	
Sb	123	1	He	80.095	80.095	1.461	951623	0.47	80	100.1	85	115	
Ba	137	1	He	78.583	78.583	1.310	411635	0.52	80	98.2	85	115	
Ce	140	1	He	79.524	79.524	0.909	5414571	0.65	80	99.4	85	115	
Tl	205	1	He	75.723	75.723	0.236	4638748	0.22	80	94.7	85	115	
Pb	208	1	He	78.337	78.337	0.844	6294244	0.13	80	97.9	85	115	
U	238	1	He	77.150	77.150	2.639	6296166	2.27	80	96.4	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	691459	0.24	683823	101.12	80	120	
Ge (IS)	72	1	He	392640	1.00	390615	100.52	80	120	
In-115 (IS)	115	1	He	3618234	1.47	3613234	100.14	80	120	
Tb-159 (IS)	159	1	He	8510820	0.38	8473761	100.44	80	120	
Bi-209 (IS)	209	1	He	5982233	0.94	6042462	99.00	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-c
Data File Name	113SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:11:40-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4507
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.004	0.004	1023.92	16	53.90	100	
Na	23	1	He	154865.385	154865.385	1.23	573794253	1.21	75000	>LDR
Mg	24	1	He	4324.650	4324.650	0.48	8934394	0.58	125000	
Al	27	1	He	14.207	14.207	24.19	14694	23.31	4000	
K	39	1	He	2581.568	2581.568	0.83	4931245	0.98	100000	
Ca	44	1	He	34155.720	34155.720	1.11	3299234	1.33	250000	
V	51	1	He	0.080	0.080	15.34	3554	5.73	4000	
Cr	52	1	He	0.277	0.277	4.48	7842	3.01	4000	
Mn	55	1	He	141.184	141.184	0.53	1752125	0.75	4000	
Fe	56	1	He	244.631	244.631	1.86	4146694	1.65	40000	
Co	59	1	He	0.124	0.124	8.29	3864	7.86	4000	
Ni	60	1	He	3.299	3.299	1.25	25025	1.08	4000	
[Cu]	63	1	He	-0.988	-0.988	-0.66	12802	0.79	4000	
Cu	65	1	He	-0.900	-0.900	-4.14	6268	5.44	4000	
Zn	66	1	He	1.047	1.047	3.00	7357	1.61	4000	
As	75	1	He	3.546	3.546	2.95	8174	2.62	4000	
Se	78	1	He	0.177	0.177	25.34	207	4.12	4000	
Sr	88	1	He	1824.319	1824.319	1.92	28385407	0.35	4000	
Mo	95	1	He	34.799	34.799	1.13	307774	0.78	4000	
Ag	107	1	He	0.051	0.051	26.19	1702	22.14	100	
Cd	111	1	He	0.044	0.044	13.88	222	11.36	3500	
Sn	118	1	He	0.158	0.158	3.70	2729	2.17	4000	
Sb	123	1	He	0.062	0.062	7.15	1216	4.85	4000	
Ba	137	1	He	6.368	6.368	2.07	30345	0.34	4000	
Ce	140	1	He	0.047	0.047	12.17	3254	12.40	4000	
Tl	205	1	He	0.069	0.069	6.12	4422	5.10	3500	
Pb	208	1	He	0.070	0.070	7.48	5894	5.77	4000	
U	238	1	He	1.390	1.390	0.68	107123	0.22	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650102	0.23	683823	95.07	80	120	
Ge (IS)	72	1	He	366014	0.47	390615	93.70	80	120	
In-115 (IS)	115	1	He	3279817	1.90	3613234	90.77	80	120	
Tb-159 (IS)	159	1	He	7966262	0.53	8473761	94.01	80	120	
Bi-209 (IS)	209	1	He	5354585	0.66	6042462	88.62	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-d ms
Data File Name	114SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:14:07-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4508
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	74.579	74.579	2.38	15504	1.40	100	
Na	23	1	He	162120.926	162120.926	1.30	607111638	0.80	75000	>LDR
Mg	24	1	He	6407.914	6407.914	1.12	13360802	0.58	125000	
Al	27	1	He	87.837	87.837	2.42	89756	2.93	4000	
K	39	1	He	4678.528	4678.528	1.48	8892326	1.02	100000	
Ca	44	1	He	39234.830	39234.830	0.76	3830112	1.09	250000	
V	51	1	He	80.347	80.347	0.78	1305843	0.91	4000	
Cr	52	1	He	77.593	77.593	1.10	1489325	0.55	4000	
Mn	55	1	He	220.734	220.734	0.97	2768510	0.34	4000	
Fe	56	1	He	1012.554	1012.554	0.44	17309208	0.73	40000	
Co	59	1	He	76.708	76.708	0.68	2231816	0.85	4000	
Ni	60	1	He	76.397	76.397	1.35	566034	0.40	4000	
[Cu]	63	1	He	73.743	73.743	1.54	1504445	2.21	4000	
Cu	65	1	He	73.535	73.535	0.73	720388	0.35	4000	
Zn	66	1	He	76.434	76.434	1.01	274249	0.25	4000	
As	75	1	He	83.674	83.674	0.61	190557	0.15	4000	
Se	78	1	He	73.552	73.552	0.57	15213	0.20	4000	
Sr	88	1	He	1957.555	1957.555	1.28	30923179	1.14	4000	
Mo	95	1	He	115.376	115.376	0.28	1034814	0.23	4000	
Ag	107	1	He	78.179	78.179	2.33	2121284	2.42	100	
Cd	111	1	He	75.167	75.167	0.10	348275	0.29	3500	
Sn	118	1	He	78.927	78.927	0.40	854160	0.43	4000	
Sb	123	1	He	80.160	80.160	0.24	876426	0.28	4000	
Ba	137	1	He	85.297	85.297	1.00	411158	1.15	4000	
Ce	140	1	He	78.637	78.637	1.27	4926829	1.08	4000	
Tl	205	1	He	71.442	71.442	0.51	4086513	1.13	3500	
Pb	208	1	He	79.081	79.081	0.82	5602029	0.42	4000	
U	238	1	He	77.624	77.624	1.95	5914631	0.95	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	657138	0.96	683823	96.10	80	120	
Ge (IS)	72	1	He	366016	0.75	390615	93.70	80	120	
In-115 (IS)	115	1	He	3329199	0.22	3613234	92.14	80	120	
Tb-159 (IS)	159	1	He	7946896	1.11	8473761	93.78	80	120	
Bi-209 (IS)	209	1	He	5274149	0.64	6042462	87.28	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-e msd
Data File Name	115SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:16:27-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4509
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	76.703	76.703	1.28	15922	2.03	100	
Na	23	1	He	159059.865	159059.865	0.05	594728456	1.05	75000	>LDR
Mg	24	1	He	6337.985	6337.985	1.22	13194105	1.10	125000	
Al	27	1	He	87.814	87.814	1.62	89589	2.50	4000	
K	39	1	He	4623.263	4623.263	0.32	8775423	0.80	100000	
Ca	44	1	He	38642.329	38642.329	1.49	3765927	0.95	250000	
V	51	1	He	79.244	79.244	3.08	1285617	2.06	4000	
Cr	52	1	He	77.633	77.633	1.85	1487856	2.54	4000	
Mn	55	1	He	220.869	220.869	1.77	2765519	0.81	4000	
Fe	56	1	He	1005.374	1005.374	0.77	17157950	0.27	40000	
Co	59	1	He	76.675	76.675	0.65	2227289	1.37	4000	
Ni	60	1	He	77.161	77.161	0.91	570768	0.33	4000	
[Cu]	63	1	He	74.383	74.383	2.07	1514680	2.37	4000	
Cu	65	1	He	74.074	74.074	0.35	724393	0.82	4000	
Zn	66	1	He	77.138	77.138	0.72	276600	0.90	4000	
As	75	1	He	84.194	84.194	0.91	191641	1.08	4000	
Se	78	1	He	72.676	72.676	1.08	15026	1.66	4000	
Sr	88	1	He	1934.505	1934.505	0.95	30236041	0.81	4000	
Mo	95	1	He	116.737	116.737	0.80	1035927	0.60	4000	
Ag	107	1	He	79.340	79.340	1.35	2129840	0.22	100	
Cd	111	1	He	76.113	76.113	1.13	348912	0.39	3500	
Sn	118	1	He	80.601	80.601	0.84	863005	0.54	4000	
Sb	123	1	He	81.986	81.986	0.63	886907	0.83	4000	
Ba	137	1	He	87.504	87.504	1.01	417314	0.39	4000	
Ce	140	1	He	80.973	80.973	1.37	5019303	0.54	4000	
Tl	205	1	He	73.047	73.047	0.96	4167903	1.05	3500	
Pb	208	1	He	79.943	79.943	0.46	5668227	0.23	4000	
U	238	1	He	78.329	78.329	0.82	5954288	0.85	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656066	1.03	683823	95.94	80	120	
Ge (IS)	72	1	He	365820	0.92	390615	93.65	80	120	
In-115 (IS)	115	1	He	3294185	1.39	3613234	91.17	80	120	
Tb-159 (IS)	159	1	He	7927044	0.13	8473761	93.55	80	120	
Bi-209 (IS)	209	1	He	5278839	0.52	6042462	87.36	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-f pds
Data File Name	116SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:18:47-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4510
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	76.081	76.081	1.63	15579	2.11	100	
Na	23	1	He	155121.920	155121.920	0.72	572130733	0.91	75000	>LDR
Mg	24	1	He	6222.698	6222.698	0.95	12778994	0.76	125000	
Al	27	1	He	85.717	85.717	2.23	86252	1.25	4000	
K	39	1	He	4491.340	4491.340	1.43	8413961	1.33	100000	
Ca	44	1	He	38100.224	38100.224	2.03	3662654	1.39	250000	
V	51	1	He	76.732	76.732	0.88	1228303	1.45	4000	
Cr	52	1	He	75.692	75.692	0.55	1430930	1.05	4000	
Mn	55	1	He	215.475	215.475	1.65	2661705	2.01	4000	
Fe	56	1	He	1004.230	1004.230	2.07	16904393	1.14	40000	
Co	59	1	He	74.840	74.840	0.47	2144458	1.09	4000	
Ni	60	1	He	75.270	75.270	1.47	549282	1.82	4000	
[Cu]	63	1	He	71.152	71.152	0.87	1430550	0.97	4000	
Cu	65	1	He	72.055	72.055	1.42	695460	1.31	4000	
Zn	66	1	He	75.851	75.851	1.30	268526	0.66	4000	
As	75	1	He	82.490	82.490	1.24	185351	1.79	4000	
Se	78	1	He	71.462	71.462	1.09	14588	1.97	4000	
Sr	88	1	He	1854.906	1854.906	0.77	29150940	1.31	4000	
Mo	95	1	He	111.799	111.799	0.86	997509	0.67	4000	
Ag	107	1	He	76.998	76.998	0.65	2078382	1.28	100	
Cd	111	1	He	73.153	73.153	0.37	337192	1.25	3500	
Sn	118	1	He	77.645	77.645	0.56	835997	1.78	4000	
Sb	123	1	He	78.369	78.369	0.23	852454	1.55	4000	
Ba	137	1	He	83.058	83.058	0.68	398330	2.08	4000	
Ce	140	1	He	76.411	76.411	2.09	4761890	0.76	4000	
Tl	205	1	He	71.285	71.285	1.00	4016565	1.30	3500	
Pb	208	1	He	76.688	76.688	0.13	5413675	1.04	4000	
U	238	1	He	76.462	76.462	0.60	5740296	1.94	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647190	1.56	683823	94.64	80	120	
Ge (IS)	72	1	He	361112	1.23	390615	92.45	80	120	
In-115 (IS)	115	1	He	3312061	1.42	3613234	91.66	80	120	
Tb-159 (IS)	159	1	He	7828752	1.83	8473761	92.39	80	120	
Bi-209 (IS)	209	1	He	5255723	1.17	6042462	86.98	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-3-c
Data File Name	117SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:21:08-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4511
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.034	0.034	105.47	22	34.66	100	
Na	23	1	He	158432.358	158432.358	1.01	597846767	1.71	75000	>LDR
Mg	24	1	He	5594.261	5594.261	0.26	11758216	0.91	125000	
Al	27	1	He	9.602	9.602	0.69	10252	0.79	4000	
K	39	1	He	2715.456	2715.456	0.85	5273712	1.50	100000	
Ca	44	1	He	23296.662	23296.662	0.90	2293074	0.59	250000	
V	51	1	He	0.134	0.134	11.92	4508	5.35	4000	
Cr	52	1	He	0.397	0.397	2.28	10290	1.46	4000	
Mn	55	1	He	96.437	96.437	0.43	1219051	1.09	4000	
Fe	56	1	He	206.376	206.376	1.07	3564835	1.29	40000	
Co	59	1	He	0.077	0.077	14.09	2576	11.64	4000	
Ni	60	1	He	0.557	0.557	3.78	5050	2.57	4000	
[Cu]	63	1	He	-0.737	-0.737	-2.69	18088	2.91	4000	
Cu	65	1	He	-0.651	-0.651	-4.17	8798	3.37	4000	
Zn	66	1	He	3.563	3.563	1.09	16505	1.71	4000	
As	75	1	He	13.208	13.208	1.44	30610	0.96	4000	
Se	78	1	He	0.141	0.141	108.94	202	15.60	4000	
Sr	88	1	He	345.817	345.817	0.79	5526302	1.27	4000	
Mo	95	1	He	58.924	58.924	1.12	533853	0.33	4000	
Ag	107	1	He	0.058	0.058	35.27	1922	27.73	100	
Cd	111	1	He	0.054	0.054	25.09	278	21.65	3500	
Sn	118	1	He	0.208	0.208	7.53	3351	5.69	4000	
Sb	123	1	He	0.039	0.039	9.85	990	3.25	4000	
Ba	137	1	He	2.449	2.449	4.16	12044	4.35	4000	
Ce	140	1	He	0.053	0.053	17.98	3697	14.80	4000	
Tl	205	1	He	0.048	0.048	10.10	3176	7.52	3500	
Pb	208	1	He	0.074	0.074	17.31	6249	14.06	4000	
U	238	1	He	7.169	7.169	1.28	548594	0.32	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	662085	0.71	683823	96.82	80	120	
Ge (IS)	72	1	He	371408	0.89	390615	95.08	80	120	
In-115 (IS)	115	1	He	3361809	1.32	3613234	93.04	80	120	
Tb-159 (IS)	159	1	He	7968844	1.12	8473761	94.04	80	120	
Bi-209 (IS)	209	1	He	5393895	1.04	6042462	89.27	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-3-c sd@5
Data File Name	118SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:23:37-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	4512
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.004	-0.004	-983.10	14	53.28	100	
Na	23	1	He	32633.431	32633.431	2.18	125593008	1.80	75000	
Mg	24	1	He	1171.091	1171.091	1.40	2534216	0.96	125000	
Al	27	1	He	3.090	3.090	9.55	3635	8.08	4000	
K	39	1	He	538.494	538.494	1.63	1204515	1.29	100000	
Ca	44	1	He	4656.082	4656.082	0.70	469209	0.50	250000	
V	51	1	He	0.010	0.010	93.96	2524	6.14	4000	
Cr	52	1	He	0.071	0.071	11.51	4075	3.77	4000	
Mn	55	1	He	20.106	20.106	1.41	258657	0.98	4000	
Fe	56	1	He	42.995	42.995	1.56	764961	1.19	40000	
Co	59	1	He	0.027	0.027	19.17	1132	13.77	4000	
Ni	60	1	He	0.171	0.171	5.51	2210	3.43	4000	
[Cu]	63	1	He	-0.888	-0.888	-2.60	15295	3.17	4000	
Cu	65	1	He	-0.847	-0.847	-4.03	7014	4.51	4000	
Zn	66	1	He	1.134	1.134	6.35	8052	2.77	4000	
As	75	1	He	2.619	2.619	2.48	6371	2.97	4000	
Se	78	1	He	0.023	0.023	405.22	184	10.69	4000	
Sr	88	1	He	66.511	66.511	0.96	1125250	0.80	4000	
Mo	95	1	He	11.691	11.691	0.34	111531	0.04	4000	
Ag	107	1	He	0.013	0.013	24.88	726	12.77	100	
Cd	111	1	He	0.013	0.013	22.90	91	16.90	3500	
Sn	118	1	He	0.114	0.114	16.88	2431	8.72	4000	
Sb	123	1	He	-0.002	-0.002	-167.70	559	7.51	4000	
Ba	137	1	He	0.535	0.535	2.94	2860	2.46	4000	
Ce	140	1	He	0.013	0.013	10.31	1272	6.91	4000	
Tl	205	1	He	0.015	0.015	15.22	1378	10.20	3500	
Pb	208	1	He	0.028	0.028	11.48	3120	7.76	4000	
U	238	1	He	1.432	1.432	2.13	114505	0.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	672707	0.43	683823	98.37	80	120	
Ge (IS)	72	1	He	384477	0.56	390615	98.43	80	120	
In-115 (IS)	115	1	He	3526392	0.35	3613234	97.60	80	120	
Tb-159 (IS)	159	1	He	8268372	1.32	8473761	97.58	80	120	
Bi-209 (IS)	209	1	He	5785316	0.90	6042462	95.74	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	119_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:26:10-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	47.743	1.945	10192	1.81	50	95.5	89.5	110.49	
Na	23	1	He	1224.374	2.309	5316079	1.81	1250	97.9	89.5	110.49	
Mg	24	1	He	1272.675	1.860	2757104	1.73	1250	101.8	89.5	110.49	
Al	27	1	He	51.891	1.446	54578	1.14	50	103.8	89.5	110.49	
K	39	1	He	1280.076	2.364	2625681	1.91	1250	102.4	89.5	110.49	
Ca	44	1	He	2509.155	0.649	255526	0.83	2500	100.4	89.5	110.49	
V	51	1	He	49.411	0.458	825000	0.73	50	98.8	89.5	110.49	
Cr	52	1	He	48.930	0.654	964794	0.42	50	97.9	89.5	110.49	
Mn	55	1	He	50.144	0.705	645838	0.45	50	100.3	89.5	110.49	
Fe	56	1	He	501.816	1.115	8809469	0.82	500	100.4	89.5	110.49	
Co	59	1	He	50.217	1.097	1499420	0.89	50	100.4	89.5	110.49	
Ni	60	1	He	49.367	1.049	375690	0.90	50	98.7	89.5	110.49	
Cu	65	1	He	48.476	0.575	492570	0.28	50	97.0	89.5	110.49	
Zn	66	1	He	50.849	0.370	192959	0.86	50	101.7	89.5	110.49	
As	75	1	He	48.931	0.218	117109	0.59	50	97.9	89.5	110.49	
Se	78	1	He	48.795	2.546	10661	1.73	50	97.6	89.5	110.49	
Sr	88	1	He	47.751	1.504	801276	0.30	50	95.5	89.5	110.49	
Mo	95	1	He	49.867	0.955	468113	0.71	50	99.7	89.5	110.49	
Ag	107	1	He	49.699	1.165	1410589	0.49	50	99.4	89.5	110.49	
Cd	111	1	He	49.518	1.494	239989	1.15	50	99.0	89.5	110.49	
Sn	118	1	He	49.993	2.103	566250	0.59	50	100.0	89.5	110.49	
Sb	123	1	He	49.954	1.769	571454	0.53	50	99.9	89.5	110.49	
Ba	137	1	He	50.465	0.887	254501	1.14	50	100.9	89.5	110.49	
Ce	140	1	He	51.265	0.553	3359948	1.10	50	102.5	89.5	110.49	
Tl	205	1	He	49.525	1.178	2902791	0.56	50	99.0	89.5	110.49	
Pb	208	1	He	49.327	1.239	3875558	1.15	50	98.7	89.5	110.49	
U	238	1	He	49.644	1.264	3876741	0.38	50	99.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	674335	0.29	683823	98.61	80	120	
Ge (IS)	72	1	He	384504	0.81	390615	98.44	80	120	
In-115 (IS)	115	1	He	3482634	1.64	3613234	96.39	80	120	
Tb-159 (IS)	159	1	He	8143232	0.88	8473761	96.10	80	120	
Bi-209 (IS)	209	1	He	5848967	0.46	6042462	96.80	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	120_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:28:37-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.004	1778.7	16	89.2	0.5	
Na	23	1	He	-87.951	-2.8	269974	3.4	110	
Mg	24	1	He	-13.817	-3.1	12516	7.0	110	
Al	27	1	He	2.983	2.3	3433	2.9	10	
K	39	1	He	-5.827	-23.1	161649	1.2	110	
Ca	44	1	He	-29.161	-3.8	1490	7.3	110	
V	51	1	He	-0.002	-392.7	2262	5.7	2	
Cr	52	1	He	-0.002	-258.6	2564	3.7	2	
Mn	55	1	He	0.074	9.0	1469	5.7	1	
Fe	56	1	He	3.757	2.7	76780	2.2	20	
Co	59	1	He	0.022	10.6	947	6.9	1	
Ni	60	1	He	0.030	36.9	1112	7.8	2	
Cu	65	1	He	-1.147	-2.3	3958	6.9	1	
Zn	66	1	He	0.070	45.6	3999	2.2	20	
As	75	1	He	0.026	26.3	167	10.4	1	
Se	78	1	He	0.152	76.8	207	11.1	2	
Sr	88	1	He	-0.539	-3.4	3734	8.6	2	
Mo	95	1	He	0.125	7.4	1683	5.4	2	
Ag	107	1	He	0.034	44.1	1325	33.5	1	
Cd	111	1	He	0.013	38.5	87	27.7	1	
Sn	118	1	He	0.141	17.2	2722	10.3	2	
Sb	123	1	He	0.218	7.6	3079	6.0	1	
Ba	137	1	He	0.048	10.2	373	7.8	1	
Ce	140	1	He	0.015	28.3	1358	21.6	1	
Tl	205	1	He	0.025	12.1	1907	9.6	1	
Pb	208	1	He	0.024	17.6	2763	11.8	1	
U	238	1	He	0.040	4.2	4043	3.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655179	0.86	683823	95.81	80	120	
Ge (IS)	72	1	He	375456	0.78	390615	96.12	80	120	
In-115 (IS)	115	1	He	3497201	1.24	3613234	96.79	80	120	
Tb-159 (IS)	159	1	He	8118781	0.51	8473761	95.81	80	120	
Bi-209 (IS)	209	1	He	5729221	1.26	6042462	94.82	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	121_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:31:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.027	403.0	20	109.3	0.5	
Na	23	1	He	-98.782	-0.9	226166	1.1	110	
Mg	24	1	He	-14.625	-0.7	10681	2.3	110	
Al	27	1	He	2.590	4.5	2988	3.3	10	
K	39	1	He	-7.553	-16.0	156091	0.9	110	
Ca	44	1	He	-30.775	-3.3	1313	7.5	110	
V	51	1	He	-0.010	-87.3	2105	5.8	2	
Cr	52	1	He	-0.006	-100.4	2447	4.7	2	
Mn	55	1	He	0.054	21.5	1206	12.5	1	
Fe	56	1	He	3.249	3.4	67119	3.2	20	
Co	59	1	He	0.011	42.3	610	20.6	1	
Ni	60	1	He	0.019	79.9	1014	10.3	2	
Cu	65	1	He	-1.209	-1.1	3313	3.4	1	
Zn	66	1	He	0.078	73.4	3983	4.9	20	
As	75	1	He	0.009	23.2	124	4.4	1	
Se	78	1	He	0.086	88.3	191	7.5	2	
Sr	88	1	He	-0.600	-1.4	2666	5.7	2	
Mo	95	1	He	0.053	13.8	986	6.6	2	
Ag	107	1	He	0.010	38.0	632	18.0	1	
Cd	111	1	He	0.004	33.0	46	15.2	1	
Sn	118	1	He	0.026	52.4	1390	10.6	2	
Sb	123	1	He	0.034	14.0	947	5.2	1	
Ba	137	1	He	0.039	13.1	322	7.8	1	
Ce	140	1	He	0.005	5.9	694	2.5	1	
Tl	205	1	He	0.008	4.9	908	3.5	1	
Pb	208	1	He	0.009	10.5	1658	4.9	1	
U	238	1	He	0.006	28.6	1410	9.1	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	645454	0.58	683823	94.39	80	120	
Ge (IS)	72	1	He	371228	0.69	390615	95.04	80	120	
In-115 (IS)	115	1	He	3425024	0.50	3613234	94.79	80	120	
Tb-159 (IS)	159	1	He	8079071	1.03	8473761	95.34	80	120	
Bi-209 (IS)	209	1	He	5737387	1.24	6042462	94.95	80	120	

P/A Factor Tuning Report

===Current Sample===
Sample Name: Blank
Data File: 001SMPL.d
Acquired: 04/25/2016 05:37:58

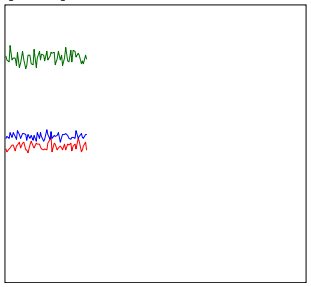
===Detector Parameters and P/A Factors===
Discriminator: 5 mV
AnalogHV: 1749 V
PulseHV: 1073 V

Acquired: 04/25/2016 04:50:05

Mass[u]	Element	P/A Factor
6		0.083539
9		0.098363
24		0.115410
27		0.121387
39		0.123346
45		0.124908
48		0.126448
51		0.128714
52		0.134245
55		0.137423
59		0.144308
60		0.147481
65		0.151150
66		0.150573
72		0.147581
75		0.146878
95		0.146897
96		0.148513
98		0.148618
99		0.151701
100		0.150672
101		0.153009
102		0.151892
104		0.155625
105		0.159429
106		0.160754
108		0.160886
110		0.162162
111		0.163461
114		0.161968
115		0.161792
118		0.161750
121		0.161823
138		0.164095
193		0.178196
205		0.180186
208		0.181152
209		0.181068
232		0.180959
238		0.180452

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	10000	4766	4900.3	2.72
59	10000	6409	6460.8	2.44
89	20000	10697	10545.8	1.96
140	20000	10607	10667.6	2.48
205	10000	8054	8111.2	2.50
156/140	1	0.933 %	0.883 %	12.91
70/140	5	2.367 %	2.376 %	9.54
115	2000	936	938.4	5.03
60	1000	573	609.0	5.19

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.55
RF Power	1600	W	Carrier Gas	0.65	L/min	S/C Temp	2	°C	Plasma Gas	15.0
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas	0.9

Lenses Parameters

Extract 1	0.0	V	Omega Bias	-65	V	Cell Entrance	-32	V	Deflect	14.6	V
Extract 2	-145.0	V	Omega Lens	7.4	V	Cell Exit	-58	V	Plate Bias	-50	V

Cell Parameters

Use Gas	false		H2 Flow	0.0	mL/min	OctP Bias	-8.0	V	Energy Discrimination	5.0	V
He Flow	0.0	mL/min	3rd Gas Flow	0	%	OctP RF	150	V			

Qpole Parameters

Mass Gain	132	Axis Gain	1.0008	QP Bias	-3.0 V
Mass Offset	129	Axis Offset	0.12		

Torch Axis Parameters

Torch H	-0.3	mm	Torch V	0.1	mm

EM Parameters

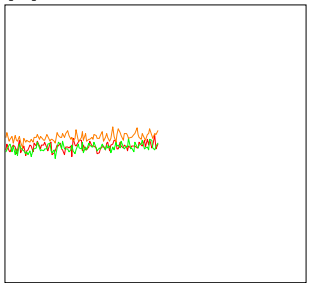
Discriminator	5.0	mV	Analog HV	1749	V	Pulse HV	1073	V

Meters

IF/BK Press	2.53E+2	Pa	Internal Temp	33.4	°C	Reflected Power	8	W
Analyzer Press	1.62E-4	Pa	Inlet Temp	27.0	°C			

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	5000	2492	2445.8	3.02
89	5000	2502	2423.9	2.91
140	10000	5218	5346.1	2.87
205	10000	5461	5239.4	2.61
156/140	1	0.613 %	0.582 %	26.60
70/140	2	1.495 %	1.313 %	14.89
51	100	36	38.5	23.33
56	5000	3224	3262.6	3.31
75	20	5	3.1	74.93
78	50	13	12.5	37.81

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.55
RF Power	1600	W	Carrier Gas	0.65	L/min	S/C Temp	2	°C	Plasma Gas	15.0
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas	0.9

Lenses Parameters

Extract 1	0.0	V	Omega Bias	-65	V	Cell Entrance	-32	V	Deflect	1.2	V
Extract 2	-145.0	V	Omega Lens	7.4	V	Cell Exit	-70	V	Plate Bias	-60	V

Cell Parameters

Use Gas	true		H2 Flow	0.0	mL/min	OctP Bias	-18.0	V	Energy Discrimination	4.0	V
He Flow	4.0	mL/min	3rd Gas Flow	0	%	OctP RF	150	V			

Qpole Parameters

Mass Gain	132	Axis Gain	1.0008	QP Bias	-14.0	V
Mass Offset	129	Axis Offset	0.12			

Torch Axis Parameters

Torch H	-0.3	mm	Torch V	0.1	mm

EM Parameters

Discriminator	5.0	mV	Analog HV	1749	V	Pulse HV	1073	V

Meters

IF/BK Press	2.53E+2	Pa	Internal Temp	32.8	°C	Reflected Power	8	W
Analyzer Press	2.84E-4	Pa	Inlet Temp	27.0	°C			

200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160425-1LL.b
Report Comment
Instrument Name ICPMS05 JP12091608

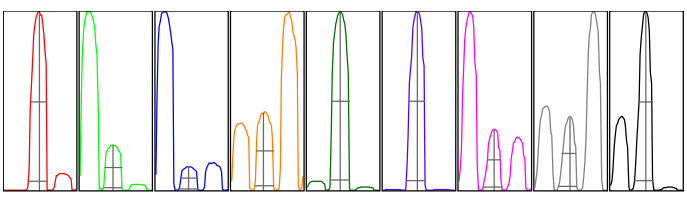
[No Gas]

Mass	Count (Actual)
9	82899
24	391151
25	51703
26	60542
59	475522
115	731139
206	175122
207	151768
208	368509

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.59	5.00	
24	0.33	5.00	
25	0.41	5.00	
26	0.47	5.00	
59	0.59	5.00	
115	0.34	5.00	
206	0.48	5.00	
207	0.57	5.00	
208	0.44	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	83625	82968	83015	82488	82397
24	389955	391353	391781	392884	389780
25	51772	51686	52029	51536	51492
26	60382	60891	60772	60188	60478
59	471755	476033	476187	479380	474253
115	726836	731627	732665	731848	732718
206	173839	175347	175702	175940	174780
207	150515	151427	152085	151984	152832
208	366136	367992	370316	368511	369587

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	13344	9.00	8.9 - 9.1		0.782	0.900	
24	61384	23.90	23.9 - 24.1		0.771	0.900	
25	8103	24.90	24.9 - 25.1		0.782	0.900	
26	9397	25.85	25.9 - 26.1	[F]	0.780	0.900	
59	73473	58.90	58.9 - 59.1		0.789	0.900	
115	121495	114.95	114.9 - 115.1		0.782	0.900	
206	32097	206.00	205.9 - 206.1		0.775	0.900	
207	27967	207.00	206.9 - 207.1		0.761	0.900	
208	68290	208.00	207.9 - 208.1		0.757	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	14.6 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-50 V
Omega Bias	-65 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V

200.8 Tune Check Sample Report

OctP RF	150 V	H2 Flow	0.0 mL/min
Use Gas	false	3rd Gas Flow	0 %

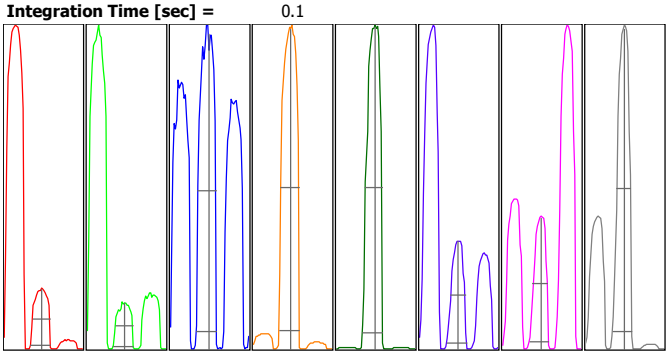
[He]

Mass	Count (Actual)
24	15276
25	2186
26	2726
59	174671
115	212252
206	109536
207	95540
208	231321

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	0.87	5.00	
25	1.97	5.00	
26	1.78	5.00	
59	0.54	5.00	
115	0.85	5.00	
206	1.01	5.00	
207	0.65	5.00	
208	0.61	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	15273	15241	15127	15492	15249
25	2140	2170	2223	2157	2239
26	2683	2765	2712	2789	2683
59	174870	173063	175264	174721	175435
115	210518	211348	210989	214261	214144
206	108120	109491	109071	109846	111150
207	94692	95195	95762	95717	96335
208	228930	231998	231510	231510	232654

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	2483	23.950	23.9 - 24.1		0.751	0.900	
25	360	24.950	24.9 - 25.1		0.768	0.900	
26	432	26.000	25.9 - 26.1		0.761	0.900	
59	27497	58.950	58.9 - 59.1		0.786	0.900	
115	36275	115.000	114.9 - 115.1		0.764	0.900	
206	20531	206.000	205.9 - 206.1		0.763	0.900	
207	18034	207.000	206.9 - 207.1		0.736	0.900	
208	44145	208.000	207.9 - 208.1		0.737	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.0 mL/min	Energy Discrimination	4.0 V
OctP RF	150 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160425-1LL.b
Report Comment
Instrument Name ICPMS05 JP12091608

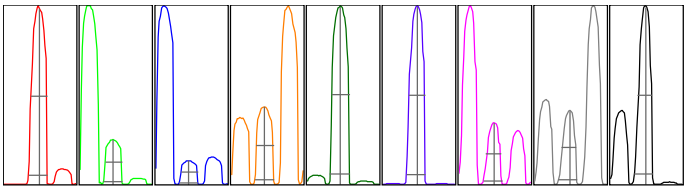
[No Gas]

Mass	Count (Actual)
9	83263
24	388114
25	50983
26	59761
59	480227
115	736222
206	176861
207	153373
208	371041

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.77	5.00	
24	0.86	5.00	
25	0.78	5.00	
26	1.11	5.00	
59	0.98	5.00	
115	0.96	5.00	
206	0.75	5.00	
207	0.76	5.00	
208	0.96	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	82215	83369	83865	83670	83196
24	382541	387546	389876	390714	389891
25	50408	50958	50832	51324	51390
26	58838	59329	60474	60116	60049
59	473380	477536	484894	482620	482705
115	726700	730787	742564	741926	739133
206	175041	176098	178455	177650	177060
207	151689	153262	154974	153474	153466
208	367205	368709	376280	370261	372752

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	13444	9.00	8.9 - 9.1		0.782	0.900	
24	60954	23.90	23.9 - 24.1		0.770	0.900	
25	8002	24.90	24.9 - 25.1		0.782	0.900	
26	9302	25.90	25.9 - 26.1		0.780	0.900	
59	74125	58.90	58.9 - 59.1		0.790	0.900	
115	121695	114.95	114.9 - 115.1		0.782	0.900	
206	32276	206.00	205.9 - 206.1		0.772	0.900	
207	28072	207.00	206.9 - 207.1		0.763	0.900	
208	68290	208.00	207.9 - 208.1		0.760	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	14.6 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-50 V
Omega Bias	-65 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V

200.8 Tune Check Sample Report

OctP RF	150 V	H2 Flow	0.0 mL/min
Use Gas	false	3rd Gas Flow	0 %

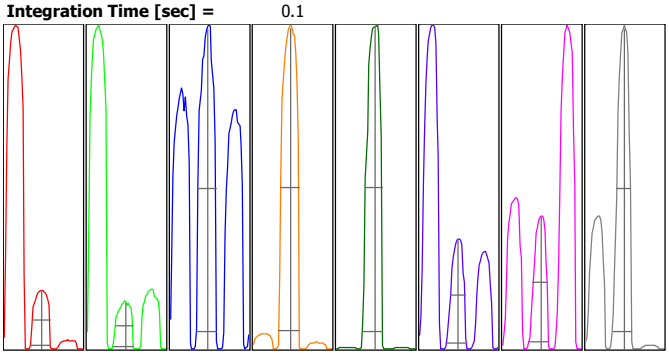
[He]

Mass	Count (Actual)
24	15211
25	2189
26	2757
59	175792
115	213474
206	109018
207	95118
208	229903

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	1.62	5.00	
25	4.50	5.00	
26	1.71	5.00	
59	0.78	5.00	
115	0.94	5.00	
206	0.86	5.00	
207	0.77	5.00	
208	0.71	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	14861	15276	15128	15252	15538
25	2043	2171	2203	2212	2317
26	2721	2826	2782	2739	2715
59	174870	177310	174376	175183	177221
115	212370	212517	211946	213647	216887
206	108806	109327	107636	109087	110232
207	94732	95760	94261	94848	95990
208	229978	230313	227589	229522	232113

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	2456	23.950	23.9 - 24.1		0.748	0.900	
25	355	25.000	24.9 - 25.1		0.777	0.900	
26	452	25.950	25.9 - 26.1		0.756	0.900	
59	27595	58.950	58.9 - 59.1		0.786	0.900	
115	36445	115.000	114.9 - 115.1		0.765	0.900	
206	20377	206.000	205.9 - 206.1		0.758	0.900	
207	17916	207.000	206.9 - 207.1		0.742	0.900	
208	43666	208.000	207.9 - 208.1		0.739	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.0 mL/min	Energy Discrimination	4.0 V
OctP RF	150 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

METALS BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144933-2

SDG No.:

Batch Number: 326042 Batch Start Date: 04/22/16 17:22 Batch Analyst: Em, Kimsirey 1

Batch Method: 200.2 Batch End Date: 04/22/16 19:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME HCl 00317	ME HNO3 00327	ME ICPMS CAL 00027
MB 440-326042/1		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	
LCS 440-326042/2		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-3 MS		200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-3 MSD		200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144933-B-1	AA-23R-20160418	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-144933-B-2	DBMW-8-20160418	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-144933-B-3	DBMW-7-20160418	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-144933-B-4	DBMW-7-20160418-FD	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	

Batch Notes	
Batch Comment	Spike ICPMS:200 uL
Lot # of Nitric Acid	0000129810 HCl 4115100
Pipette ID	100
Digestion Tube/Cup ID	1509104

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zoe Diermier	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	X	
AA-23R-20160418	4-18-16	1000	G	W	Y		X	X	X	
DBMW-8-20160418	4-18-16	1215	G	W	Y		X	X	X	
DBMW-7-20160418	4-18-16	1450	G	W	Y		X	X	X	
DBMW-7-20160418-FD	4-18-16	1450	G	W	Y		X	X	X	
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

440-144933 Chain of Custody

4/20/16

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: Fed: 6589 2840 6903

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Zoe Diermier	4/19/16 1430	Aecom	[illegible]	4-19-16 1430	TA
[illegible]	4-19-16 1600	TA	Vu Banell	4/20/16 9:50	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: (CS) 4.3/4.1 38/36 35/33 39/37

4.1 TALAS

IR-78

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-144933-2

Login Number: 144933
List Number: 1
Creator: Avila, Stephanie 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-144937-1

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/11/2016 2:37 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/11/2016

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-144937-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.3º C, 3.6º C, 3.7º C and 4.1º C.

The following sample was received with discrepancies between the container label(s) and the Chain-of-Custody. The sample ID was listed as MCF-06C-20160419 on the COC and MCF-06C-20160418 on the container label(s). The sample was logged in per the COC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

PERCHLORATE (IC)
Samples MCF-06C-20160419 (440-144937-1), AA-20-20160419 (440-144937-2) and DBMW-1-20160419 (440-144937-3) were analyzed for perchlorate (IC) in accordance with EPA Method 314.0. The samples were analyzed on 04/28/2016.

Perchlorate failed the recovery criteria low for the MS and MSD of sample DBMW-1-20160419 (440-144937-3) in batch 440-327049. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples MCF-06C-20160419 (440-144937-1)[100X], AA-20-20160419 (440-144937-2)[100X] and DBMW-1-20160419 (440-144937-3) [1000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL DISSOLVED SOLIDS
Samples MCF-06C-20160419 (440-144937-1), AA-20-20160419 (440-144937-2) and DBMW-1-20160419 (440-144937-3) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 04/25/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CHLORATE
Samples MCF-06C-20160419 (440-144937-1), AA-20-20160419 (440-144937-2) and DBMW-1-20160419 (440-144937-3) were analyzed for chlorate in accordance with EPA Method 300.1B. The samples were analyzed on 04/22/2016 and 04/23/2016.

Chlorate failed the recovery criteria low for the MS and MSD of sample DBMW-1-20160419 (440-144937-3) in batch 440-326094. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples MCF-06C-20160419 (440-144937-1)[100X], AA-20-20160419 (440-144937-2)[100X] and DBMW-1-20160419 (440-144937-3) [100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS
Samples MCF-06C-20160419 (440-144937-1), AA-20-20160419 (440-144937-2) and DBMW-1-20160419 (440-144937-3) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/21/2016.

Chloride was detected in method blank MB 440-325445/51 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Bromide failed the recovery criteria low for the MS and MSD of sample DBMW-1-20160419 (440-144937-3) in batch 440-325445. Matrix interference is suspected as the laboratory control sample (LCS) recovered within control limits.

Due to the relatively high concentration of Chloride in the batch QC source sample, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-325445 could not be evaluated for accuracy and precision; however, the estimated results are reported per client's request. The associated laboratory control sample (LCS) met acceptance criteria.

Samples MCF-06C-20160419 (440-144937-1)[20X], MCF-06C-20160419 (440-144937-1)[500X], AA-20-20160419 (440-144937-2)[10X], AA-20-20160419 (440-144937-2)[500X], DBMW-1-20160419 (440-144937-3)[20X] and DBMW-1-20160419 (440-144937-3)[500X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

The continuing calibration blank (CCB) for analytical batch 440-325445 contained Chloride above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Client Sample ID: MCF-06C-20160419 — Lab Sample ID: 440-144937-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	B	250	130	mg/L	500		300.0	Total/NA
Chlorate	9900		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	5600		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	7400		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: AA-20-20160419 — Lab Sample ID: 440-144937-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	B	250	130	mg/L	500		300.0	Total/NA
Chlorate	30000		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	4400		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	5800		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DBMW-1-20160419 — Lab Sample ID: 440-144937-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	B	250	130	mg/L	500		300.0	Total/NA
Chlorate	22000		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	9000	F1	4000	950	ug/L	1000		314.0	Total/NA
Total Dissolved Solids	6000		100	50	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Client Sample ID: MCF-06C-20160419 — Lab Sample ID: 440-144937-1

Date Collected: 04/19/16 08:10 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		10	5.0	mg/L			04/21/16 14:26	20
Chloride	**1700**	**B**	250	130	mg/L			04/21/16 14:44	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**9900**		2000	1000	ug/L			04/22/16 00:54	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*107*		*90 - 115*		*04/22/16 00:54*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**5600**		400	95	ug/L			04/28/16 11:50	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7400**		100	50	mg/L			04/25/16 13:01	1

Client Sample ID: AA-20-20160419 — Lab Sample ID: 440-144937-2

Date Collected: 04/19/16 09:35 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			04/21/16 15:37	10
Chloride	**1000**	**B**	250	130	mg/L			04/21/16 15:54	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**30000**		2000	1000	ug/L			04/22/16 01:27	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/22/16 01:27*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**4400**		400	95	ug/L			04/28/16 11:34	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5800**		100	50	mg/L			04/25/16 13:01	1

Client Sample ID: DBMW-1-20160419 — Lab Sample ID: 440-144937-3

Date Collected: 04/19/16 10:50 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND	F1	10	5.0	mg/L			04/21/16 16:30	20
Chloride	**1100**	**B**	250	130	mg/L			04/21/16 16:12	500

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Client Sample ID: DBMW-1-20160419

Lab Sample ID: 440-144937-3

Date Collected: 04/19/16 10:50
Matrix: Water
Date Received: 04/20/16 09:50

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	22000		2000	1000	ug/L			04/23/16 14:14	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*103*		*90 - 115*		*04/23/16 14:14*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	9000	F1	4000	950	ug/L			04/28/16 09:53	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000		100	50	mg/L			04/25/16 13:01	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units	Method
Bromide	0.50	0.25	mg/L	300.0
Chloride	0.50	0.25	mg/L	300.0

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	RL	MDL	Units	Method
Chlorate	20	10	ug/L	300.1B

Method: 314.0 - Perchlorate (IC)

Analyte	RL	MDL	Units	Method
Perchlorate	4.0	0.95	ug/L	314.0

General Chemistry

Analyte	RL	MDL	Units	Method
Total Dissolved Solids	10	5.0	mg/L	SM 2540C

Surrogate Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Method: 300.1B - Disinfection By-Products, (IC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		oacetic ac							
Lab Sample ID	**Client Sample ID**	**(90-115)**							
440-144899-A-2 MS	Matrix Spike	105							
440-144899-A-2 MSD	Matrix Spike Duplicate	106							
440-144937-1	MCF-06C-20160419	107							
440-144937-2	AA-20-20160419	104							
440-144937-3	DBMW-1-20160419	103							
440-144937-3 MS	DBMW-1-20160419	104							
440-144937-3 MSD	DBMW-1-20160419	104							
LCS 440-325632/3	Lab Control Sample	105							
LCS 440-326094/4	Lab Control Sample	105							
MB 440-325632/4	Method Blank	103							
MB 440-326094/5	Method Blank	104							
MRL 440-325632/2	Lab Control Sample	103							
MRL 440-326094/3	Lab Control Sample	106							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-325445/51 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/21/16 06:31	1
Chloride	0.284	J	0.50	0.25	mg/L			04/21/16 06:31	1

Lab Sample ID: LCS 440-325445/52 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.04		mg/L		101	90 - 110
Chloride	5.00	4.85		mg/L		97	90 - 110

Lab Sample ID: 440-144937-3 MS — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND	F1	50.0	27.1	F1	mg/L		54	80 - 120
Chloride	1300	E F1 B	50.0	1270	E 4	mg/L		-10	80 - 120

Lab Sample ID: 440-144937-3 MSD — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND	F1	50.0	29.1	F1	mg/L		58	80 - 120	7	20
Chloride	1300	E F1 B	50.0	1270	E 4	mg/L		-6	80 - 120	0	20

Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 440-325632/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325632

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/21/16 07:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*103*		*90 - 115*		*04/21/16 07:12*	*1*

Lab Sample ID: LCS 440-325632/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325632

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	100	107		ug/L		107	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Lab Sample ID: MRL 440-325632/2
Matrix: Water
Analysis Batch: 325632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	20.7		ug/L		104	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*103*		*90 - 115*

Lab Sample ID: 440-144899-A-2 MS
Matrix: Water
Analysis Batch: 325632

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	200		200	430		ug/L		114	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-144899-A-2 MSD
Matrix: Water
Analysis Batch: 325632

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	200		200	433		ug/L		116	75 - 125	1	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: MB 440-326094/5
Matrix: Water
Analysis Batch: 326094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/23/16 10:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/23/16 10:22*	*1*

Lab Sample ID: LCS 440-326094/4
Matrix: Water
Analysis Batch: 326094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			100	98.0		ug/L		98	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-326094/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	19.0	J	ug/L		95	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: 440-144937-3 MS — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	22000		400	21700	4	ug/L		27	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Lab Sample ID: 440-144937-3 MSD — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	22000		400	21600	4	ug/L		4	75 - 125	0	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-327049/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/28/16 08:33	1

Lab Sample ID: LCS 440-327049/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	24.7		ug/L		99	85 - 115		

Lab Sample ID: MRL 440-327049/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.84	J	ug/L		96	75 - 125		

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 440-144937-3 MS — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	9000	F1	25.0	8560	4	ug/L		-1647	80 - 120		

Lab Sample ID: 440-144937-3 MSD — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	9000	F1	25.0	8640	4	ug/L		-1332	80 - 120	1	20

Lab Sample ID: INF 440-327049/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water
Analysis Batch: 327049

Analyte			Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	23.1		ug/L		93	80 - 120		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-326343/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326343

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/25/16 13:01	1

Lab Sample ID: LCS 440-326343/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: 440-144937-3 DU — **Client Sample ID: DBMW-1-20160419**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326343

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	6000			6110		mg/L				2	5

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

HPLC/IC

Analysis Batch: 325445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-1	MCF-06C-20160419	Total/NA	Water	300.0	
440-144937-1	MCF-06C-20160419	Total/NA	Water	300.0	
440-144937-2	AA-20-20160419	Total/NA	Water	300.0	
440-144937-2	AA-20-20160419	Total/NA	Water	300.0	
440-144937-3	DBMW-1-20160419	Total/NA	Water	300.0	
440-144937-3	DBMW-1-20160419	Total/NA	Water	300.0	
440-144937-3 MS	DBMW-1-20160419	Total/NA	Water	300.0	
440-144937-3 MSD	DBMW-1-20160419	Total/NA	Water	300.0	
LCS 440-325445/52	Lab Control Sample	Total/NA	Water	300.0	
MB 440-325445/51	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 325632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144899-A-2 MS	Matrix Spike	Total/NA	Water	300.1B	
440-144899-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
440-144937-1	MCF-06C-20160419	Total/NA	Water	300.1B	
440-144937-2	AA-20-20160419	Total/NA	Water	300.1B	
LCS 440-325632/3	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-325632/4	Method Blank	Total/NA	Water	300.1B	
MRL 440-325632/2	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 326094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-3	DBMW-1-20160419	Total/NA	Water	300.1B	
440-144937-3 MS	DBMW-1-20160419	Total/NA	Water	300.1B	
440-144937-3 MSD	DBMW-1-20160419	Total/NA	Water	300.1B	
LCS 440-326094/4	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-326094/5	Method Blank	Total/NA	Water	300.1B	
MRL 440-326094/3	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 327049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-1	MCF-06C-20160419	Total/NA	Water	314.0	
440-144937-2	AA-20-20160419	Total/NA	Water	314.0	
440-144937-3	DBMW-1-20160419	Total/NA	Water	314.0	
440-144937-3 MS	DBMW-1-20160419	Total/NA	Water	314.0	
440-144937-3 MSD	DBMW-1-20160419	Total/NA	Water	314.0	
INF 440-327049/4	Lab Control Sample		Water	314.0	
LCS 440-327049/2	Lab Control Sample	Total/NA	Water	314.0	
MB 440-327049/3	Method Blank	Total/NA	Water	314.0	
MRL 440-327049/5	Lab Control Sample	Total/NA	Water	314.0	

General Chemistry

Analysis Batch: 326343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-1	MCF-06C-20160419	Total/NA	Water	SM 2540C	
440-144937-2	AA-20-20160419	Total/NA	Water	SM 2540C	
440-144937-3	DBMW-1-20160419	Total/NA	Water	SM 2540C	
440-144937-3 DU	DBMW-1-20160419	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 326343 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-326343/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-326343/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Client Sample ID: MCF-06C-20160419 — Lab Sample ID: 440-144937-1

Date Collected: 04/19/16 08:10
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	325445	04/21/16 14:26	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325445	04/21/16 14:44	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	325632	04/22/16 00:54	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 11:50	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326343	04/25/16 13:01	XL	TAL IRV

Client Sample ID: AA-20-20160419 — Lab Sample ID: 440-144937-2

Date Collected: 04/19/16 09:35
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	325445	04/21/16 15:37	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325445	04/21/16 15:54	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	325632	04/22/16 01:27	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 11:34	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326343	04/25/16 13:01	XL	TAL IRV

Client Sample ID: DBMW-1-20160419 — Lab Sample ID: 440-144937-3

Date Collected: 04/19/16 10:50
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500	325445	04/21/16 16:12	NTN	TAL IRV
Total/NA	Analysis	300.0		20	325445	04/21/16 16:30	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	326094	04/23/16 14:14	YZ	TAL IRV
Total/NA	Analysis	314.0		1000	327049	04/28/16 09:53	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326343	04/25/16 13:01	XL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-144937-1	MCF-06C-20160419	Water	04/19/16 08:10	04/20/16 09:50
440-144937-2	AA-20-20160419	Water	04/19/16 09:35	04/20/16 09:50
440-144937-3	DBMW-1-20160419	Water	04/19/16 10:50	04/20/16 09:50

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-8 Analysis Batch Number: 325445

Lab Sample ID: MB 440-325445/51 Client Sample ID:

Date Analyzed: 04/21/16 06:31 Lab File ID: 440-0072079-051.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.18	Peak Tail	hmuadmuen go	04/22/16 09:47

Lab Sample ID: CCB 440-325445/57 Client Sample ID:

Date Analyzed: 04/21/16 08:17 Lab File ID: 440-0072079-057.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.18	Incomplete Integration	nguyennt	04/21/16 17:08

Lab Sample ID: CCB 440-325445/81 Client Sample ID:

Date Analyzed: 04/21/16 15:19 Lab File ID: 440-0072079-081.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.23	Incomplete Integration	nguyennt	04/21/16 17:11

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 325632

Lab Sample ID: 440-144937-1 Client Sample ID: MCF-06C-20160419

Date Analyzed: 04/22/16 00:54 Lab File ID: 201604210001a036.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.53	Incomplete Integration	zakhrabov y	04/23/16 07:10

Lab Sample ID: 440-144937-2 Client Sample ID: AA-20-20160419

Date Analyzed: 04/22/16 01:27 Lab File ID: 201604210001a037.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.51	Incomplete Integration	zakhrabov y	04/23/16 07:11

Lab Sample ID: CCV 440-325632/43 Client Sample ID:

Date Analyzed: 04/22/16 02:34 Lab File ID: 201604210001a039.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.34	Baseline Smoothing	zakhrabov y	04/23/16 07:11

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326094

Lab Sample ID: MRL 440-326094/3 Client Sample ID:

Date Analyzed: 04/23/16 09:16 Lab File ID: 201604230001a003.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.47	Incomplete Integration	zakhrabov y	04/23/16 12:23

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-25 Analysis Batch Number: 327049

Lab Sample ID: LCS 440-327049/2 Client Sample ID:

Date Analyzed: 04/28/16 08:16 Lab File ID: 20160428_2.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.07	Incomplete Integration	hoangch	04/28/16 08:51
Perchlorate	12.07	Incomplete Integration	hoangch	04/28/16 08:51

Lab Sample ID: 440-144937-3 MS Client Sample ID: DBMW-1-20160419 MS

Date Analyzed: 04/28/16 10:26 Lab File ID: 20160428_10.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.03	Incomplete Integration	hoangch	04/28/16 10:48

Lab Sample ID: 440-144937-3 MSD Client Sample ID: DBMW-1-20160419 MSD

Date Analyzed: 04/28/16 10:43 Lab File ID: 20160428_11.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.06	Incomplete Integration	hoangch	04/28/16 11:07

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WC3001LCS_00034	07/28/16	01/28/16	Di Water, Lot 20160128	100 mL	WC1BROMATE_00005	0.1 mL	Bromate	1.001 mg/L
					WC1CHLORATE_00006	0.4 mL	Chlorate	4 mg/L
					wcbromide_00008	0.1 mL	Bromide	10 mg/L
.WC1BROMATE_00005	11/26/16	O2Si, Lot 1075653			(Purchased Reagent)		Bromate	1001 mg/L
.WC1CHLORATE_00006	11/26/16	O2Si, Lot 1075652			(Purchased Reagent)		Chlorate	1000 mg/L
.wcbromide_00008	12/23/16	high purity, Lot 1427506			(Purchased Reagent)		Bromide	10000 ug/mL
WCCLO41st-10_00001	06/22/16	03/22/16	Di Water, Lot 03/22/16	100 mg/L	WCCLO4-1st_00001	1 mg/L	Perchlorate	10 mg/L
.WCCLO4-1st_00001	03/30/17	SPEX CERTIPREP, Lot 3-149CLO4-2Y			(Purchased Reagent)		Perchlorate	1000 mg/L
WCCLO4ICV10_00019	05/16/16	02/16/16	Di Water, Lot 02/16/2016	100 mL	WCCLO4ICV_00009	1 mL	Perchlorate	10.0002 mg/L
.WCCLO4ICV_00009	07/29/16	07/29/15	Di Water, Lot 07/29/2015	250 mL	WCCLO4ICVSOLI_00001	0.3078 g	Perchlorate	1000.02 mg/L
..WCCLO4ICVSOLI_00001	03/14/19	SPECTRUM, Lot XK0226			(Purchased Reagent)		Perchlorate	0.81223 g/g
WCDCA_00031	04/11/16	01/11/16	Di Water, Lot 20160111	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20	Aldrich, Lot MKBR8264V			(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCDCA_00032	07/12/16	04/12/16	Di Water, Lot 20160412	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20	Aldrich, Lot MKBR8264V			(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCICVANIONS_00059	04/02/16	03/02/16	Di Water, Lot 03/02/2016	100 mL	WCBROMIDE_00007	10 mL	Bromide	100 mg/L
					WCICNACLICV_00004	10 mL	Chloride	100 mg/L
.WCBROMIDE_00007	07/31/16	ERA, Lot 250714			(Purchased Reagent)		Bromide	1000 mg/L
.WCICNACLICV_00004	07/31/17	ENVIRONMENTAL RESOURCE ASSOCIATES, Lot 280615			(Purchased Reagent)		Chloride	1000 mg/L
WCLCSANIONS_00110	03/29/16	02/29/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00008	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
					wcfluoride_00004	10 mL	Fluoride	1000 mg/L
					wcsulfate_00006	10 mL	Sulfate	1000 mg/L
.wcbromide_00008	12/23/16	high purity, Lot 1427506			(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16	high purity, Lot 1417005			(Purchased Reagent)		Chloride	10000 ug/mL
.wcfluoride_00004	01/30/17	ricca, Lot 1507D81			(Purchased Reagent)		Fluoride	10000 ug/mL
.wcsulfate_00006	04/15/17	high purity, Lot 1522216			(Purchased Reagent)		Sulfate	10000 ug/mL
WCLCSANIONS_00114	05/08/16	04/09/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
.wcbromide_00010	08/09/17	high purity, Lot 1521536			(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16	high purity, Lot 1417005			(Purchased Reagent)		Chloride	10000 ug/mL
wctdslcs_00060	08/15/16	11/24/15	Di Water, Lot 20150215	1 L	WCNACLTDSLCS_00001	1 g	Total Dissolved Solids	1000 ppm
.WCNACLTDSLCS_00001	04/04/21	FISHER CHEMICAL, Lot 103358			(Purchased Reagent)		Total Dissolved Solids	1 g/g

Reagent

WC1BROMATE_00005

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062015-01-01
Lot No: 1075653
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Bromate, 100 mL 1,000 mg/L in H_2O

2629062
ID: WC1BROMATE_000(
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Bromate

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Bromate	BrO_3	7789-38-0	7085.48.1P	99.5	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

2030 Savage Road • Charleston, SC 29407
Phone: 866.272.0932 • Fax: 866.509.5146
www.o2si.com

Reagent

WC1CHLORATE_00006

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062014-01-01
Lot No: 1075652
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Chlorate, 100 mL 1,000 mg/L in H_2O

2629060
ID: WC1CHLORATE_00C
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Chlorate

ACCREDITED
ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Chlorate	ClO_3^-	N/A	7120.29.1P	99	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

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Reagent

WCBROMIDE_00007

Certificate of Analysis

PRODUCT:	1000 mg/L Bromide
CATALOG NUMBER:	046 -125 mL; 987 - 500 mL
LOT NUMBER:	250714
ISSUE DATE:	July 31, 2014
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Bromide (KBr)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9972 ± 0.0005 g/mL at 21.0°C and 766 mm Hg
TRACEABILITY[3]:	101%
NIST/SRM:	3184 Bromide
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2016**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcbromide_00010

Certificate of Analysis

Product Description:

Name:	Bromide	Source Material:	Sodium Bromide
Part Number:	**IC-BR-10M**	Material Purity:	99.5%
Lot Number:	**1521536**	Matrix:	H_2O

Certified Value:

Bromide 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3184 (lot number 020701) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of bromide, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

wcchloride_00001

Certificate of Analysis

Product Description:

Name:	Chloride	Source Material:	Sodium Chloride
Part Number:	**IC-CL-10M**	Material Purity:	99.3%
Lot Number:	**1417005**	Matrix:	H_2O

Certified Value:

Chloride 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3182 (lot number 060925) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of chloride, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

WCCLO4-1st_00001

3255268

ID WCCLO4-1st_00001

Exp 03/30/17 Prpd YZ

PERCHLORATE- 1000 PPM

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-CLO49-2Y **Lot No.** 3-149CLO4-2Y

Description: 1000 µg/mL Perchlorate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 0114A†

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Perchlorate, Lot# F10T022. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1003 µg/mL

Method: Evaporate to dryness. Ignite and weigh as KClO4.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.03	NO_3^-	<0.02
Cl^-	<0.05	PO_4^{-3}	<0.03
F^-	<0.005	SO_4^{-2}	<0.5
NO_2^-	<0.02		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: MAR - - 2016 Certifying Officer:

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Reagent

wcfluoride_00004

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Fluoride Standard, 10,000 ppm F^-

Lot Number: 1507D81 **Product Number:** 3174.10

Manufacture Date: JUL 23, 2015
Expiration Date: JAN 2017

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless to light yellow liquid	Passed
Fluoride (F)	9950-10050 ppm	10000 ppm

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3174.10-32	1 L natural poly	18 months
3174.10-1	4 L natural poly	18 months
3174.10-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

WCICNACLICV_00004

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Chloride
CATALOG NUMBER:	047 -125 mL; 988 - 500 mL
LOT NUMBER:	280615
ISSUE DATE:	July 28, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Chloride (NaCl)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9988 ± 0.0008 g/mL at 19.4°C and 745 mm Hg
TRACEABILITY[3]:	99.2%
NIST/SRM:	3182 Chloride
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009 — ACCREDITED — REFERENCE MATERIAL PRODUCER CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 — ACCREDITED — CHEMICAL TESTING LABORATORY CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcsulfate_00006

Certificate of Analysis

Product Description:

Name:	Sulfate	Source Material:	Sodium Sulfate
Part Number:	**IC-SS-10M**	Material Purity:	99%
Lot Number:	**1522216**	Matrix:	H_2O

Certified Value:

Sulfate 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3181 (lot number 080603) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of sulfate, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 440-0072079-052.d

Lab ID: LCS 440-325445/52 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	5.00	5.04	101	90-110	
Chloride	5.00	4.85	97	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 440-0072079-086.d

Lab ID: 440-144937-3 MS Client ID: DBMW-1-20160419 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	50.0	ND	27.1	54	80-120	F1
Chloride	50.0	1300	1270	-10	80-120	E 4

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 440-0072079-087.d

Lab ID: 440-144937-3 MSD Client ID: DBMW-1-20160419 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromide	50.0	29.1	58	7	20	80-120	F1
Chloride	50.0	1270	-6	0	20	80-120	E 4

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab File ID: 440-0072079-051.d Lab Sample ID: MB 440-325445/51

Matrix: Water Date Extracted:

Instrument ID: IC-8 Date Analyzed: 04/21/2016 06:31

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-325445/52	440-0072079-052.d	04/21/2016 06:49
	CCB 440-325445/57	440-0072079-057.d	04/21/2016 08:17
	CCB 440-325445/69	440-0072079-069.d	04/21/2016 11:48
MCF-06C-20160419	440-144937-1	440-0072079-078.d	04/21/2016 14:26
MCF-06C-20160419	440-144937-1	440-0072079-079.d	04/21/2016 14:44
	CCB 440-325445/81	440-0072079-081.d	04/21/2016 15:19
AA-20-20160419	440-144937-2	440-0072079-082.d	04/21/2016 15:37
AA-20-20160419	440-144937-2	440-0072079-083.d	04/21/2016 15:54
DBMW-1-20160419	440-144937-3	440-0072079-084.d	04/21/2016 16:12
DBMW-1-20160419	440-144937-3	440-0072079-085.d	04/21/2016 16:30
DBMW-1-20160419 MS	440-144937-3 MS	440-0072079-086.d	04/21/2016 16:47
DBMW-1-20160419 MSD	440-144937-3 MSD	440-0072079-087.d	04/21/2016 17:05
	CCB 440-325445/92	440-0072079-092.d	04/21/2016 18:41

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: MCF-06C-20160419
Lab Sample ID: 440-144937-1
Matrix: Water
Lab File ID: 440-0072079-078.d
Analysis Method: 300.0
Date Collected: 04/19/2016 08:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 14:26
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-078.d				
Lims ID:	440-144937-C-1				
Client ID:	MCF-06C-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 14:26:00	ALS Bottle#:	0	Worklist Smp#:	78
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	440-0072079-078				
Misc. Info.:	19405 440-144937-C-1				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:41		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.275	4.175	0.100	1119684833	102.1	E
4 Bromide	6.408	6.350	0.058	629456	0.2290	

QC Flag Legend

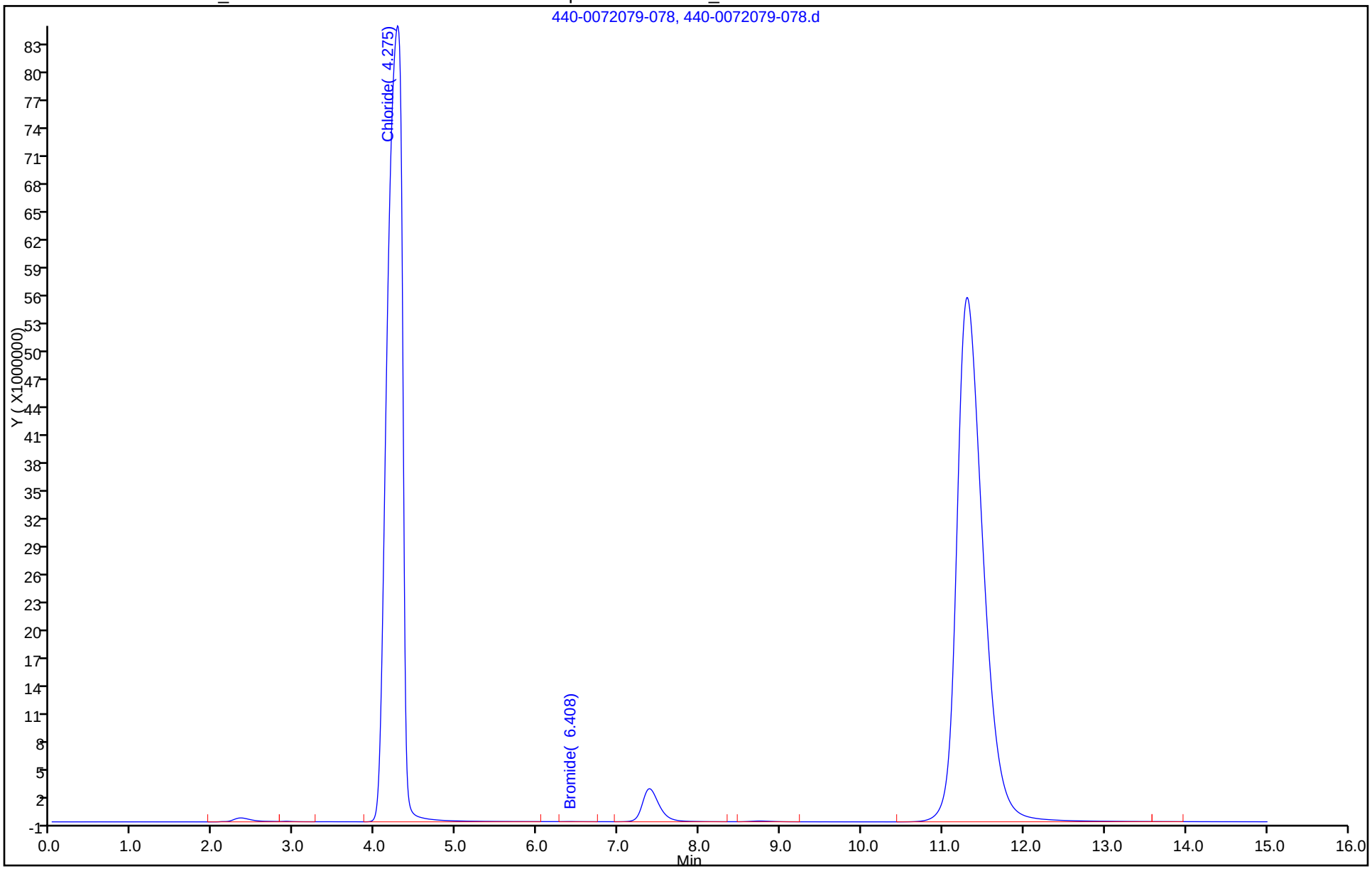
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:10:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-078.d				
Injection Date:	21-Apr-2016 14:26:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-1	Lab Sample ID:	440-144937-1	Worklist Smp#:	78
Client ID:	MCF-06C-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: MCF-06C-20160419
Lab Sample ID: 440-144937-1
Matrix: Water
Lab File ID: 440-0072079-079.d
Analysis Method: 300.0
Date Collected: 04/19/2016 08:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 14:44
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1700	B	250	130

TestAmerica Irvine
Target Compound Quantitation Report

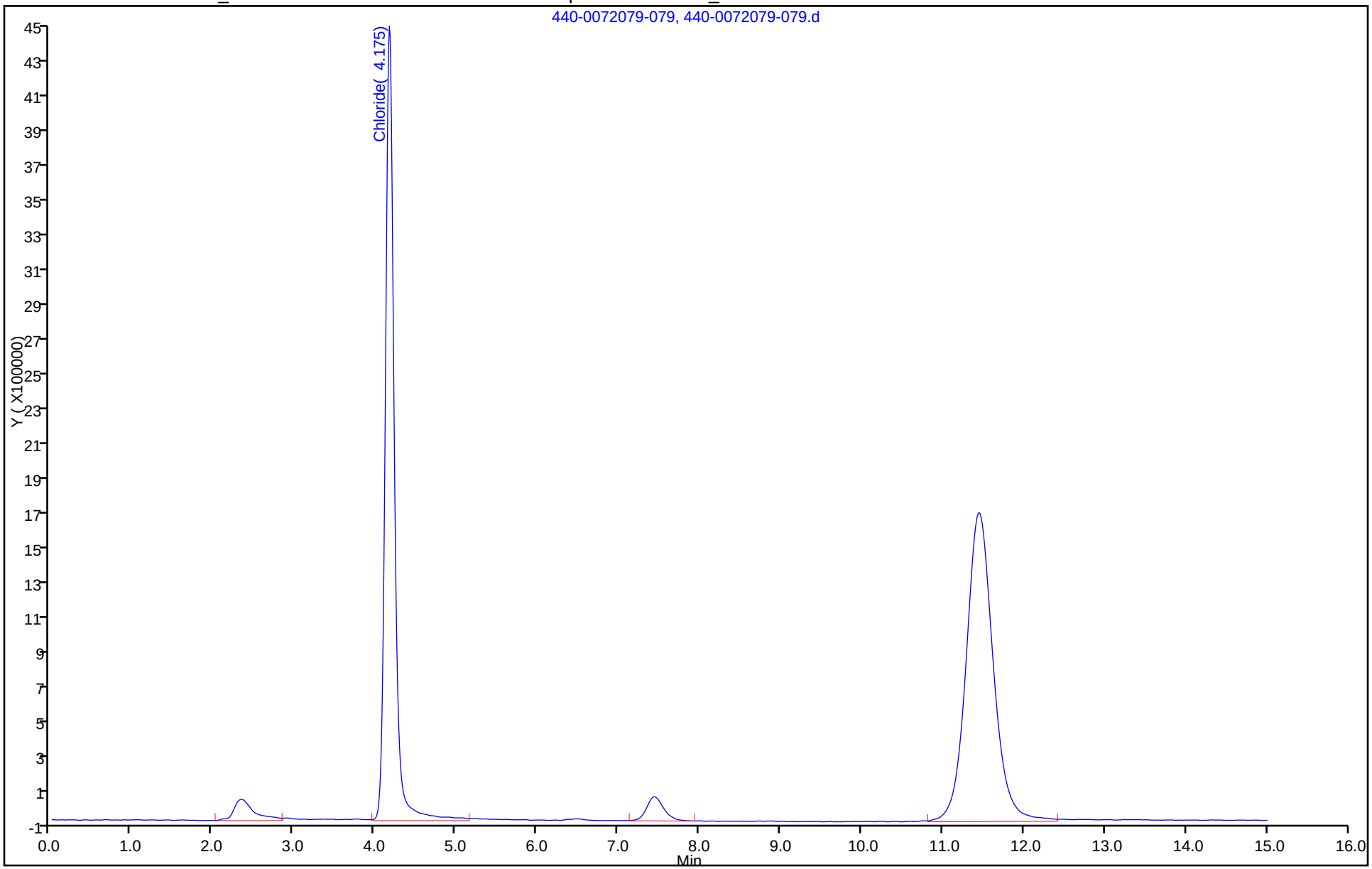
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-079.d				
Lims ID:	440-144937-C-1				
Client ID:	MCF-06C-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 14:44:00	ALS Bottle#:	0	Worklist Smp#:	79
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	440-0072079-079				
Misc. Info.:	14249 440-144937-C-1				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:43		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.175	4.175	0.000	34637970	3.39	

Report Date: 21-Apr-2016 17:10:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-079.d				
Injection Date:	21-Apr-2016 14:44:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-1	Lab Sample ID:	440-144937-1	Worklist Smp#:	79
Client ID:	MCF-06C-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: AA-20-20160419
Lab Sample ID: 440-144937-2
Matrix: Water
Lab File ID: 440-0072079-082.d
Analysis Method: 300.0
Date Collected: 04/19/2016 09:35
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 15:37
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		5.0	2.5

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-082.d				
Lims ID:	440-144937-C-2				
Client ID:	AA-20-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 15:37:00	ALS Bottle#:	0	Worklist Smp#:	82
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	440-0072079-082				
Misc. Info.:	14747 440-144937-C-2				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:11:34	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:11:40		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.283	4.192	0.091	1316562673	120.0	E
4 Bromide	6.392	6.375	0.017	418754	0.1791	

QC Flag Legend

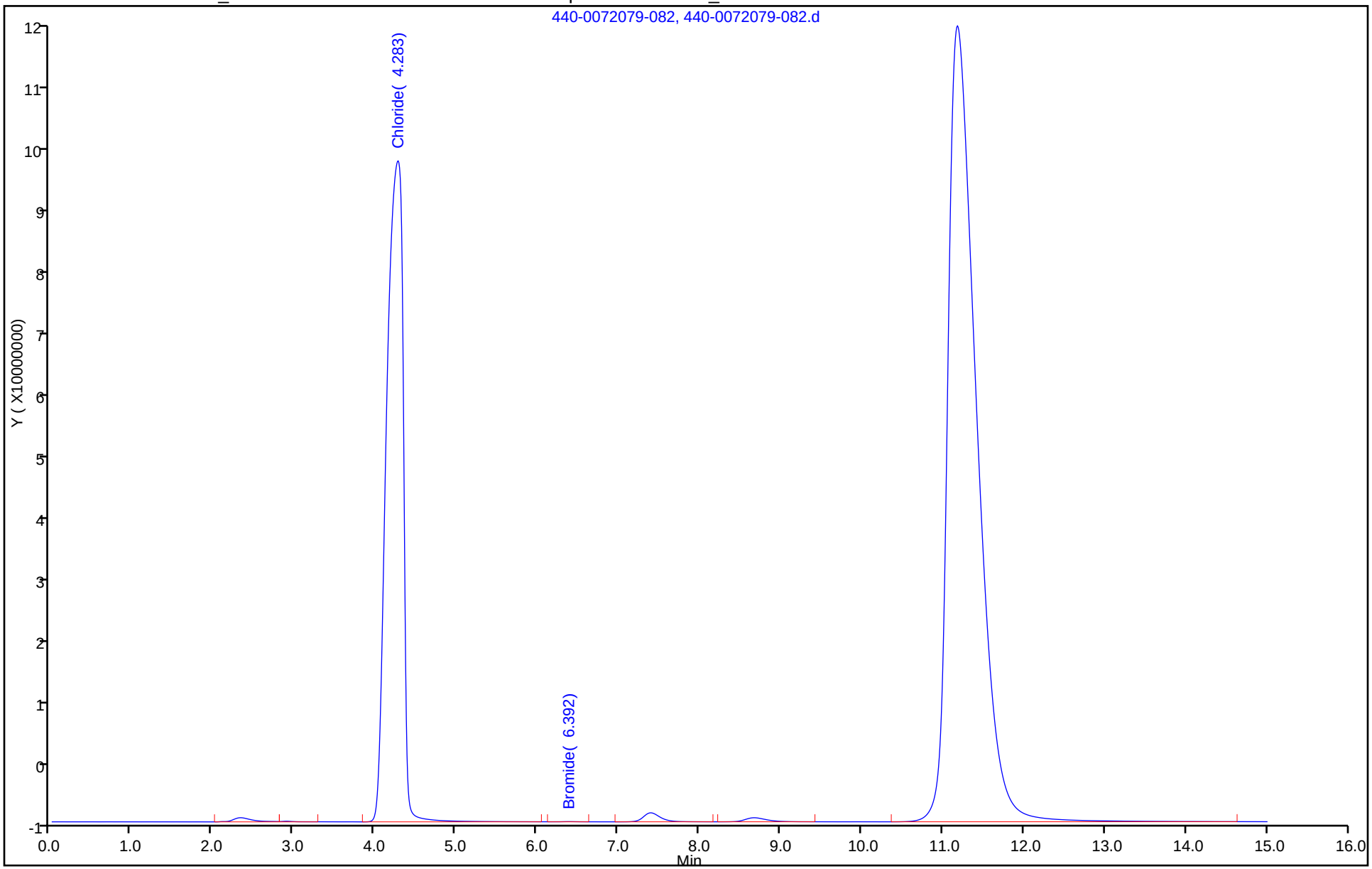
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:11:40 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-082.d				
Injection Date:	21-Apr-2016 15:37:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-2	Lab Sample ID:	440-144937-2	Worklist Smp#:	82
Client ID:	AA-20-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: AA-20-20160419
Lab Sample ID: 440-144937-2
Matrix: Water
Lab File ID: 440-0072079-083.d
Analysis Method: 300.0
Date Collected: 04/19/2016 09:35
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 15:54
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1000	B	250	130

TestAmerica Irvine
Target Compound Quantitation Report

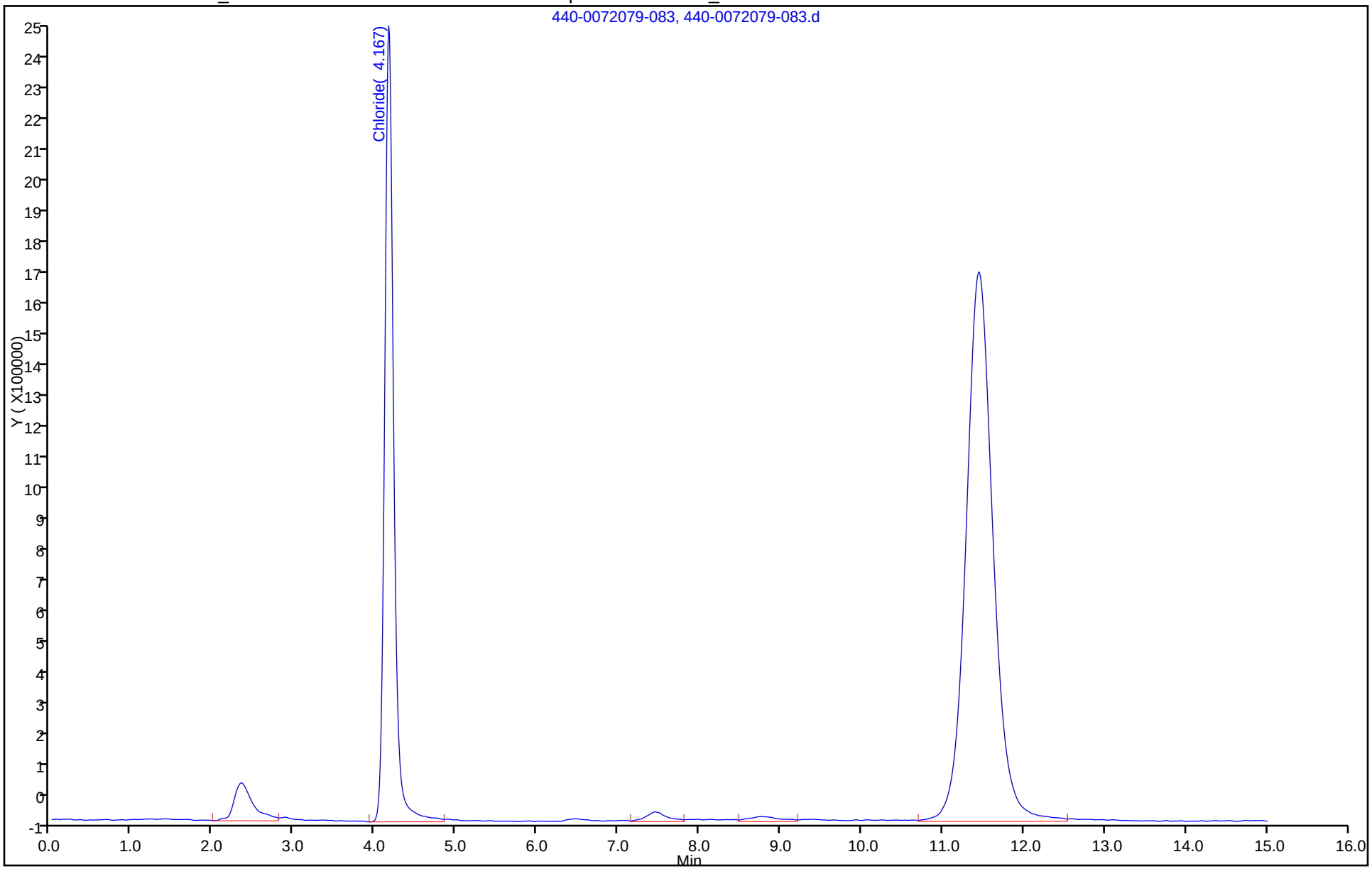
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-083.d				
Lims ID:	440-144937-C-2				
Client ID:	AA-20-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 15:54:00	ALS Bottle#:	0	Worklist Smp#:	83
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	440-0072079-083				
Misc. Info.:	30704 440-144937-C-2				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:11:34	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:11:42		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.167	4.192	-0.025	19410700	2.00	

Report Date: 21-Apr-2016 17:11:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-083.d				
Injection Date:	21-Apr-2016 15:54:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-2	Lab Sample ID:	440-144937-2	Worklist Smp#:	83
Client ID:	AA-20-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419
Lab Sample ID: 440-144937-3
Matrix: Water
Lab File ID: 440-0072079-085.d
Analysis Method: 300.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 16:30
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND	F1	10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-085.d
Lims ID: 440-144937-C-3
Client ID: DBMW-1-20160419
Sample Type: Client
Inject. Date: 21-Apr-2016 16:30:00 ALS Bottle#: 0 Worklist Smp#: 85
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 440-0072079-085
Misc. Info.: 29844 440-144937-C-3
Operator ID: Instrument ID: IC-8

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:11:34 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:11:52

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.925	-0.017	806607	0.3461	
	2 Chloride	4.242	4.192	0.050	699612927	63.9	E
	4 Bromide	6.383	6.375	0.008	532505	0.2060	
	10 Nitrate as N	7.400	7.383	0.017	9450859	NC	
	5 Nitrate as NO3	7.400	7.383	0.017	9450859	NC	
	7 Sulfate	11.308	11.433	-0.125	1309072218	173.9	E
S	8 Nitrate Nitrite as N					0	

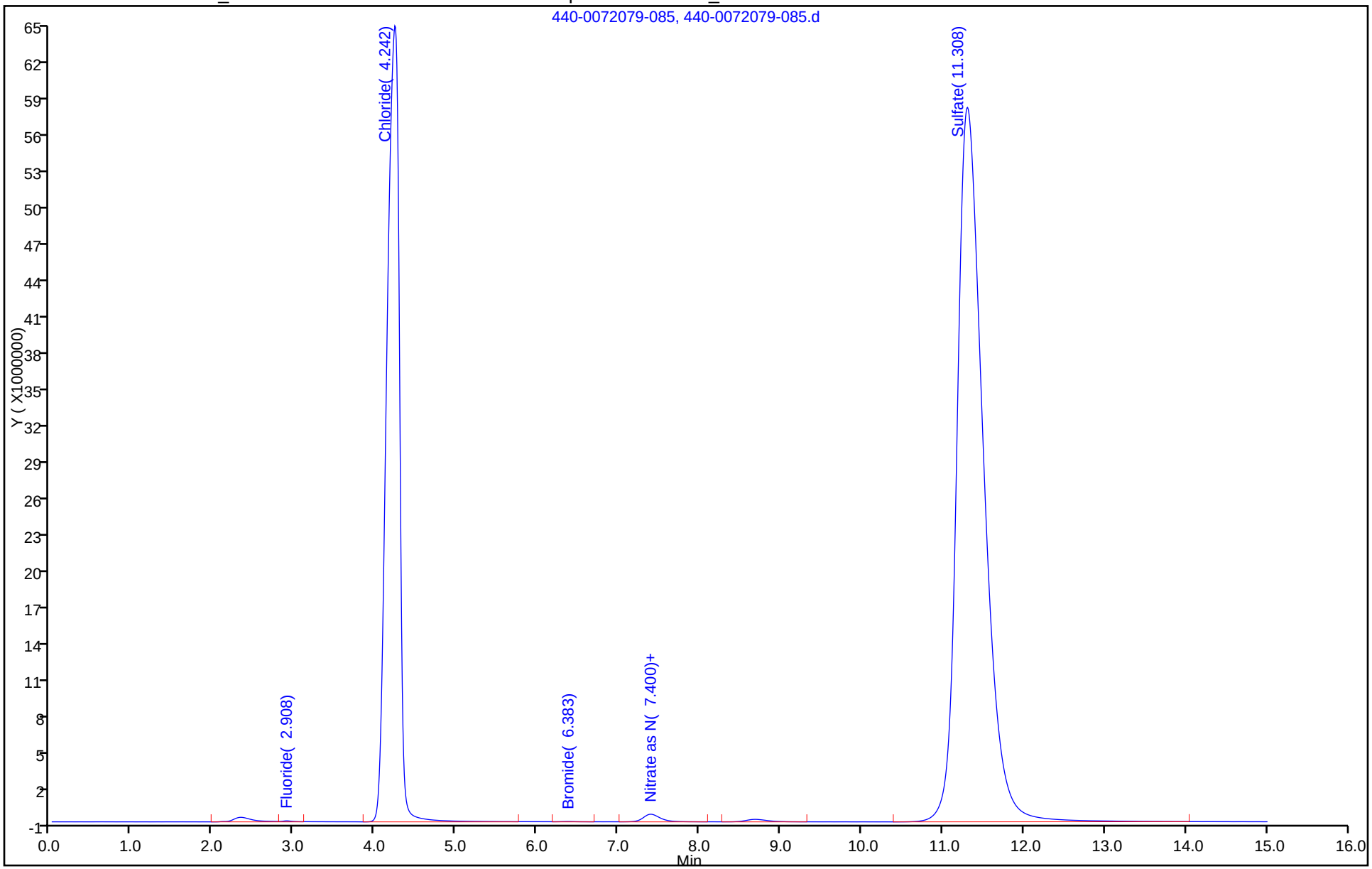
QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:11:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-085.d				
Injection Date:	21-Apr-2016 16:30:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-3	Lab Sample ID:	440-144937-3	Worklist Smp#:	85
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419
Lab Sample ID: 440-144937-3
Matrix: Water
Lab File ID: 440-0072079-084.d
Analysis Method: 300.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 16:12
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1100	B	250	130

TestAmerica Irvine
Target Compound Quantitation Report

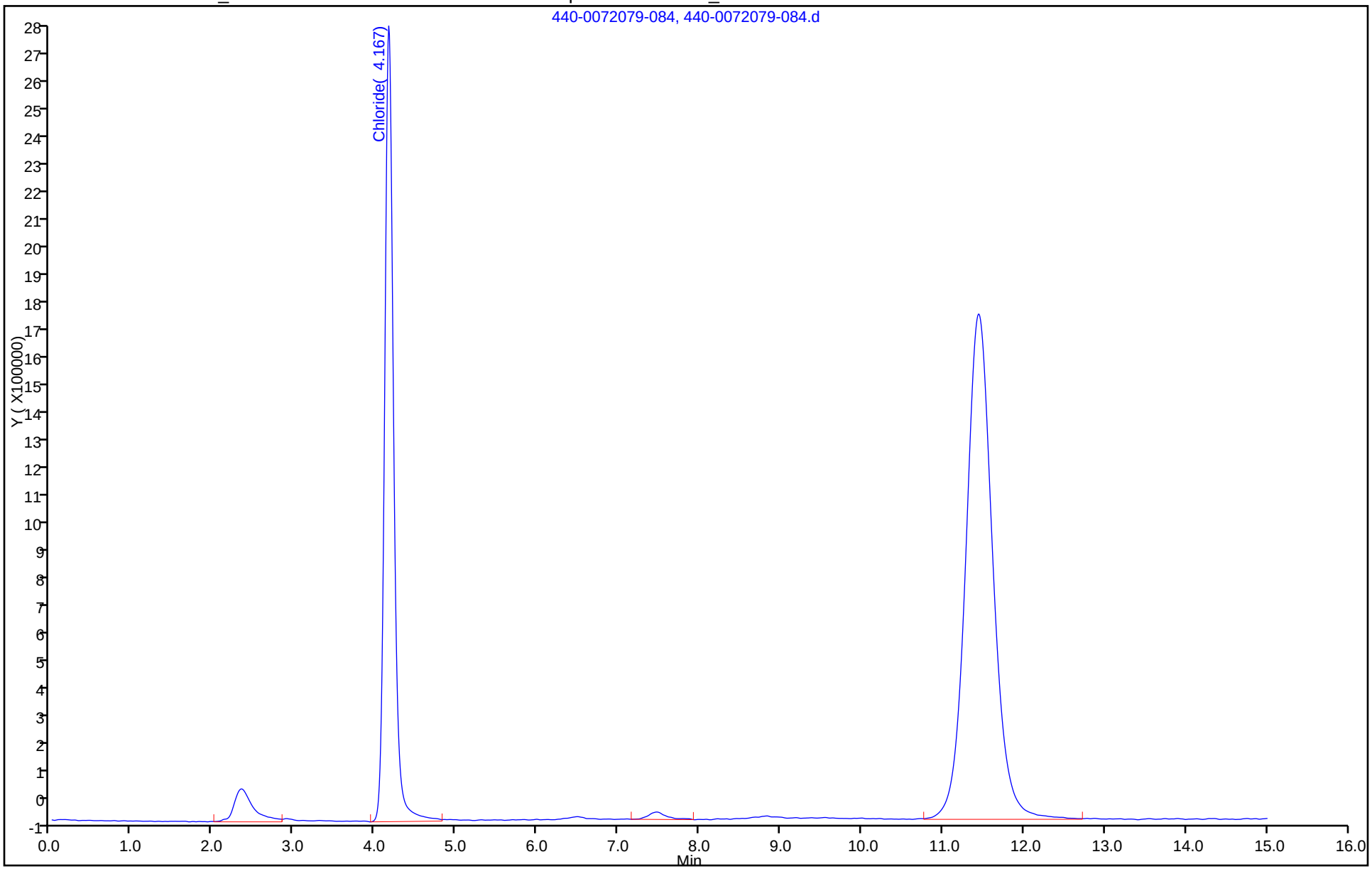
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-084.d				
Lims ID:	440-144937-C-3				
Client ID:	DBMW-1-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 16:12:00	ALS Bottle#:	0	Worklist Smp#:	84
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	440-0072079-084				
Misc. Info.:	5236 440-144937-C-3				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:11:34	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:11:45		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.167	4.192	-0.025	21390291	2.18	

Report Date: 21-Apr-2016 17:11:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-084.d				
Injection Date:	21-Apr-2016 16:12:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-3	Lab Sample ID:	440-144937-3	Worklist Smp#:	84
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 317525

SDG No.:

Instrument ID: IC-8 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/15/2016 11:42 Calibration End Date: 03/15/2016 14:14 Calibration ID: 13767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-317525/3	440-0070492-003.d
Level 2	STD1 440-317525/4	440-0070492-004.d
Level 3	STD2 440-317525/5	440-0070492-005.d
Level 4	STD3 440-317525/6	440-0070492-006.d
Level 5	STD4 440-317525/7	440-0070492-007.d
Level 6	STD5 440-317525/8	440-0070492-008.d
Level 7	STD6 440-317525/9	440-0070492-009.d
Level 8	STD7 440-317525/10	440-0070492-010.d
Level 9	STD8 440-317525/11	440-0070492-011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride		2.908	2.908	2.917	2.933	2.942	2.950	2.967	+++++		0.000 - 0.000	2.932
Chloride		4.183	4.183	4.192	4.192	4.200	4.208	+++++	+++++		0.000 - 0.000	4.193
Bromide		6.492	6.483	6.467	6.450	6.458	6.450	+++++	+++++		0.000 - 0.000	6.467
Sulfate		11.633	11.625	11.625	11.617	11.608	11.608	11.600	+++++		0.000 - 0.000	11.617

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 317525

SDG No.:

Instrument ID: IC-8 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/15/2016 11:42 Calibration End Date: 03/15/2016 14:14 Calibration ID: 13767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-317525/3	440-0070492-003.d
Level 2	STD1 440-317525/4	440-0070492-004.d
Level 3	STD2 440-317525/5	440-0070492-005.d
Level 4	STD3 440-317525/6	440-0070492-006.d
Level 5	STD4 440-317525/7	440-0070492-007.d
Level 6	STD5 440-317525/8	440-0070492-008.d
Level 7	STD6 440-317525/9	440-0070492-009.d
Level 8	STD7 440-317525/10	440-0070492-010.d
Level 9	STD8 440-317525/11	440-0070492-011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	16117673 +++++	14875310 16478869	14762705 17084732	15978052 17504077	Lin	-5218749.1	17411255.5							0.9990		0.9950
Chloride	10176973 +++++	9410238 10555071	9372187 11166891	10063886 +++++	Lin	-2593431.3	10989987.8							0.9980		0.9950
Bromide	4086918 +++++	4106818 4124709	4054397 4282429	4181881 +++++	Lin	-338813.25	4228685.30							0.9990		0.9950
Sulfate	7046209 +++++	7021224 7074566	7002009 7324163	7223246 7639195	Lin	-1950214.4	7539512.34							0.9980		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 317525

SDG No.:

Instrument ID: IC-8 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/15/2016 11:42 Calibration End Date: 03/15/2016 14:14 Calibration ID: 13767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-317525/3	440-0070492-003.d
Level 2	STD1 440-317525/4	440-0070492-004.d
Level 3	STD2 440-317525/5	440-0070492-005.d
Level 4	STD3 440-317525/6	440-0070492-006.d
Level 5	STD4 440-317525/7	440-0070492-007.d
Level 6	STD5 440-317525/8	440-0070492-008.d
Level 7	STD6 440-317525/9	440-0070492-009.d
Level 8	STD7 440-317525/10	440-0070492-010.d
Level 9	STD8 440-317525/11	440-0070492-011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin	247183034	7437655 341694645	14762705 525122303	79890258 +++++	161176734	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0
Chloride	Lin	158326060	4705119 223337827	9372187 +++++	50319430 +++++	101769732	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Bromide	Lin	61870634	2053409 85648577	4054397 +++++	20909407 +++++	40869176	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Sulfate	Lin	106118492	3510612 146483263	7002009 229175842	36116232 +++++	70462091	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0

Curve Type Legend:
Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-003.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	15-Mar-2016 11:42:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-003				
Misc. Info.:	3 std0				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:04	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				
First Level Reviewer: nickloffn		Date:	15-Mar-2016 16:16:04		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Reagents:

WCLCSANIONS_00110 Amount Added: 0.00 Units: mL

Report Date: 15-Mar-2016 16:17:07 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-003.d

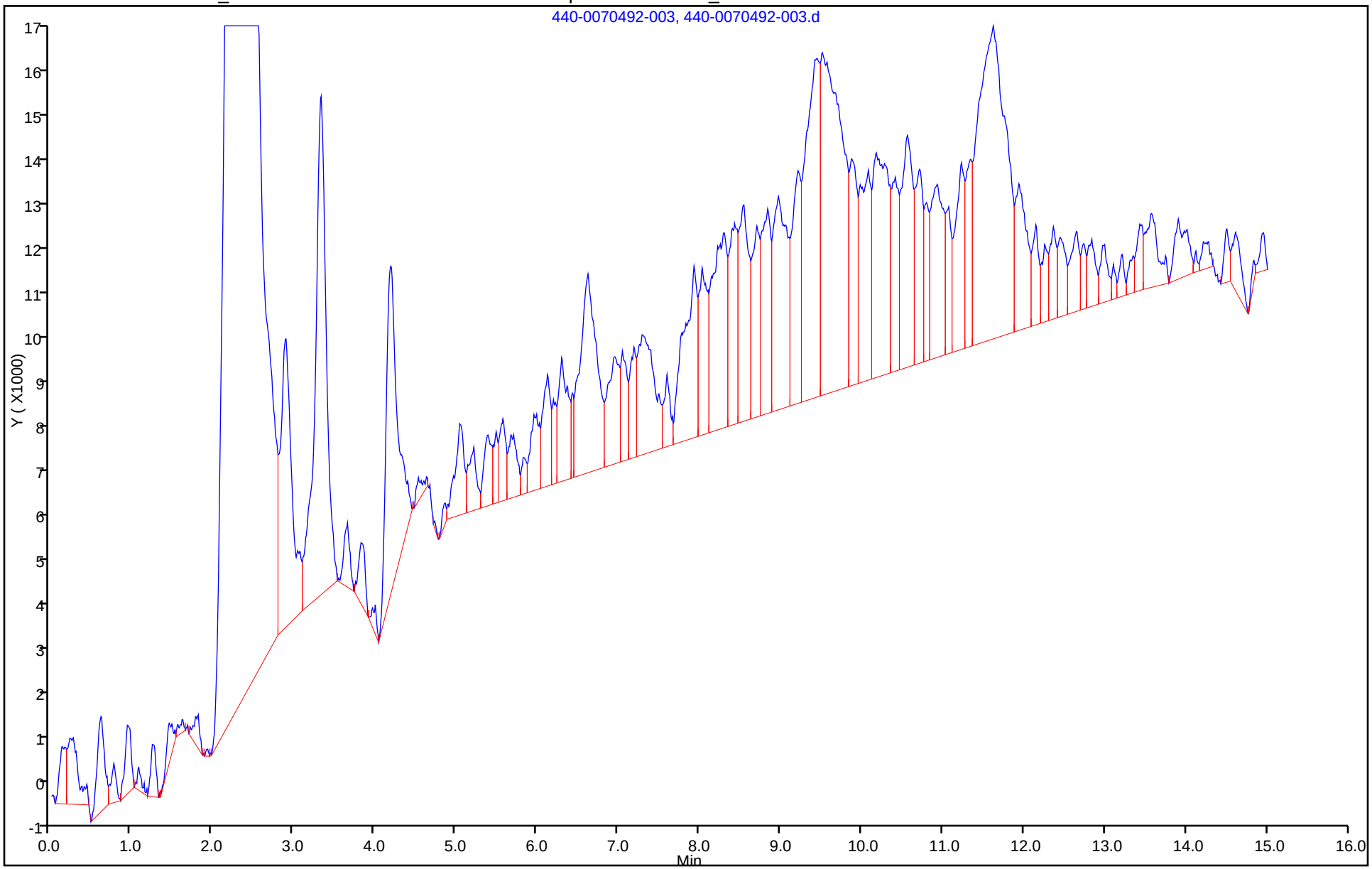
Injection Date: 15-Mar-2016 11:42:00 Instrument ID: IC-8 Operator ID:

Lims ID: std0 Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-004.d				
Lims ID:	std1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	15-Mar-2016 12:11:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-004				
Misc. Info.:	4 std1				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:10	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.942	-0.034	7437655	0.5000	0.7269	
	2 Chloride	4.183	4.200	-0.017	4705119	0.5000	0.6641	
	3 Nitrite as NO2	5.025	5.025	0.000	2925352	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	2925352	NC	NC	
	4 Bromide	6.492	6.458	0.034	2053409	0.5000	0.5657	
	5 Nitrate as NO3	7.583	7.500	0.083	2739100	NC	NC	
	10 Nitrate as N	7.583	7.500	0.083	2739100	NC	NC	
	11 Orthophosphorus as PO4	9.500	9.483	0.017	1313905	NC	NC	
	9 Orthophosphate as P	9.500	9.483	0.017	1313905	NC	NC	
	7 Sulfate	11.633	11.608	0.025	3510612	0.5000	0.7243	
S	8 Nitrate Nitrite as N					0.1522	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 5.00 Units: uL

Report Date: 15-Mar-2016 16:17:11 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-004.d

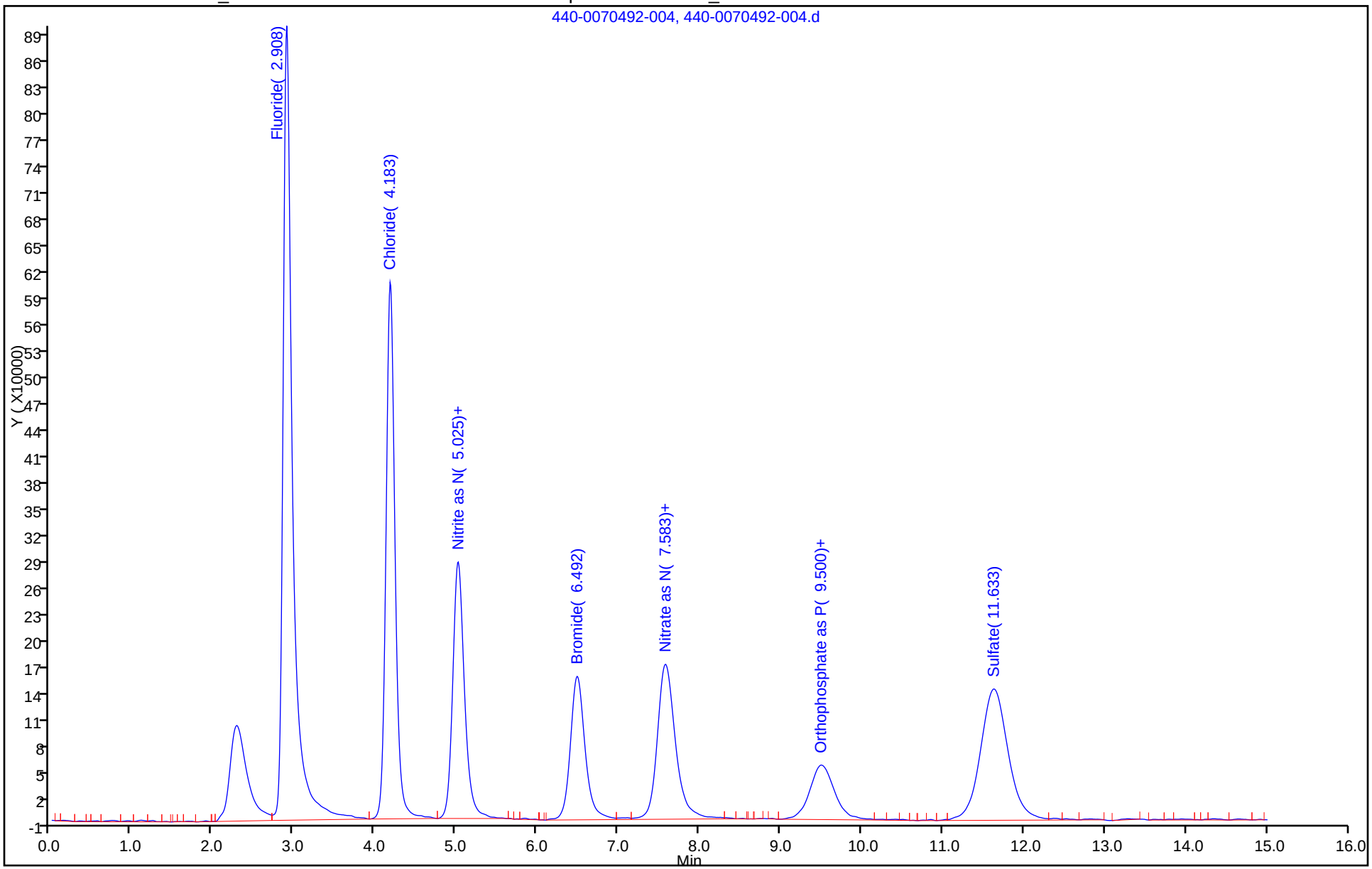
Injection Date: 15-Mar-2016 12:11:00 Instrument ID: IC-8 Operator ID:

Lims ID: std1 Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-005.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	15-Mar-2016 12:28:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-005				
Misc. Info.:	5 std2				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:12	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.942	-0.034	14762705	1.00	1.15	
	2 Chloride	4.183	4.200	-0.017	9372187	1.00	1.09	
	3 Nitrite as NO2	5.025	5.025	0.000	5867891	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	5867891	NC	NC	
	4 Bromide	6.483	6.458	0.025	4054397	1.00	1.04	
	5 Nitrate as NO3	7.575	7.500	0.075	5418296	NC	NC	
	10 Nitrate as N	7.575	7.500	0.075	5418296	NC	NC	
	11 Orthophosphorus as PO4	9.500	9.483	0.017	2587525	NC	NC	
	9 Orthophosphate as P	9.500	9.483	0.017	2587525	NC	NC	
	7 Sulfate	11.625	11.608	0.017	7002009	1.00	1.19	
S	8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 10.00 Units: uL

Report Date: 15-Mar-2016 16:17:13 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-005.d

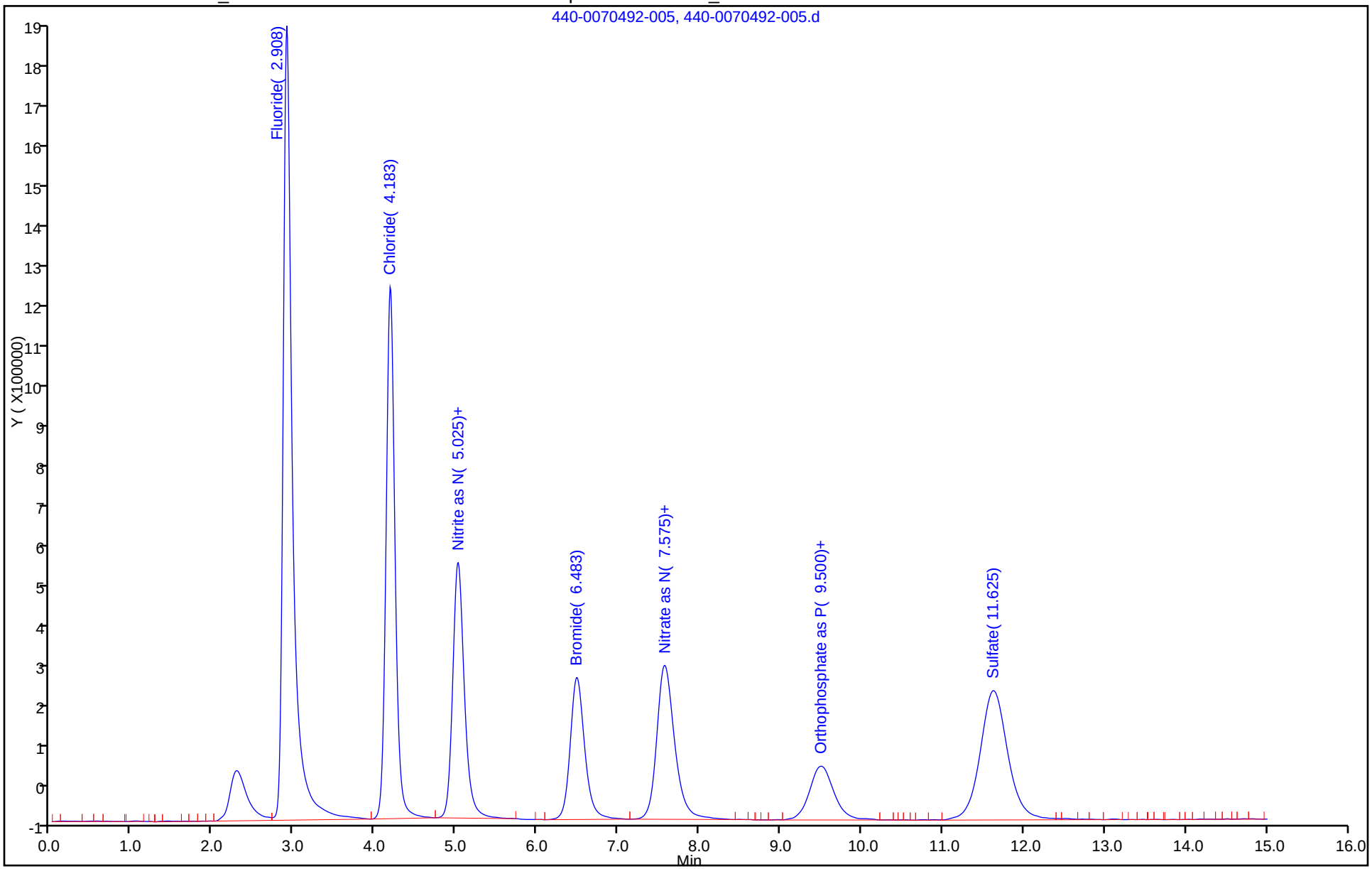
Injection Date: 15-Mar-2016 12:28:00 Instrument ID: IC-8 Operator ID:

Lims ID: std2 Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-006.d
Lims ID: std3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 15-Mar-2016 12:46:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0070492-006
Misc. Info.: 6 std3
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 15-Mar-2016 16:17:15 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK049

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.917	2.942	-0.025	79890258	5.00	4.89	
	2 Chloride	4.192	4.200	-0.008	50319430	5.00	4.81	
	3 Nitrite as NO2	5.017	5.025	-0.008	31172745	NC	NC	
	12 Nitrite as N	5.017	5.025	-0.008	31172745	NC	NC	
	4 Bromide	6.467	6.458	0.009	20909407	5.00	5.02	
	5 Nitrate as NO3	7.525	7.500	0.025	28456109	NC	NC	
	10 Nitrate as N	7.525	7.500	0.025	28456109	NC	NC	
	11 Orthophosphorus as PO4	9.500	9.483	0.017	13434129	NC	NC	
	9 Orthophosphate as P	9.500	9.483	0.017	13434129	NC	NC	
	7 Sulfate	11.625	11.608	0.017	36116232	5.00	5.05	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 50.00 Units: uL

Report Date: 15-Mar-2016 16:17:17 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-006.d

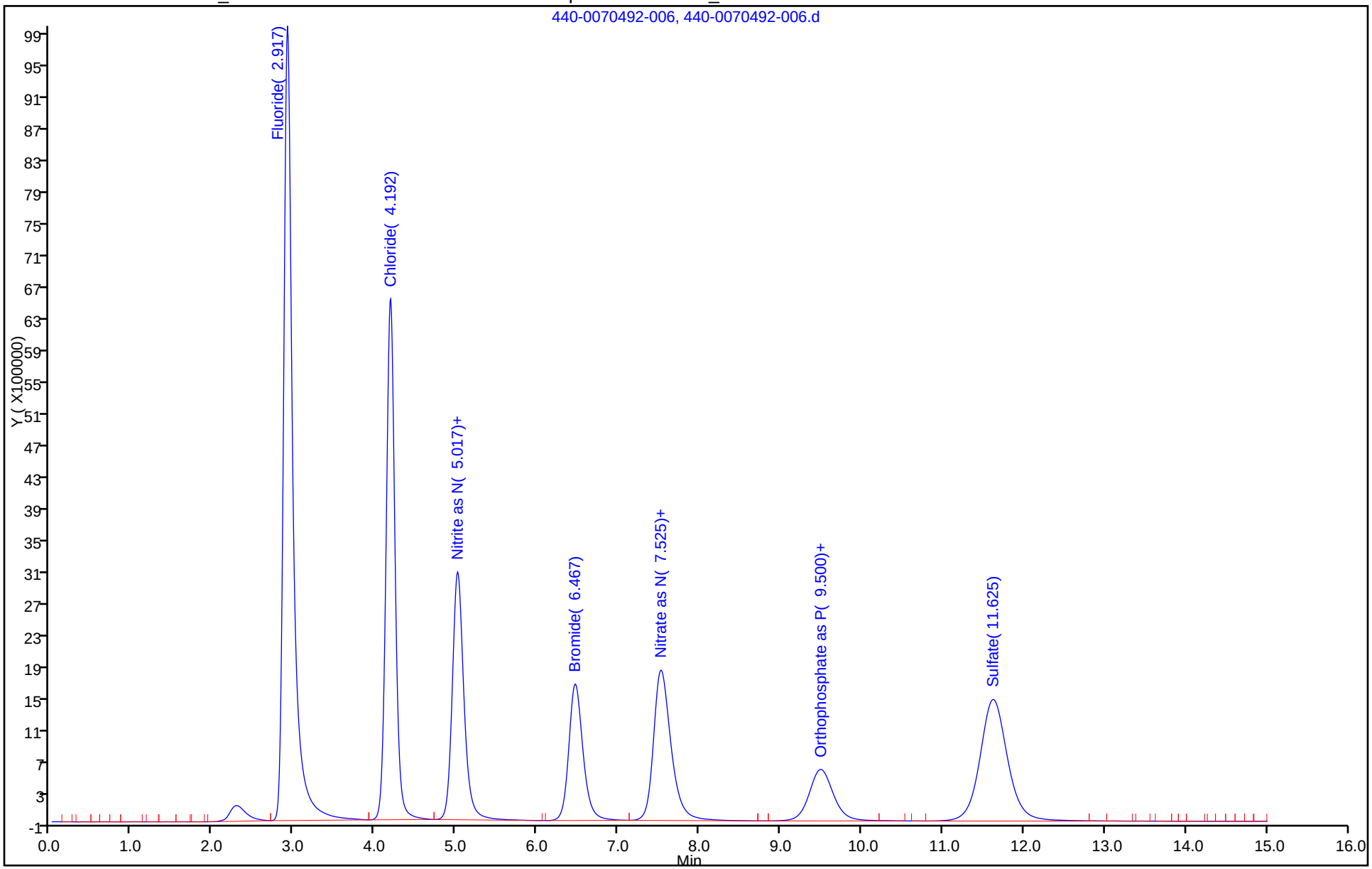
Injection Date: 15-Mar-2016 12:46:00 Instrument ID: IC-8 Operator ID:

Lims ID: std3 Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-007.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	15-Mar-2016 13:04:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-007				
Misc. Info.:	7 std4				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:19	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.933	2.942	-0.009	161176734	10.0	9.56	
	2 Chloride	4.192	4.200	-0.008	101769732	10.0	9.50	
	3 Nitrite as NO2	5.017	5.025	-0.008	61398071	NC	NC	
	12 Nitrite as N	5.017	5.025	-0.008	61398071	NC	NC	
	4 Bromide	6.450	6.458	-0.008	40869176	10.0	9.74	
	5 Nitrate as NO3	7.492	7.500	-0.008	55766970	NC	NC	
	10 Nitrate as N	7.492	7.500	-0.008	55766970	NC	NC	
	11 Orthophosphorus as PO4	9.492	9.483	0.009	26503192	NC	NC	
	9 Orthophosphate as P	9.492	9.483	0.009	26503192	NC	NC	
	7 Sulfate	11.617	11.608	0.009	70462091	10.0	9.60	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 100.00 Units: uL

Report Date: 15-Mar-2016 16:17:19 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-007.d

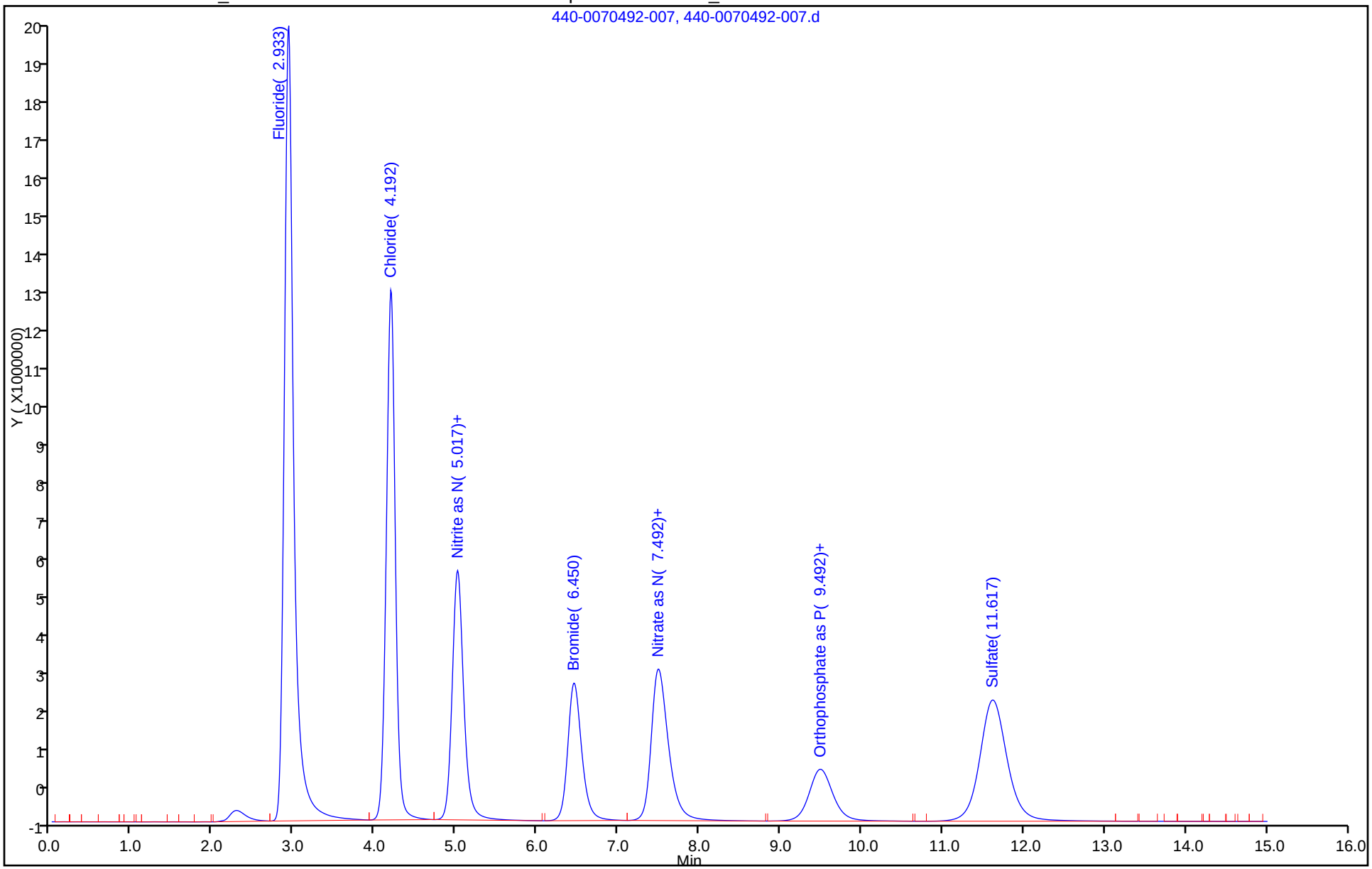
Injection Date: 15-Mar-2016 13:04:00 Instrument ID: IC-8 Operator ID:

Lims ID: std4 Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-008.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	15-Mar-2016 13:21:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-008				
Misc. Info.:	8 std5				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:20	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.942	2.942	0.000	247183034	15.0	14.5	
	2 Chloride	4.200	4.200	0.000	158326060	15.0	14.6	
	3 Nitrite as NO2	5.025	5.025	0.000	93492669	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	93492669	NC	NC	
	4 Bromide	6.458	6.458	0.000	61870634	15.0	14.7	
	5 Nitrate as NO3	7.500	7.500	0.000	84725853	NC	NC	
	10 Nitrate as N	7.500	7.500	0.000	84725853	NC	NC	
	11 Orthophosphorus as PO4	9.483	9.483	0.000	40003126	NC	NC	
	9 Orthophosphate as P	9.483	9.483	0.000	40003126	NC	NC	
	7 Sulfate	11.608	11.608	0.000	106118492	15.0	14.3	
S	8 Nitrate Nitrite as N					4.57	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 150.00 Units: uL

Report Date: 15-Mar-2016 16:17:21 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-008.d

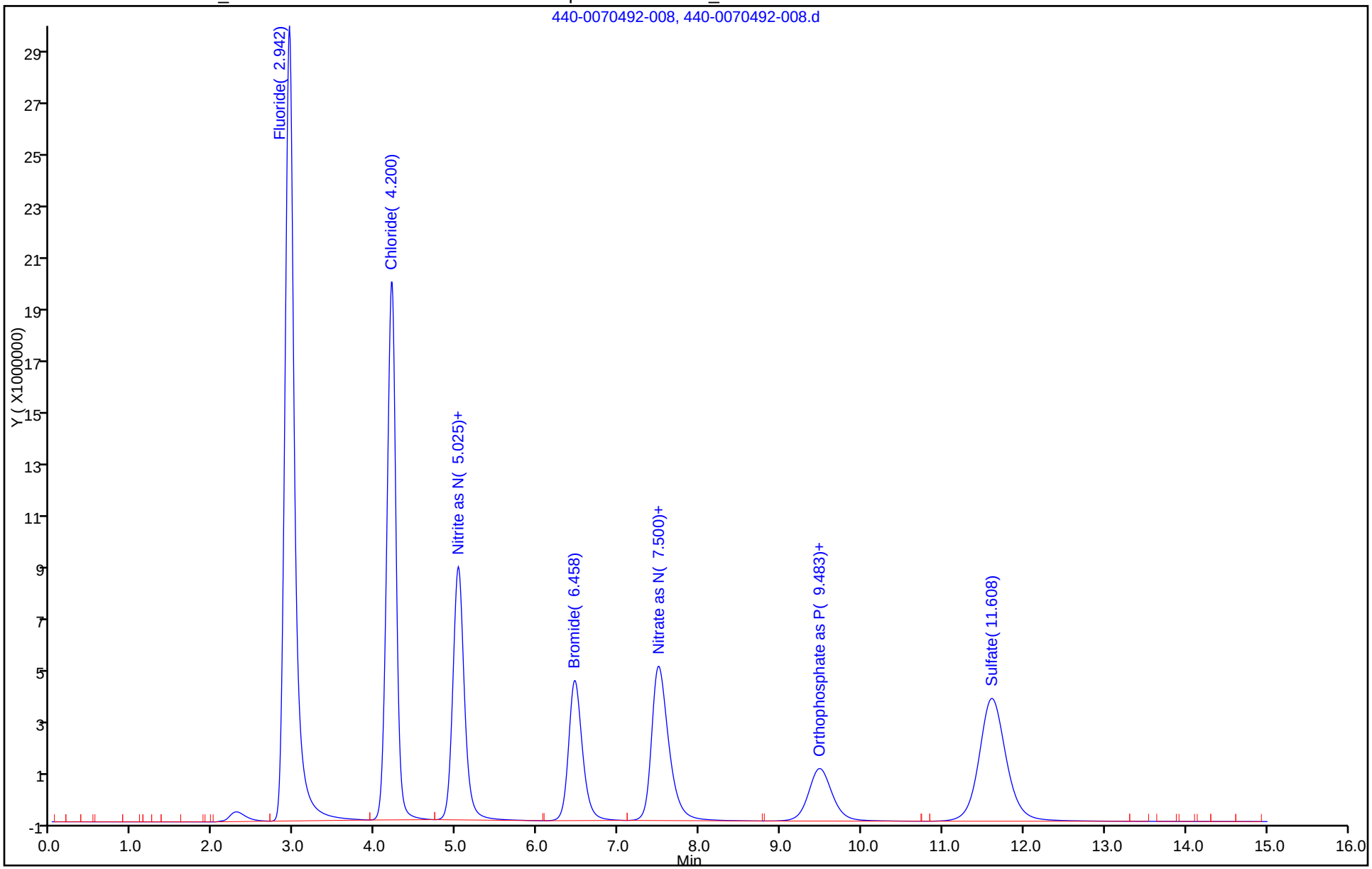
Injection Date: 15-Mar-2016 13:21:00 Instrument ID: IC-8 Operator ID:

Lims ID: std5 Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-009.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	15-Mar-2016 13:39:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-009				
Misc. Info.:	7065 std6				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:23	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.950	2.942	0.008	341694645	20.0	19.9	
	2 Chloride	4.208	4.200	0.008	223337827	20.0	20.6	
	3 Nitrite as NO2	5.025	5.025	0.000	129723624	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	129723624	NC	NC	
	4 Bromide	6.450	6.458	-0.008	85648577	20.0	20.3	
	5 Nitrate as NO3	7.467	7.500	-0.033	117712732	NC	NC	
	10 Nitrate as N	7.467	7.500	-0.033	117712732	NC	NC	
	11 Orthophosphorus as PO4	9.483	9.483	0.000	55018307	NC	NC	
	9 Orthophosphate as P	9.483	9.483	0.000	55018307	NC	NC	
	7 Sulfate	11.608	11.608	0.000	146483263	20.0	19.7	
S	8 Nitrate Nitrite as N					6.09	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 200.00 Units: uL

Report Date: 15-Mar-2016 16:17:24 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-009.d

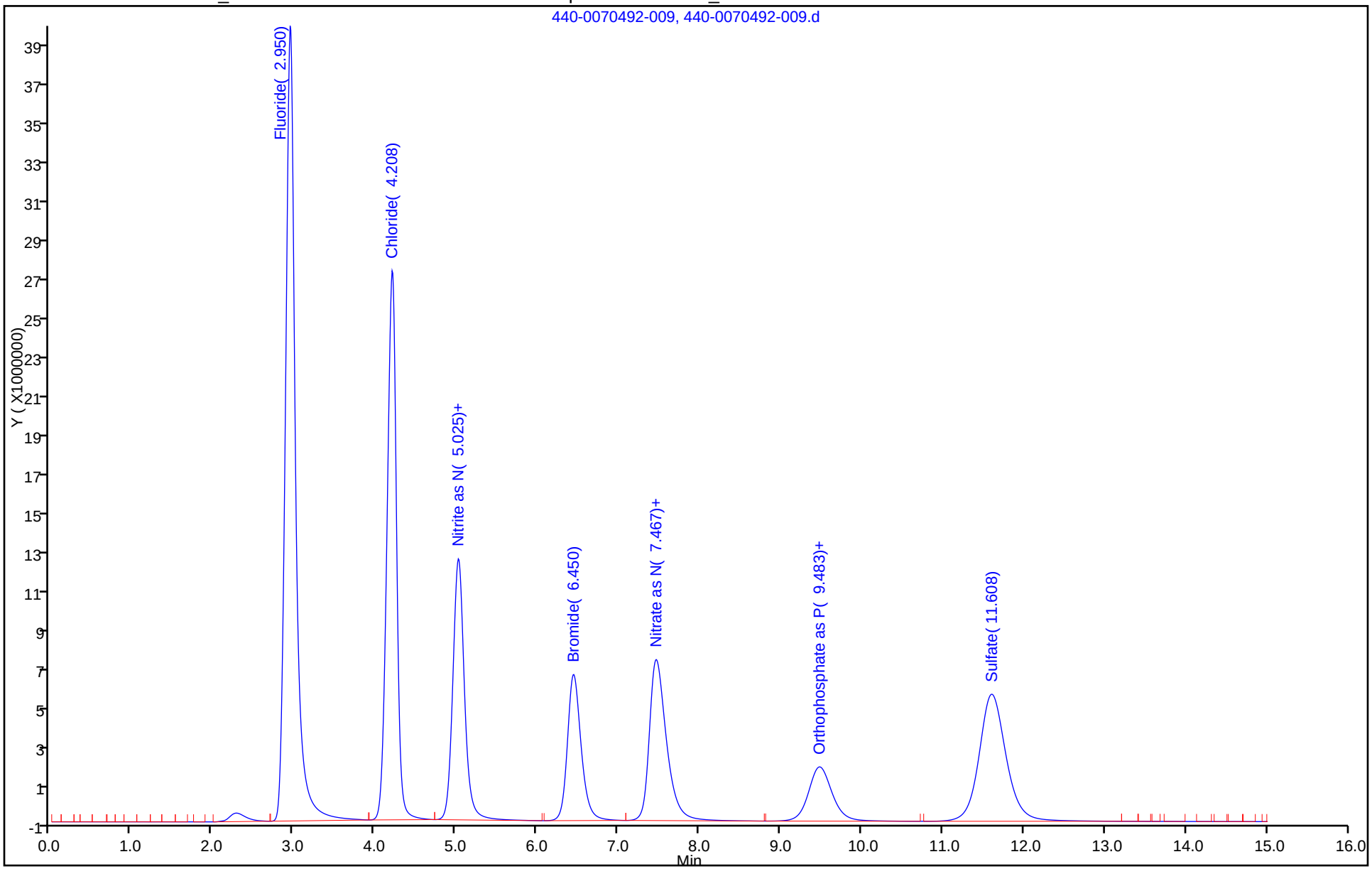
Injection Date: 15-Mar-2016 13:39:00 Instrument ID: IC-8 Operator ID:

Lims ID: std6 Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-010.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	15-Mar-2016 13:56:00	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-010				
Misc. Info.:	1640 std7				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:25	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.967	2.942	0.025	525122303	30.0	30.5	
	2 Chloride	4.217	4.200	0.017	356500750	30.0	32.7	
	3 Nitrite as NO2	5.025	5.025	0.000	202470475	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	202470475	NC	NC	
	4 Bromide	6.425	6.458	-0.033	134262544	30.0	31.8	
	5 Nitrate as NO3	7.417	7.500	-0.083	184853428	NC	NC	
	10 Nitrate as N	7.417	7.500	-0.083	184853428	NC	NC	
	11 Orthophosphorus as PO4	9.475	9.483	-0.008	85402749	NC	NC	
	9 Orthophosphate as P	9.475	9.483	-0.008	85402749	NC	NC	
	7 Sulfate	11.600	11.608	-0.008	229175842	30.0	30.7	
S	8 Nitrate Nitrite as N					9.13	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 300.00 Units: uL

Report Date: 15-Mar-2016 16:17:27 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-010.d

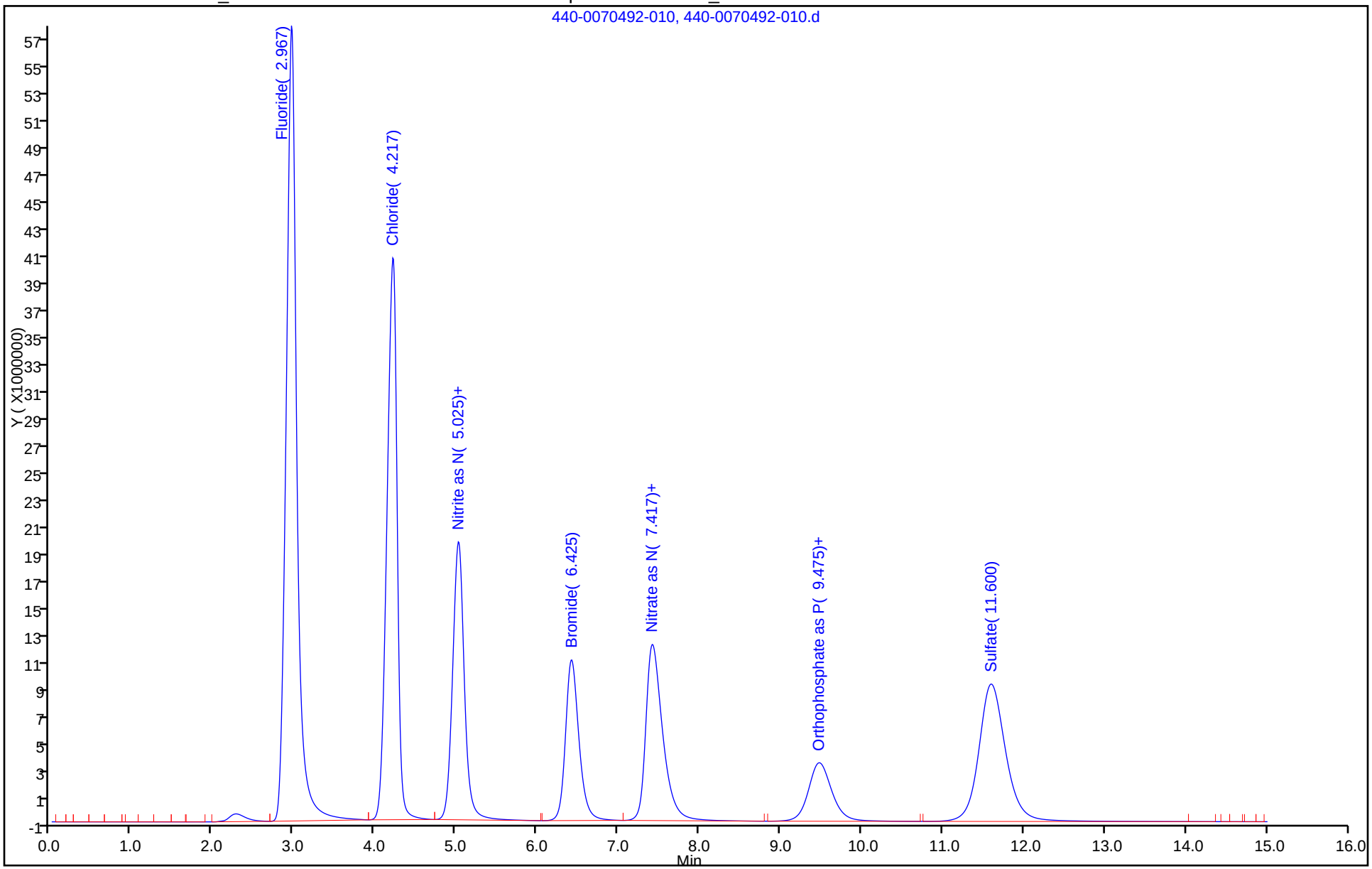
Injection Date: 15-Mar-2016 13:56:00 Instrument ID: IC-8 Operator ID:

Lims ID: std7 Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d
Lims ID: std8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 15-Mar-2016 14:14:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0070492-011
Misc. Info.: 6401 std8
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 15-Mar-2016 16:18:02 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK049

First Level Reviewer: nickloffn Date: 15-Mar-2016 16:18:02

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.983	2.942	0.041	694960833	40.0	40.2	
2 Chloride	4.242	4.200	0.042	486728350	40.0	44.5	
3 Nitrite as NO2	5.050	5.025	0.025	273697752	NC	NC	
12 Nitrite as N	5.050	5.025	0.025	273697752	NC	NC	
4 Bromide	6.442	6.458	-0.016	182288777	40.0	43.2	
5 Nitrate as NO3	7.442	7.500	-0.058	251308506	NC	NC	
10 Nitrate as N	7.442	7.500	-0.058	251308506	NC	NC	
11 Orthophosphorus as PO4	9.458	9.483	-0.025	115066582	NC	NC	
9 Orthophosphate as P	9.458	9.483	-0.025	115066582	NC	NC	
7 Sulfate	11.575	11.608	-0.033	310106604	40.0	41.4	
S 8 Nitrate Nitrite as N					12.2	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

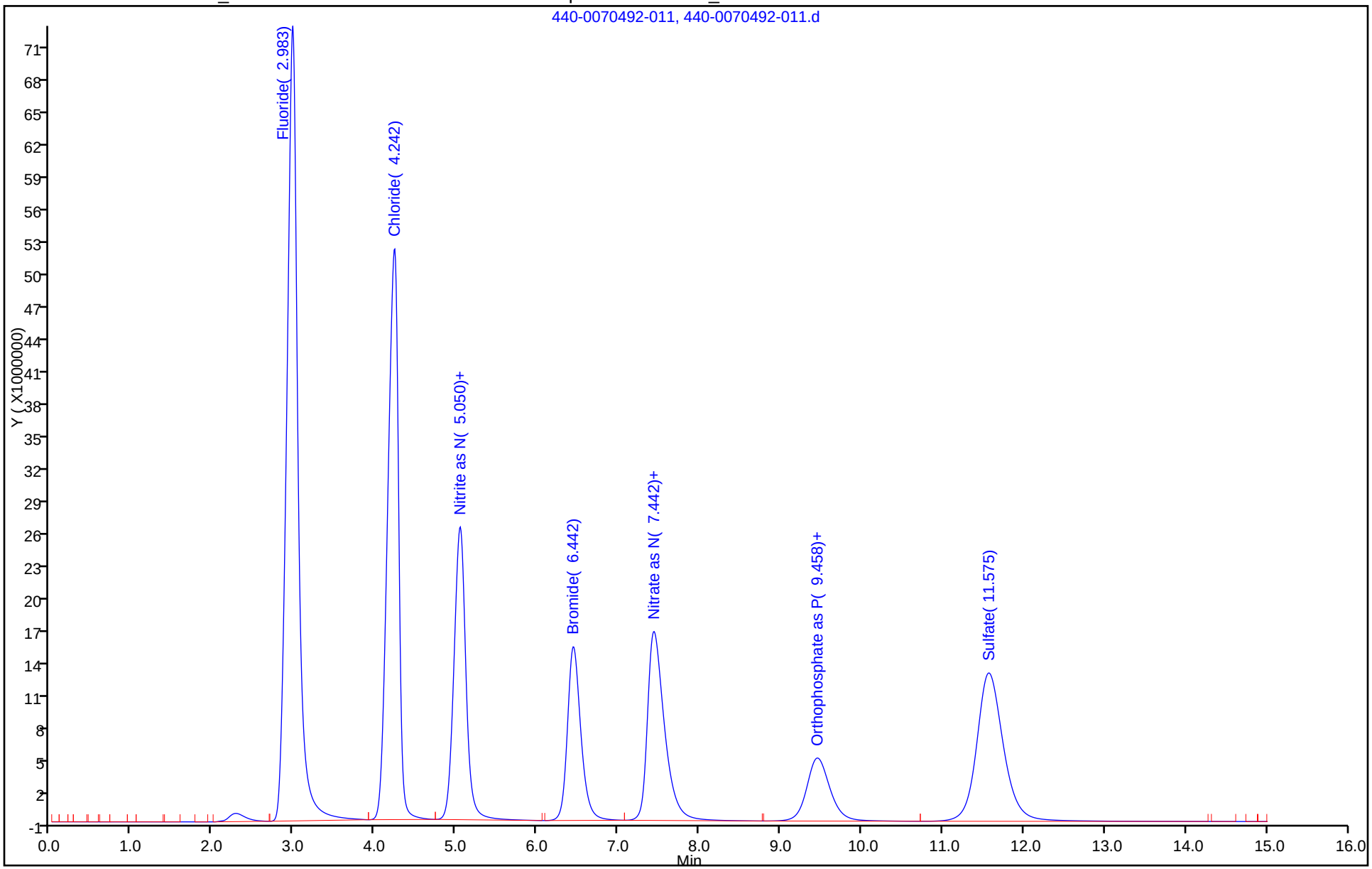
Reagents:

WCLCSANIONS_00110 Amount Added: 400.00 Units: uL

Report Date: 15-Mar-2016 16:18:03 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Injection Date:	15-Mar-2016 14:14:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	std8			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: ICV 440-317525/12 Calibration Date: 03/15/2016 16:13

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0070492-012.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		17068538		10.1	10.0	1.0	10.0
Chloride	Lin		10898668		10.2	10.0	1.5	10.0
Bromide	Lin		4378327		10.4	10.0	4.3	10.0
Sulfate	Lin		7381353		10.0	10.0	0.5	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: ICV 440-317525/12 Calibration Date: 03/15/2016 16:13

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0070492-012.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.80	3.09
Chloride	4.20	3.99	4.41
Bromide	6.46	6.14	6.78
Sulfate	11.60	11.03	12.19

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-012.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 15-Mar-2016 16:13:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0070492-012
Misc. Info.: 20174 icv
Operator ID: Instrument ID: IC-8
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 15-Mar-2016 18:07:33 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK030

First Level Reviewer: nguyennt Date: 15-Mar-2016 17:56:09

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.933	2.942	-0.009	170685381	10.0	10.1	
2 Chloride	4.200	4.200	0.000	108986682	10.0	10.2	
3 Nitrite as NO2	5.017	5.025	-0.008	67614189	NC	NC	
12 Nitrite as N	5.017	5.025	-0.008	67614189	NC	NC	
4 Bromide	6.458	6.458	0.000	43783274	10.0	10.4	
5 Nitrate as NO3	7.508	7.500	0.008	55370517	NC	NC	
10 Nitrate as N	7.508	7.500	0.008	55370517	NC	NC	
11 Orthophosphorus as PO4	9.483	9.483	0.000	28693009	NC	NC	
9 Orthophosphate as P	9.483	9.483	0.000	28693009	NC	NC	
7 Sulfate	11.600	11.608	-0.008	73813533	10.0	10.0	
S 8 Nitrate Nitrite as N					5.30	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCICVANIONS_00059 Amount Added: 1.00 Units: mL

Report Date: 15-Mar-2016 17:56:09 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-012.d

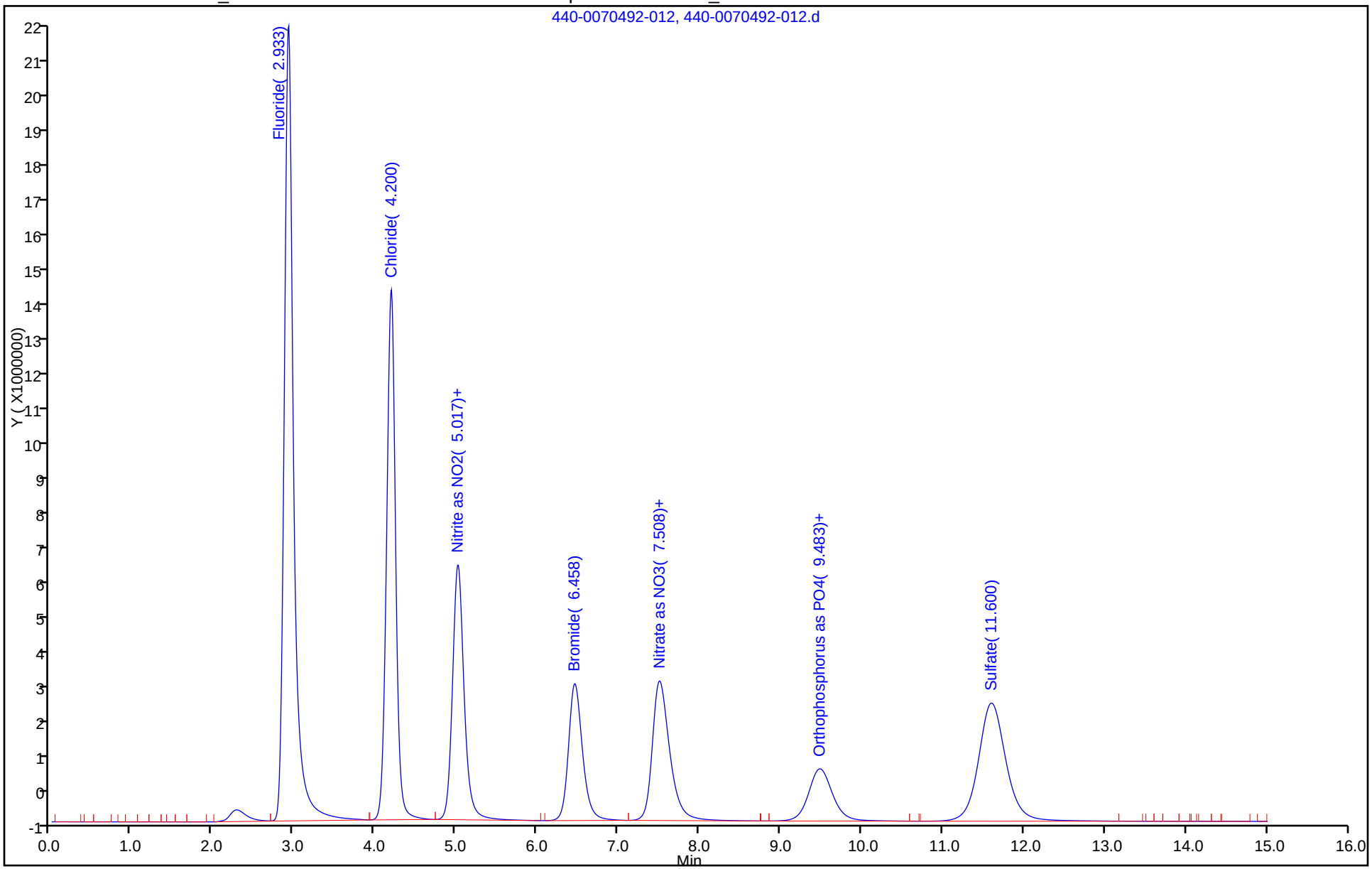
Injection Date: 15-Mar-2016 16:13:00 Instrument ID: IC-8 Operator ID:

Lims ID: icv Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/56 Calibration Date: 04/21/2016 07:59

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-056.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16623631		9.85	10.0	-1.5	10.0
Chloride	Lin		10753715		10.0	10.0	0.2	10.0
Bromide	Lin		4254942		10.1	10.0	1.4	10.0
Sulfate	Lin		7317707		9.96	10.0	-0.4	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/56 Calibration Date: 04/21/2016 07:59

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-056.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.78	3.07
Chloride	4.17	3.96	4.38
Bromide	6.34	6.03	6.66
Sulfate	11.33	10.76	11.89

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-056.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 07:59:00 ALS Bottle#: 0 Worklist Smp#: 56
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-056
Misc. Info.: 26816 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:08:09 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:08:09

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.925	2.925	0.000	166236312	10.0	9.85	
	2 Chloride	4.167	4.167	0.000	107537146	10.0	10.0	
	3 Nitrite as NO2	4.958	4.958	0.000	65196956	NC	NC	
	12 Nitrite as N	4.958	4.958	0.000	65196956	NC	NC	
	4 Bromide	6.342	6.342	0.000	42549415	10.0	10.1	
	5 Nitrate as NO3	7.342	7.342	0.000	54579126	NC	NC	
	10 Nitrate as N	7.342	7.342	0.000	54579126	NC	NC	
	11 Orthophosphorus as PO4	9.283	9.283	0.000	27815652	NC	NC	
	9 Orthophosphate as P	9.283	9.283	0.000	27815652	NC	NC	
	7 Sulfate	11.325	11.325	0.000	73177070	10.0	9.96	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

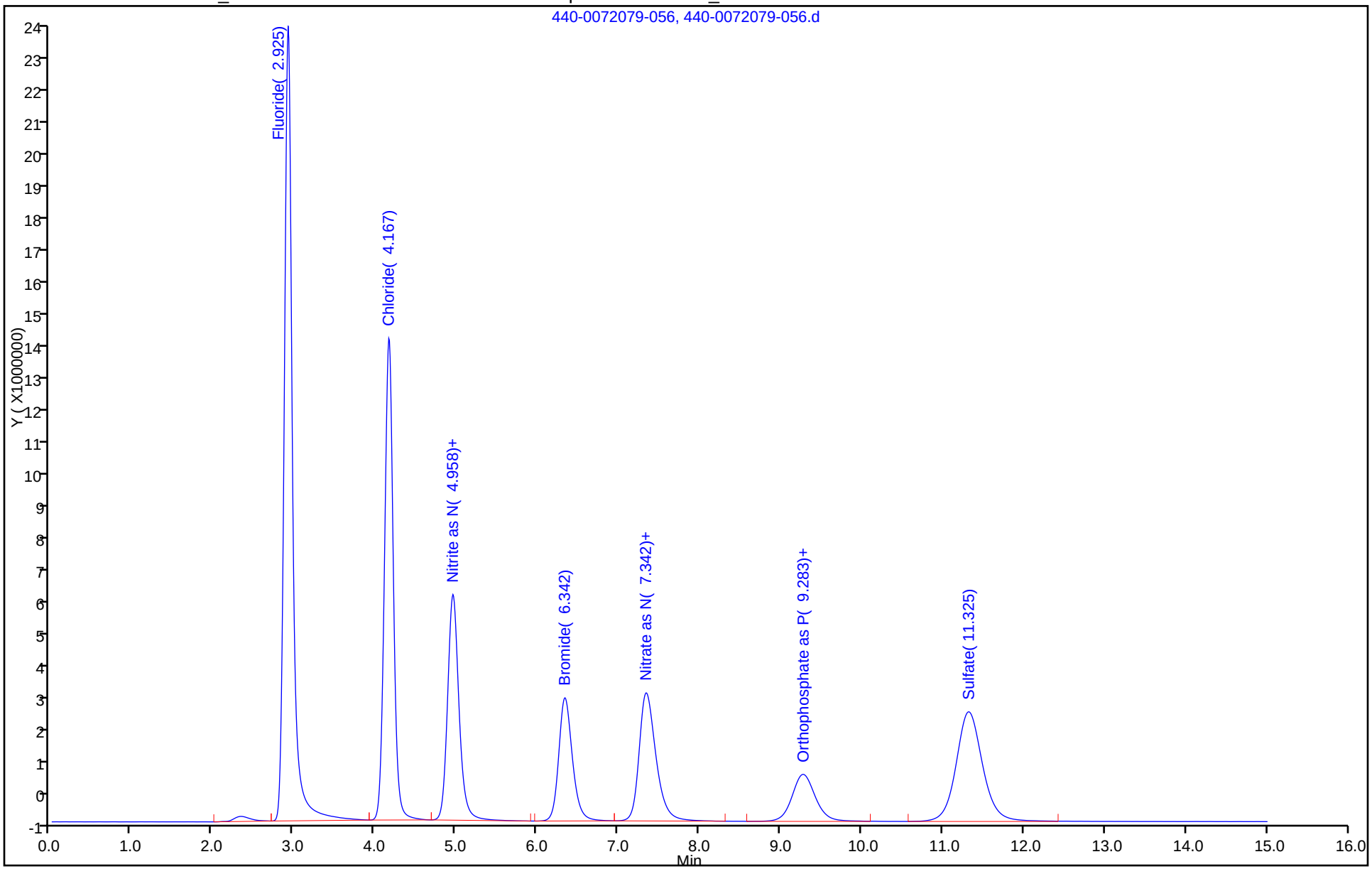
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:08:10 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-056.d				
Injection Date:	21-Apr-2016 07:59:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	56
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/68 Calibration Date: 04/21/2016 11:30

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-068.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16654114		9.86	10.0	-1.4	10.0
Chloride	Lin		10780945		10.0	10.0	0.5	10.0
Bromide	Lin		4252933		10.1	10.0	1.4	10.0
Sulfate	Lin		7359868		10.0	10.0	0.2	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/68 Calibration Date: 04/21/2016 11:30

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-068.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.78	3.07
Chloride	4.18	3.97	4.38
Bromide	6.35	6.03	6.67
Sulfate	11.32	10.75	11.88

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-068.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 11:30:00 ALS Bottle#: 0 Worklist Smp#: 68
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-068
Misc. Info.: 30489 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:09:21 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:09:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.925	2.925	0.000	166541137	10.0	9.86	
	2 Chloride	4.175	4.175	0.000	107809452	10.0	10.0	
	3 Nitrite as NO2	4.967	4.967	0.000	65166168	NC	NC	
	12 Nitrite as N	4.967	4.967	0.000	65166168	NC	NC	
	4 Bromide	6.350	6.350	0.000	42529329	10.0	10.1	
	5 Nitrate as NO3	7.350	7.350	0.000	54587668	NC	NC	
	10 Nitrate as N	7.350	7.350	0.000	54587668	NC	NC	
	11 Orthophosphorus as PO4	9.275	9.275	0.000	27910524	NC	NC	
	9 Orthophosphate as P	9.275	9.275	0.000	27910524	NC	NC	
	7 Sulfate	11.317	11.317	0.000	73598675	10.0	10.0	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

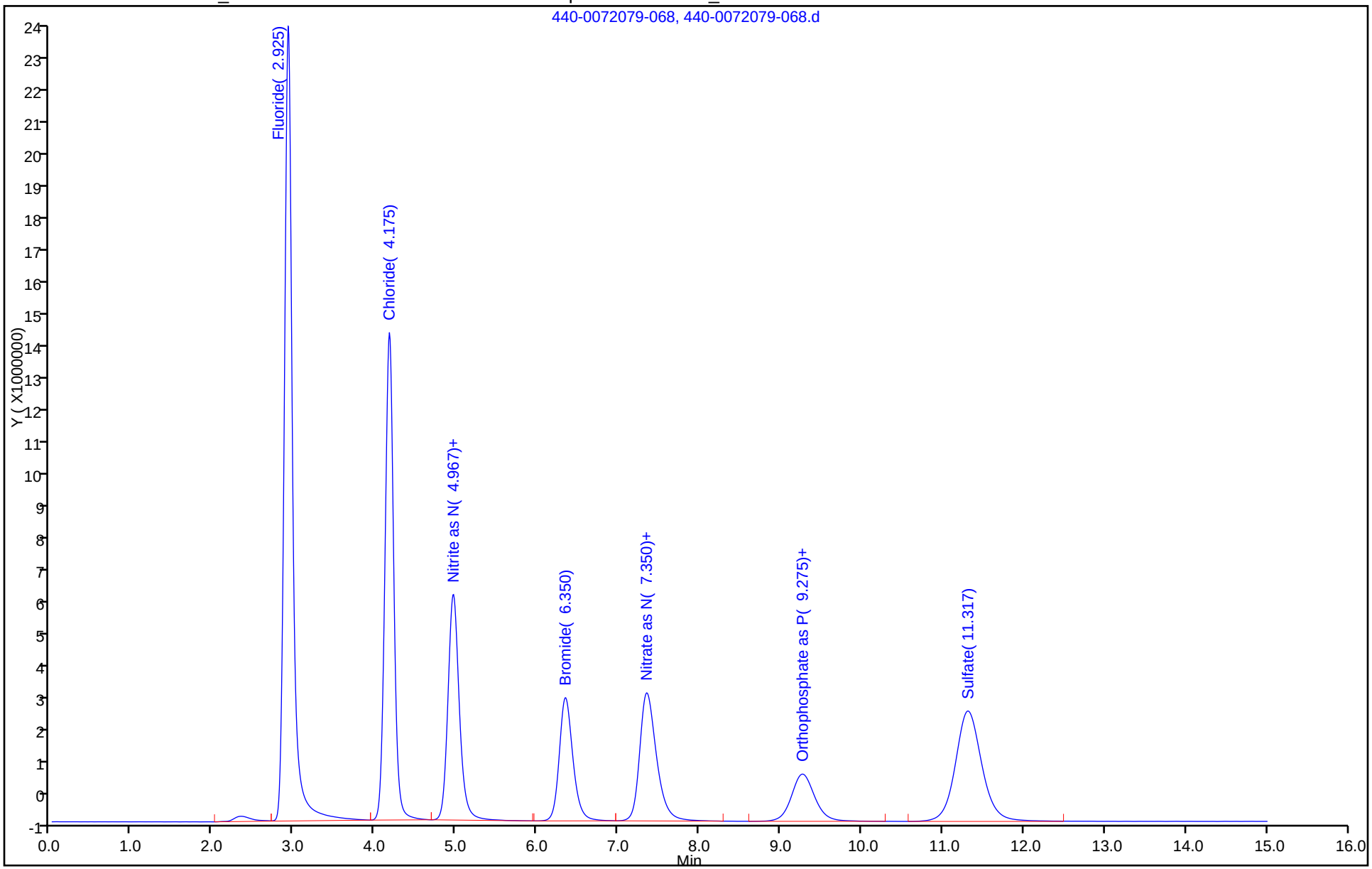
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:09:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-068.d				
Injection Date:	21-Apr-2016 11:30:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	68
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/80 Calibration Date: 04/21/2016 15:02

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-080.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16126020		9.56	10.0	-4.4	10.0
Chloride	Lin		10488439		9.78	10.0	-2.2	10.0
Bromide	Lin		4125371		9.84	10.0	-1.6	10.0
Sulfate	Lin		7112740		9.69	10.0	-3.1	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/80 Calibration Date: 04/21/2016 15:02

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-080.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.78	3.07
Chloride	4.19	3.98	4.40
Bromide	6.38	6.06	6.69
Sulfate	11.43	10.86	12.01

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-080.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 15:02:00 ALS Bottle#: 0 Worklist Smp#: 80
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-080
Misc. Info.: 14875 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:10:49 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:10:49

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.925	2.925	0.000	161260202	10.0	9.56	
	2 Chloride	4.192	4.192	0.000	104884389	10.0	9.78	
	3 Nitrite as NO2	4.983	4.983	0.000	62938944	NC	NC	
	12 Nitrite as N	4.983	4.983	0.000	62938944	NC	NC	
	4 Bromide	6.375	6.375	0.000	41253711	10.0	9.84	
	5 Nitrate as NO3	7.383	7.383	0.000	53185901	NC	NC	
	10 Nitrate as N	7.383	7.383	0.000	53185901	NC	NC	
	11 Orthophosphorus as PO4	9.375	9.375	0.000	26829111	NC	NC	
	9 Orthophosphate as P	9.375	9.375	0.000	26829111	NC	NC	
	7 Sulfate	11.433	11.433	0.000	71127404	10.0	9.69	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:10:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-080.d

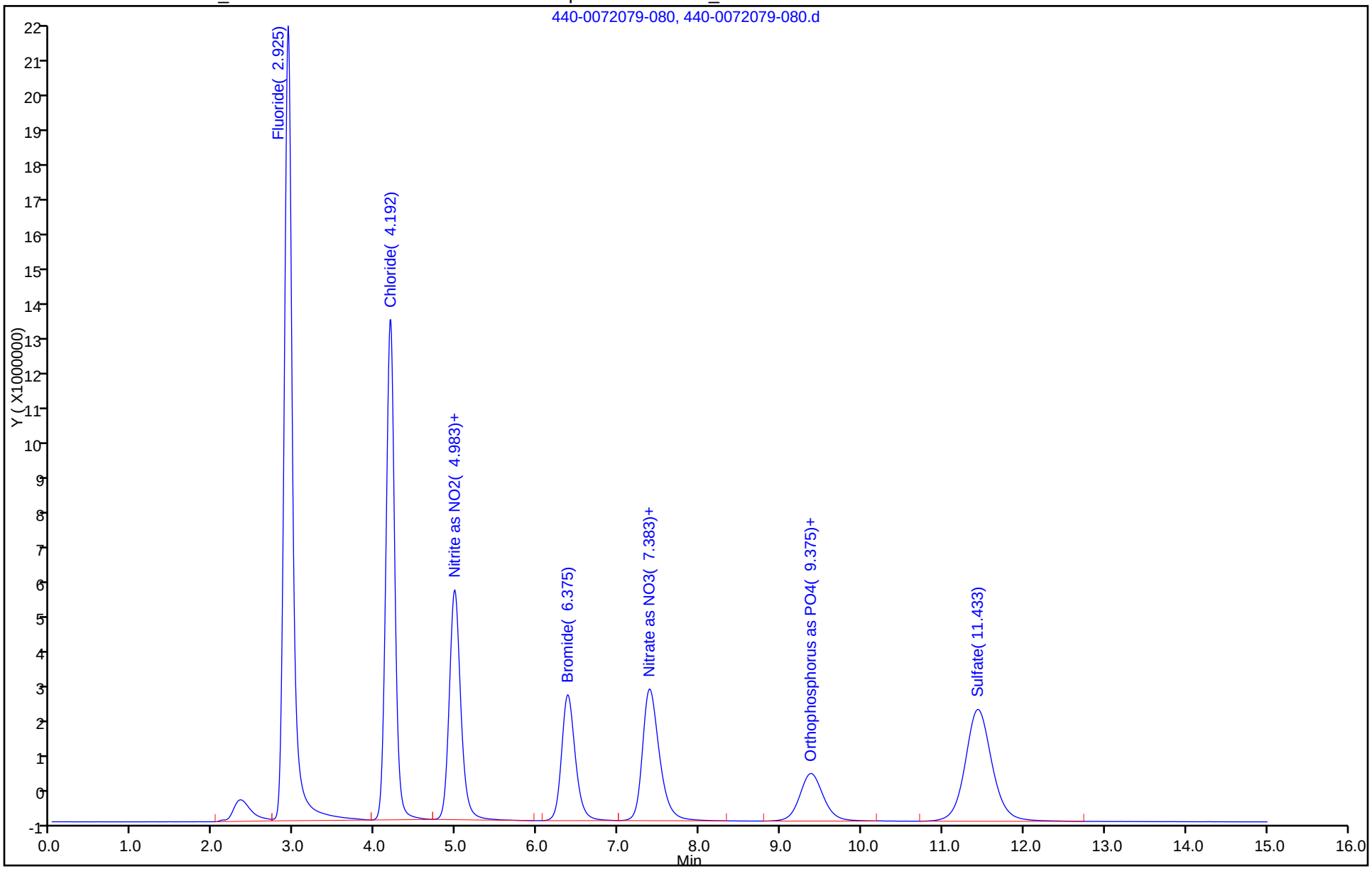
Injection Date: 21-Apr-2016 15:02:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccv Worklist Smp#: 80

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/90 Calibration Date: 04/21/2016 17:58

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-090.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16842633		9.97	10.0	-0.3	10.0
Chloride	Lin		10871590		10.1	10.0	1.3	10.0
Bromide	Lin		4302856		10.3	10.0	2.6	10.0
Sulfate	Lin		7416630		10.1	10.0	1.0	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325445/90 Calibration Date: 04/21/2016 17:58

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-090.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.79	3.08
Chloride	4.18	3.97	4.39
Bromide	6.37	6.05	6.69
Sulfate	11.45	10.88	12.02

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-090.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 17:58:00 ALS Bottle#: 0 Worklist Smp#: 90
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-090
Misc. Info.: 8080 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 18:40:48 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 18:40:48

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.933	2.933	0.000	168426330	10.0	9.97	
	2 Chloride	4.183	4.183	0.000	108715896	10.0	10.1	
	12 Nitrite as N	4.975	4.975	0.000	65760137	NC	NC	
	3 Nitrite as NO2	4.975	4.975	0.000	65760137	NC	NC	
	4 Bromide	6.367	6.367	0.000	43028560	10.0	10.3	
	10 Nitrate as N	7.375	7.375	0.000	55138620	NC	NC	
	5 Nitrate as NO3	7.375	7.375	0.000	55138620	NC	NC	
	9 Orthophosphate as P	9.383	9.383	0.000	28046503	NC	NC	
	11 Orthophosphorus as PO4	9.383	9.383	0.000	28046503	NC	NC	
	7 Sulfate	11.450	11.450	0.000	74166296	10.0	10.1	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 18:40:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-090.d

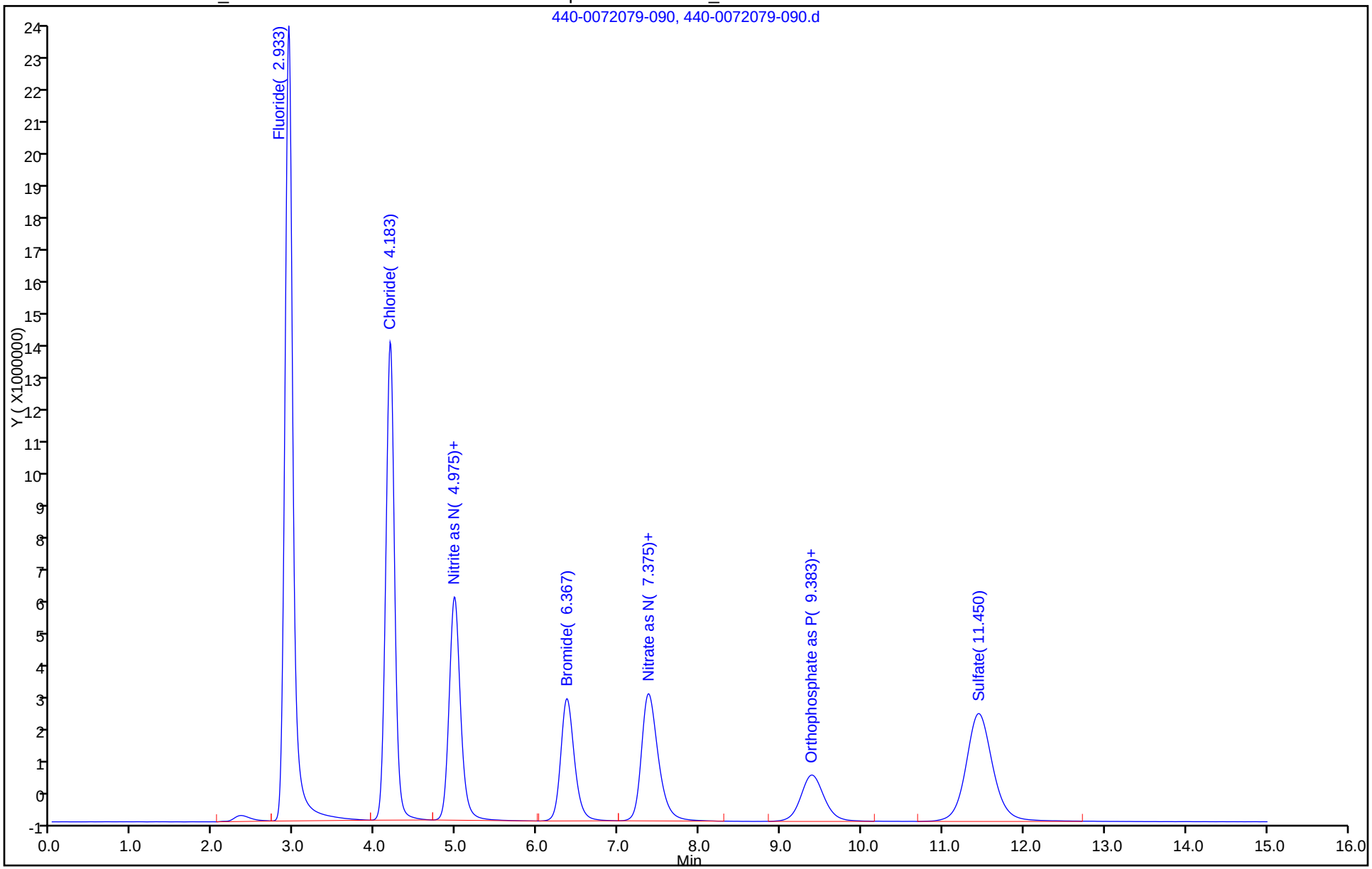
Injection Date: 21-Apr-2016 17:58:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccv Worklist Smp#: 90

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325445/51
Matrix: Water
Lab File ID: 440-0072079-051.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:31
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.284	J	0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-051.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Apr-2016 06:31:00	ALS Bottle#:	0	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-051				
Misc. Info.:	6331 MB				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 09:45:52	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK010				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:08:01		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 Chloride	4.183	4.183	0.000	525789		0.2838	M
S	8 Nitrate Nitrite as N						0	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 22-Apr-2016 09:48:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-051.d

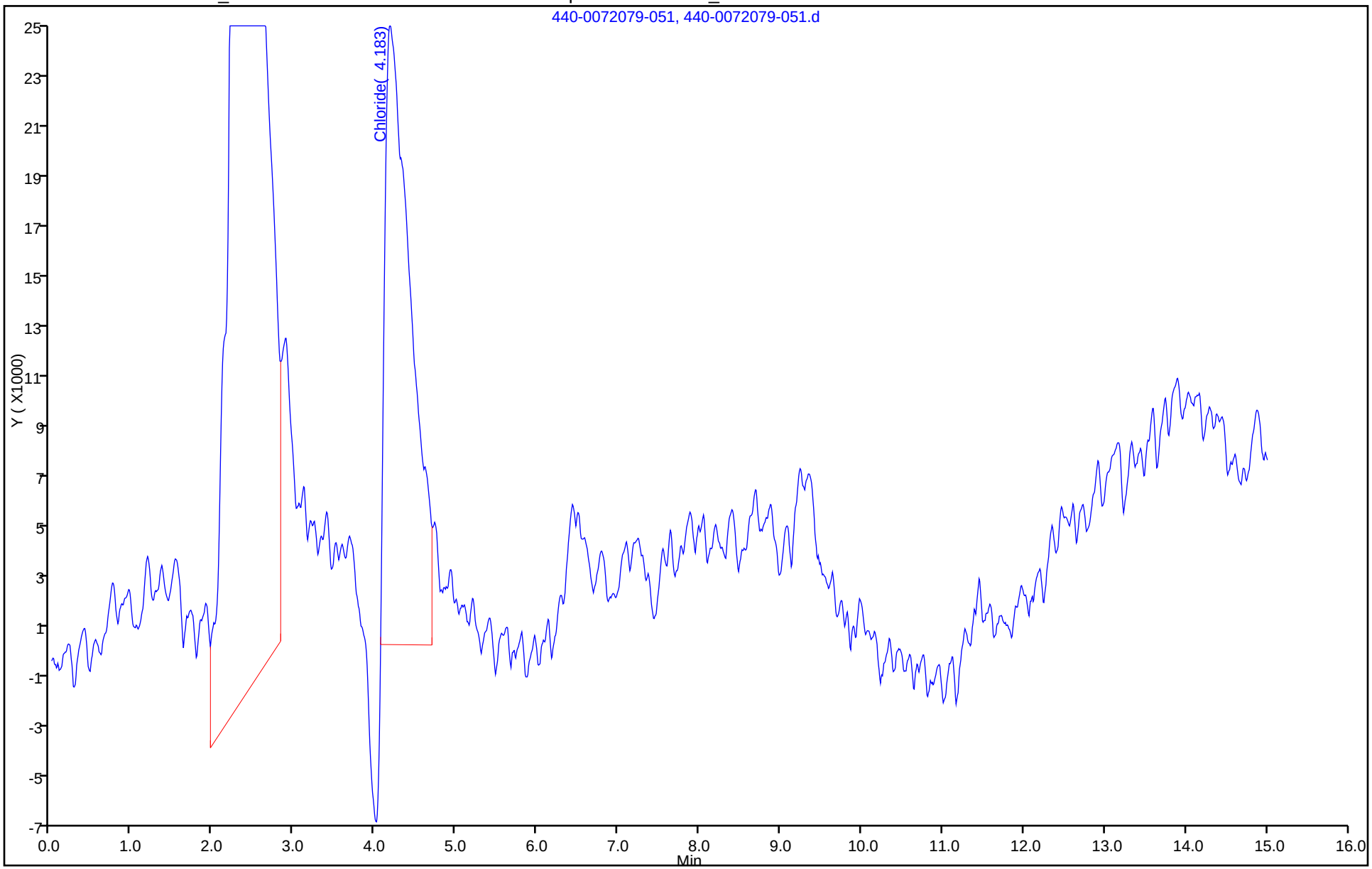
Injection Date: 21-Apr-2016 06:31:00 Instrument ID: IC-8 Operator ID:

Lims ID: mb Worklist Smp#: 51

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



Manual Integration/User Assign Peak Report

TestAmerica Irvine

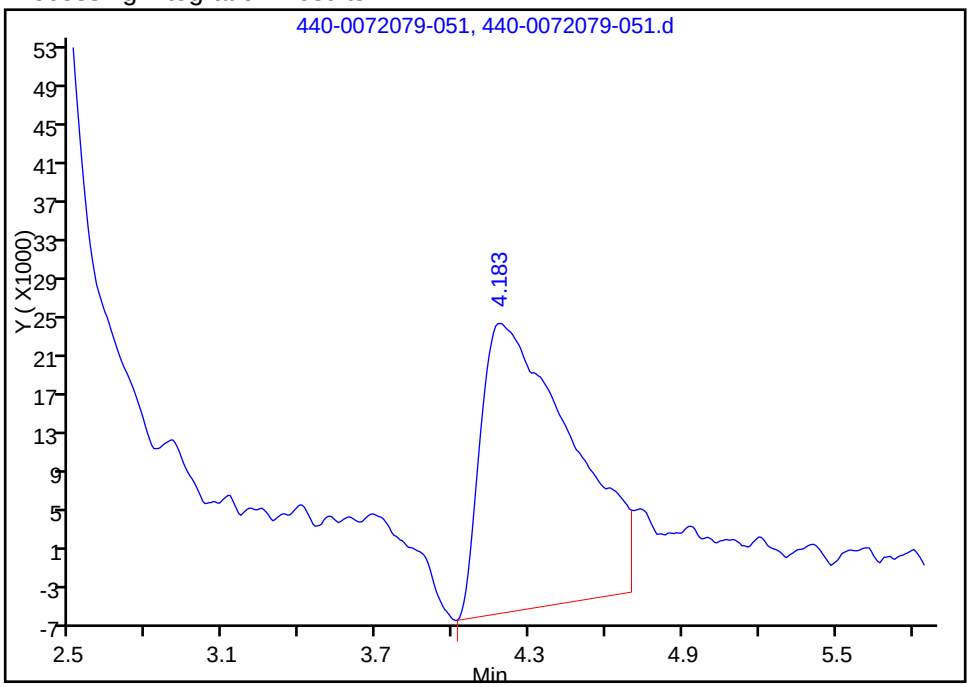
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-051.d				
Injection Date:	21-Apr-2016 06:31:00	Instrument ID:	IC-8		
Lims ID:	mb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IC300_8	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

2 Chloride, CAS: 16887-00-6

Signal: 1

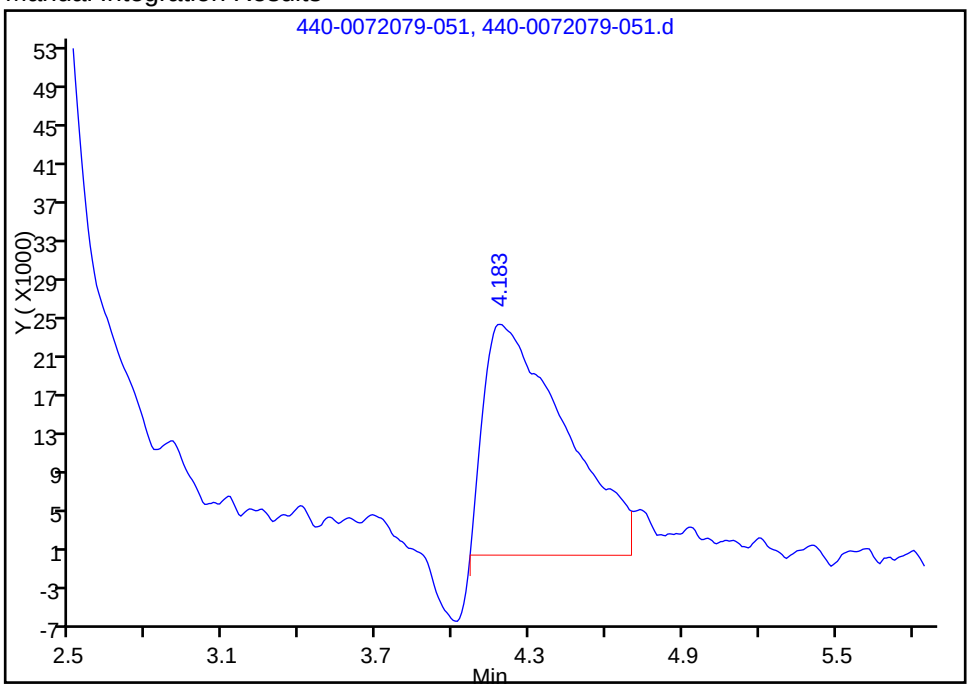
Processing Integration Results

RT: 4.18
Area: 730684
Amount: 0
Amount Units: ug/ml



Manual Integration Results

RT: 4.18
Area: 525789
Amount: 0.283824
Amount Units: ug/ml



Reviewer: hmuadmuengo, 22-Apr-2016 09:47:58

Audit Action: Manually Integrated Audit Reason: Peak Tail

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/57
Matrix: Water
Lab File ID: 440-0072079-057.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 08:17
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.286	J	0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-057.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 08:17:00	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-057				
Misc. Info.:	23772 CCB				
Operator ID:		Instrument ID:	IC-8		

Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m		
Limit Group:	IC-300_28D		
Method Label:	Anions 300.0		
Last Update:	21-Apr-2016 17:08:44	Calib Date:	15-Mar-2016 14:14:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d		

Column 1 :			Det: Ch-A-20110829007
Process Host:	XAWRK050		

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:08:44

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 Chloride	4.183	4.167	0.016	545647		0.2856	M
	9 Orthophosphate as P	9.275	9.283	-0.008	221189		NC	
	11 Orthophosphorus as PO4	9.275	9.283	-0.008	221189		NC	
S	8 Nitrate Nitrite as N						0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 21-Apr-2016 17:08:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-057.d

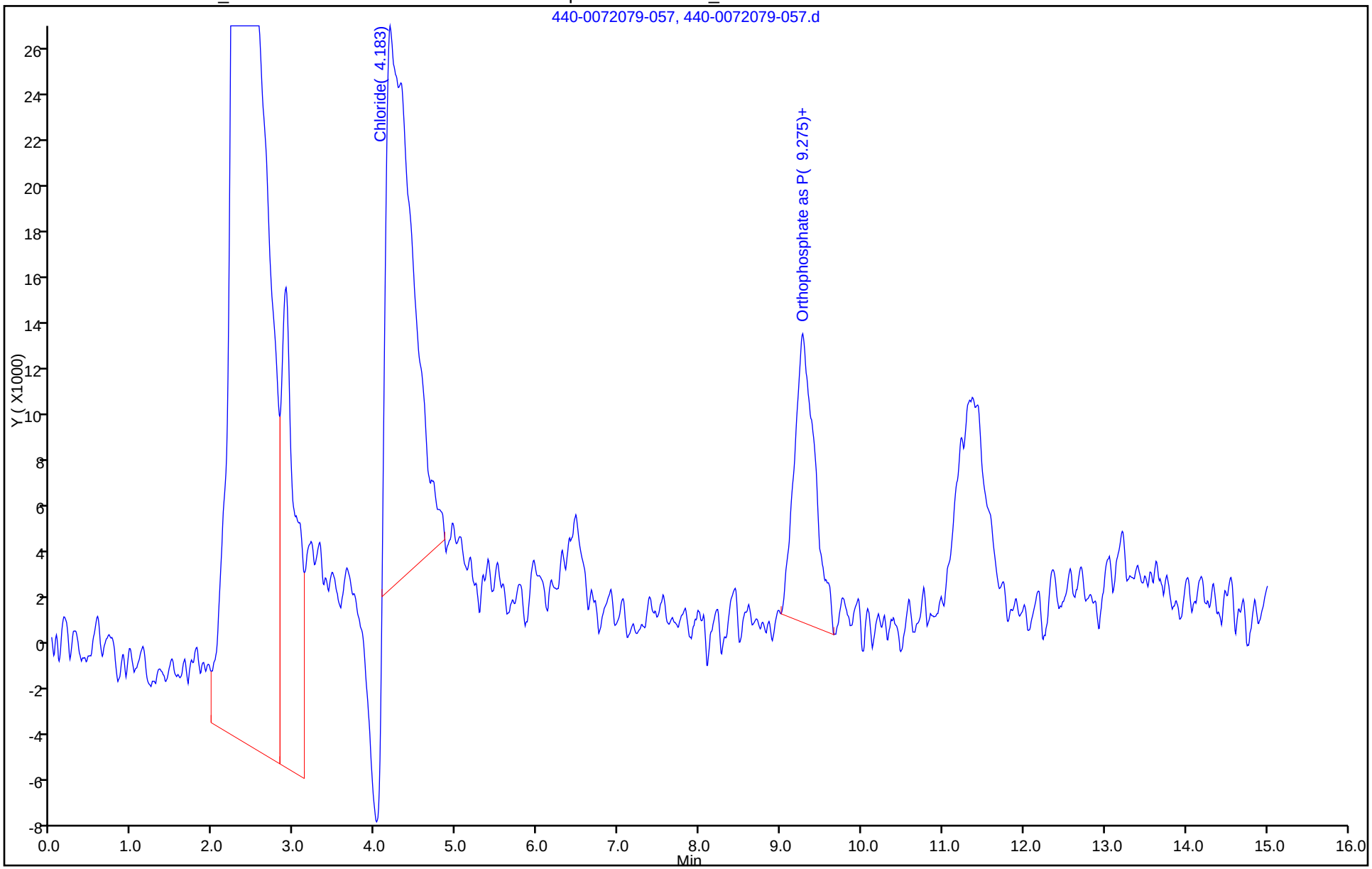
Injection Date: 21-Apr-2016 08:17:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 57

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



Manual Integration/User Assign Peak Report

TestAmerica Irvine

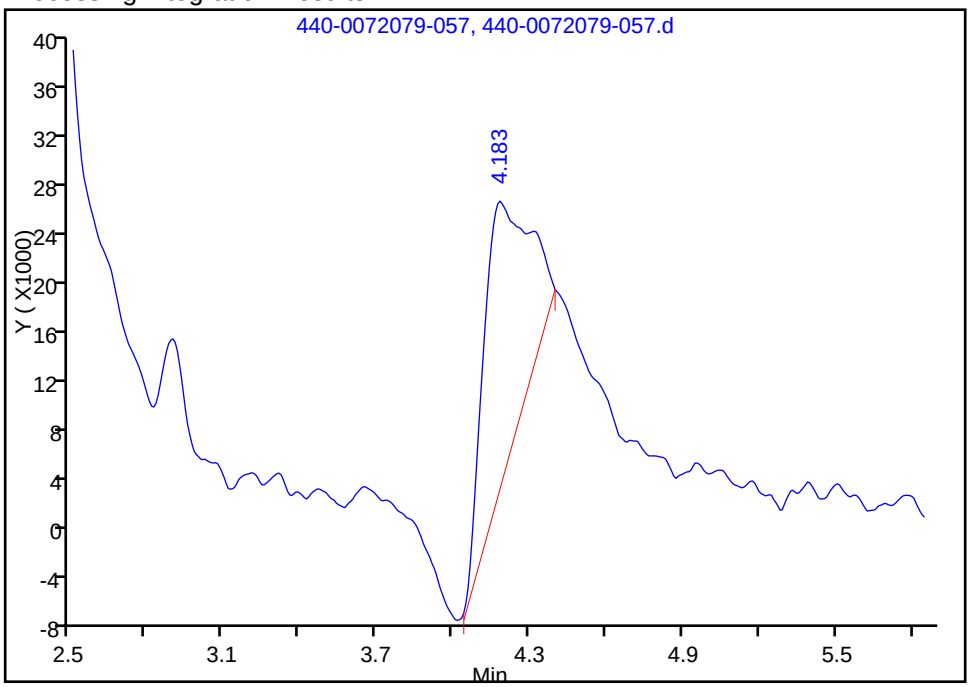
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-057.d				
Injection Date:	21-Apr-2016 08:17:00	Instrument ID:	IC-8		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IC300_8	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

2 Chloride, CAS: 16887-00-6

Signal: 1

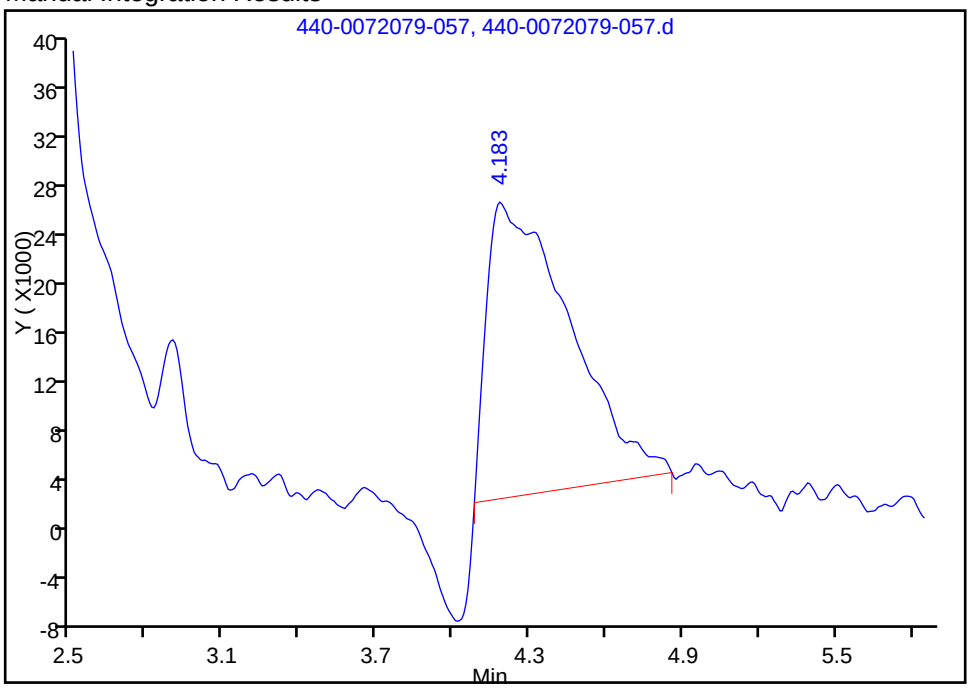
Processing Integration Results

RT: 4.18
Area: 278683
Amount: 0
Amount Units: ug/ml



Manual Integration Results

RT: 4.18
Area: 545647
Amount: 0.285631
Amount Units: ug/ml



Reviewer: nguyennt, 21-Apr-2016 17:08:44

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/69
Matrix: Water
Lab File ID: 440-0072079-069.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 11:48
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-069.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 21-Apr-2016 11:48:00 ALS Bottle#: 0 Worklist Smp#: 69
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-069
Misc. Info.: 21516 CCB
Operator ID: Instrument ID: IC-8

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:09:21 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:09:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Bromide	6.467	6.350	0.117	228914		0.1343	
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 17:09:32 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-069.d

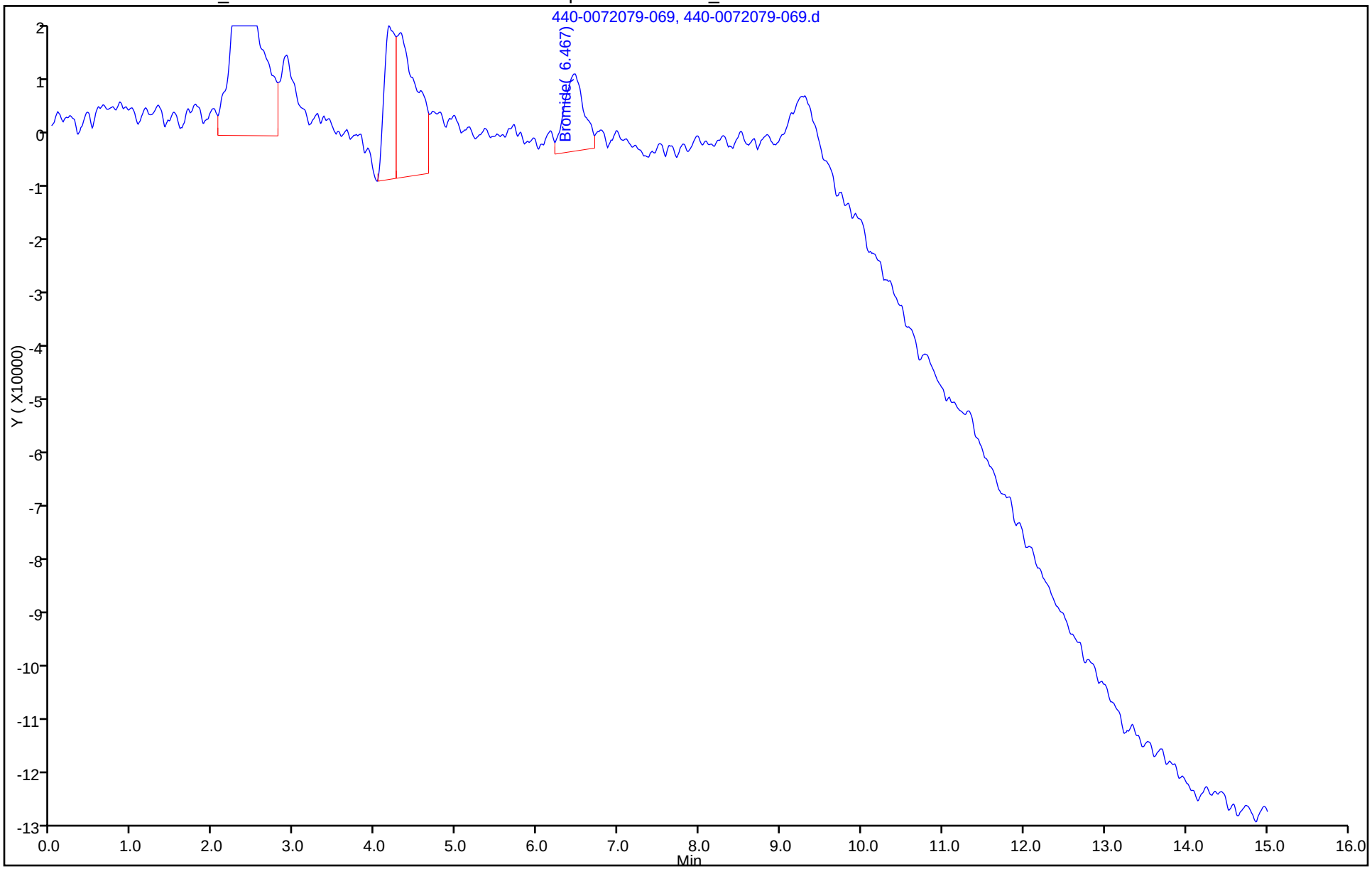
Injection Date: 21-Apr-2016 11:48:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 69

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/81
Matrix: Water
Lab File ID: 440-0072079-081.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 15:19
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.279	J	0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-081.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 15:19:00	ALS Bottle#:	0	Worklist Smp#:	81
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-081				
Misc. Info.:	32228 CCB				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:11:34	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:11:34		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 Chloride	4.225	4.192	0.033	474482		0.2792	M
S 8 Nitrate Nitrite as N						0	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 21-Apr-2016 17:11:34 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-081.d

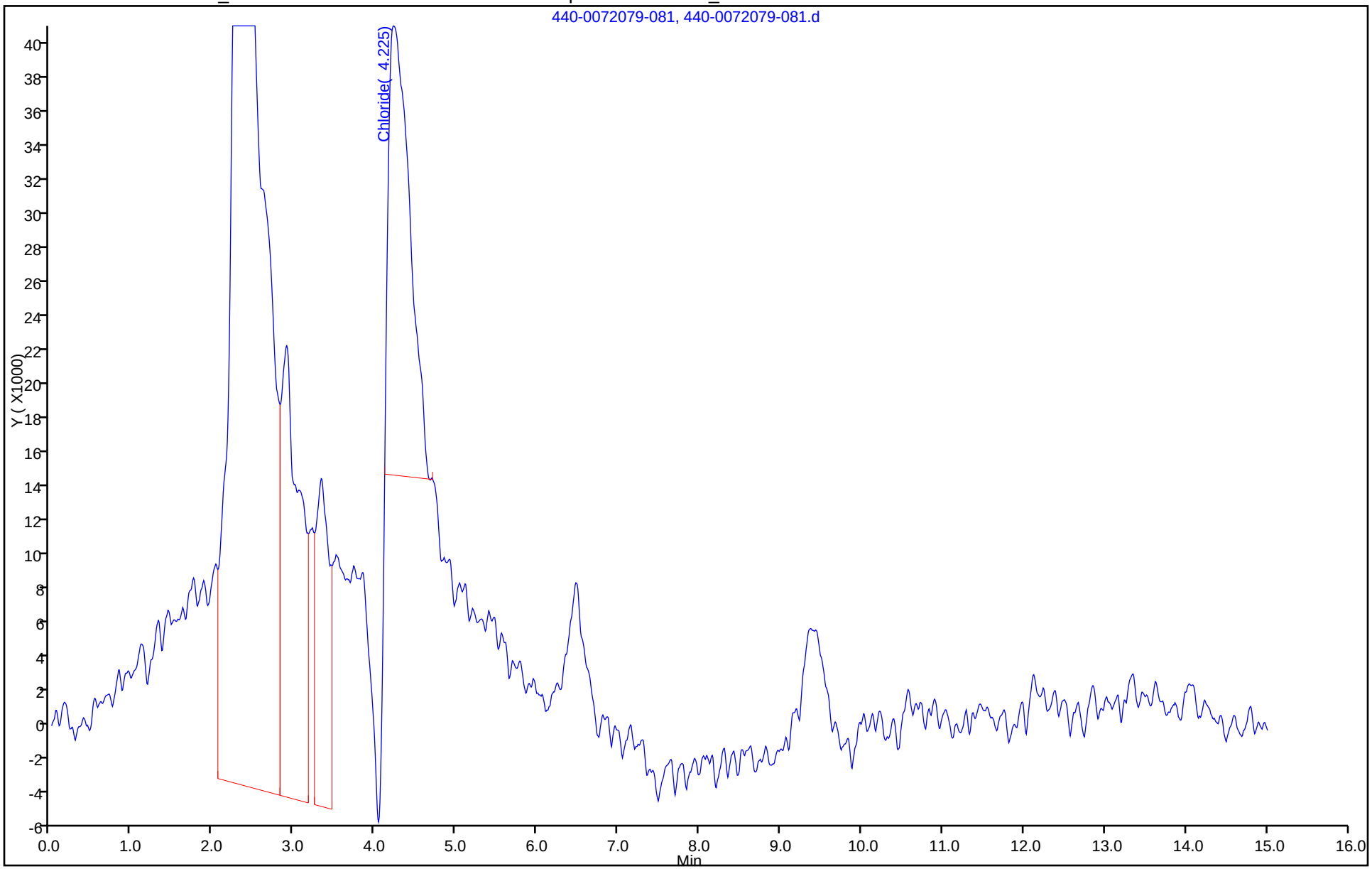
Injection Date: 21-Apr-2016 15:19:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 81

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



Manual Integration/User Assign Peak Report

TestAmerica Irvine

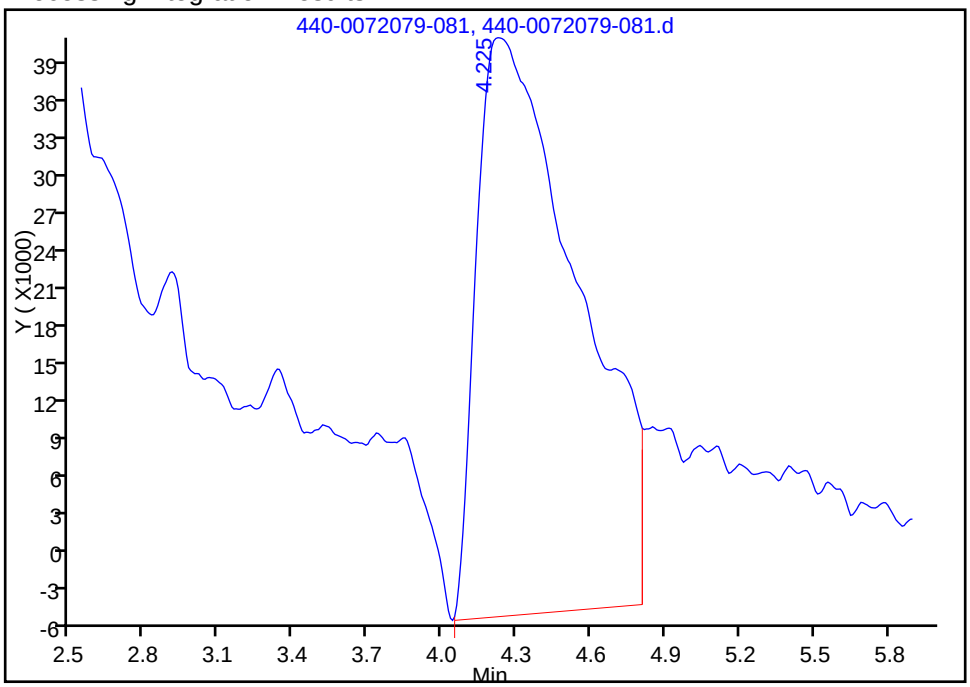
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-081.d				
Injection Date:	21-Apr-2016 15:19:00	Instrument ID:	IC-8		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	81
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IC300_8	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

2 Chloride, CAS: 16887-00-6

Signal: 1

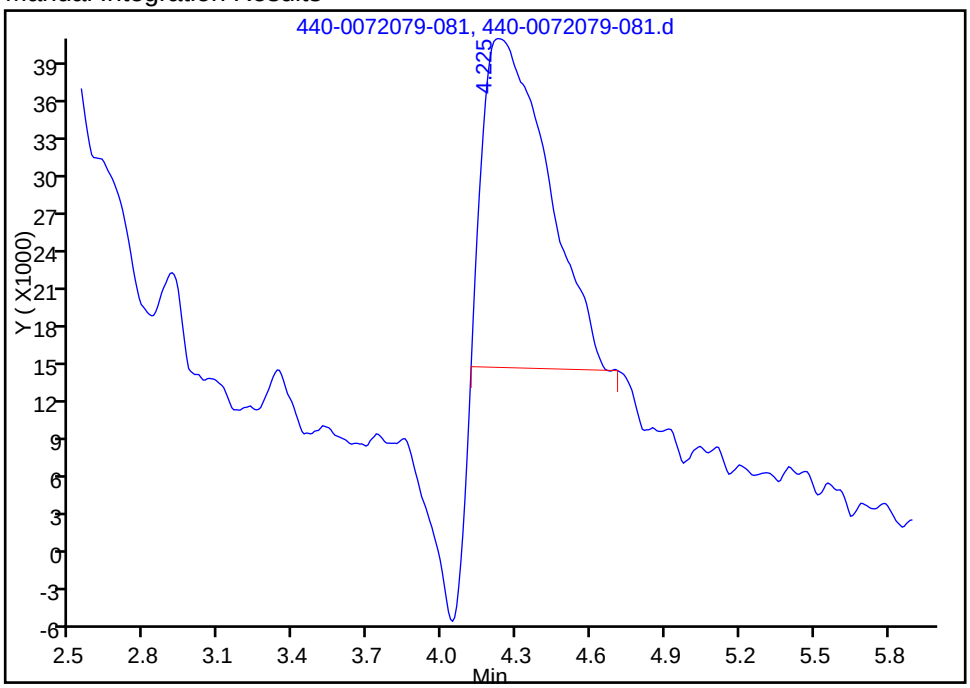
Processing Integration Results

RT: 4.23
Area: 1290979
Amount: 0.353450
Amount Units: ug/ml



Manual Integration Results

RT: 4.23
Area: 474482
Amount: 0.279155
Amount Units: ug/ml



Reviewer: nguyennt, 21-Apr-2016 17:11:34

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/92
Matrix: Water
Lab File ID: 440-0072079-092.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 18:41
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-092.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 18:41:00	ALS Bottle#:	0	Worklist Smp#:	92
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-092				
Misc. Info.:	13023 CCB				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 18:40:48	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 19:06:52		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 19:06:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-092.d

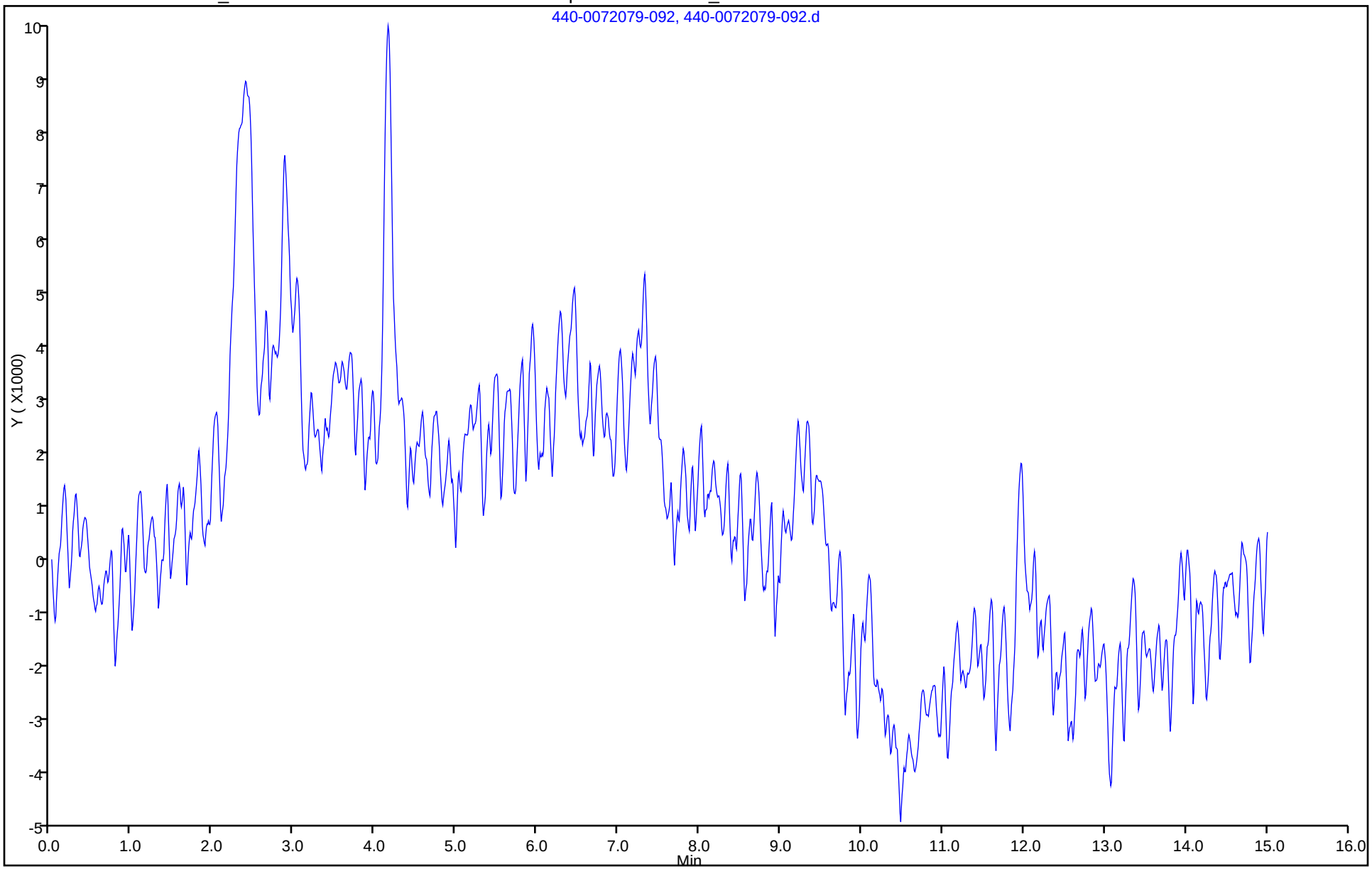
Injection Date: 21-Apr-2016 18:41:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 92

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325445/52
Matrix: Water
Lab File ID: 440-0072079-052.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	5.04		0.50	0.25
16887-00-6	Chloride	4.85		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-052.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 21-Apr-2016 06:49:00 ALS Bottle#: 0 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-052
Misc. Info.: 1160 LCS
Operator ID: Instrument ID: IC-8

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:06:28 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:07:43

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.925	-0.017	78372371	5.00	4.80	
	2 Chloride	4.158	4.167	-0.009	50740072	5.00	4.85	
	3 Nitrite as NO2	4.958	4.958	0.000	31500812	NC	NC	
	12 Nitrite as N	4.958	4.958	0.000	31500812	NC	NC	
	4 Bromide	6.350	6.342	0.008	20957774	5.00	5.04	
	5 Nitrate as NO3	7.367	7.342	0.025	26811976	NC	NC	
	10 Nitrate as N	7.367	7.342	0.025	26811976	NC	NC	
	11 Orthophosphorus as PO4	9.283	9.292	-0.009	13558830	NC	NC	
	9 Orthophosphate as P	9.283	9.292	-0.009	13558830	NC	NC	
	7 Sulfate	11.333	11.342	-0.009	36235636	5.00	5.06	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

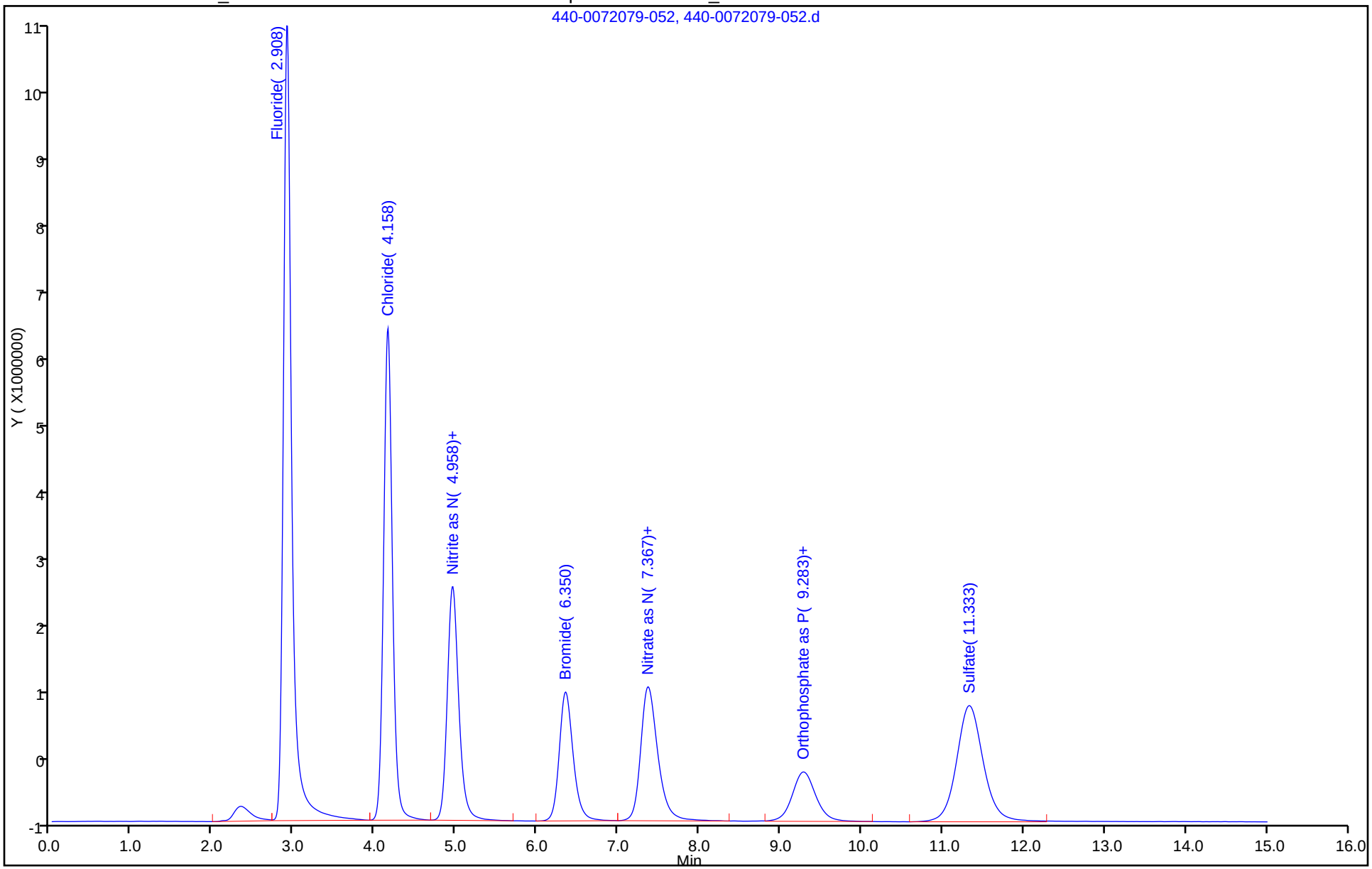
Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 21-Apr-2016 17:07:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-052.d				
Injection Date:	21-Apr-2016 06:49:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	52
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419 MS
Lab Sample ID: 440-144937-3 MS
Matrix: Water
Lab File ID: 440-0072079-086.d
Analysis Method: 300.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 16:47
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	27.1		10	5.0
16887-00-6	Chloride	1270		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-086.d				
Lims ID:	440-144937-C-3 MS				
Client ID:	DBMW-1-20160419				
Sample Type:	MS				
Inject. Date:	21-Apr-2016 16:47:00	ALS Bottle#:	0	Worklist Smp#:	86
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	440-0072079-086				
Misc. Info.:	16030 440-144937-C-3 MS				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 09:52:47	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK008				
First Level Reviewer: nickloffn		Date:	29-Apr-2016 11:47:00		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.933	-0.025	18358976	2.50	1.35	
	2 Chloride	4.250	4.183	0.067	696835144	2.50	63.6	E
	12 Nitrite as N	4.975	4.975	0.000	9647345	NC	NC	
	3 Nitrite as NO2	4.975	4.975	0.000	9647345	NC	NC	
	4 Bromide	6.383	6.367	0.016	5389213	2.50	1.35	
	10 Nitrate as N	7.408	7.375	0.033	15319319	NC	NC	
	5 Nitrate as NO3	7.408	7.375	0.033	15319319	NC	NC	
	9 Orthophosphate as P	9.383	9.383	0.000	2691092	NC	NC	
	11 Orthophosphorus as PO4	9.383	9.383	0.000	2691092	NC	NC	
	7 Sulfate	11.300	11.450	-0.150	1285373257	2.50	170.7	E
S	8 Nitrate Nitrite as N					0.7611	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

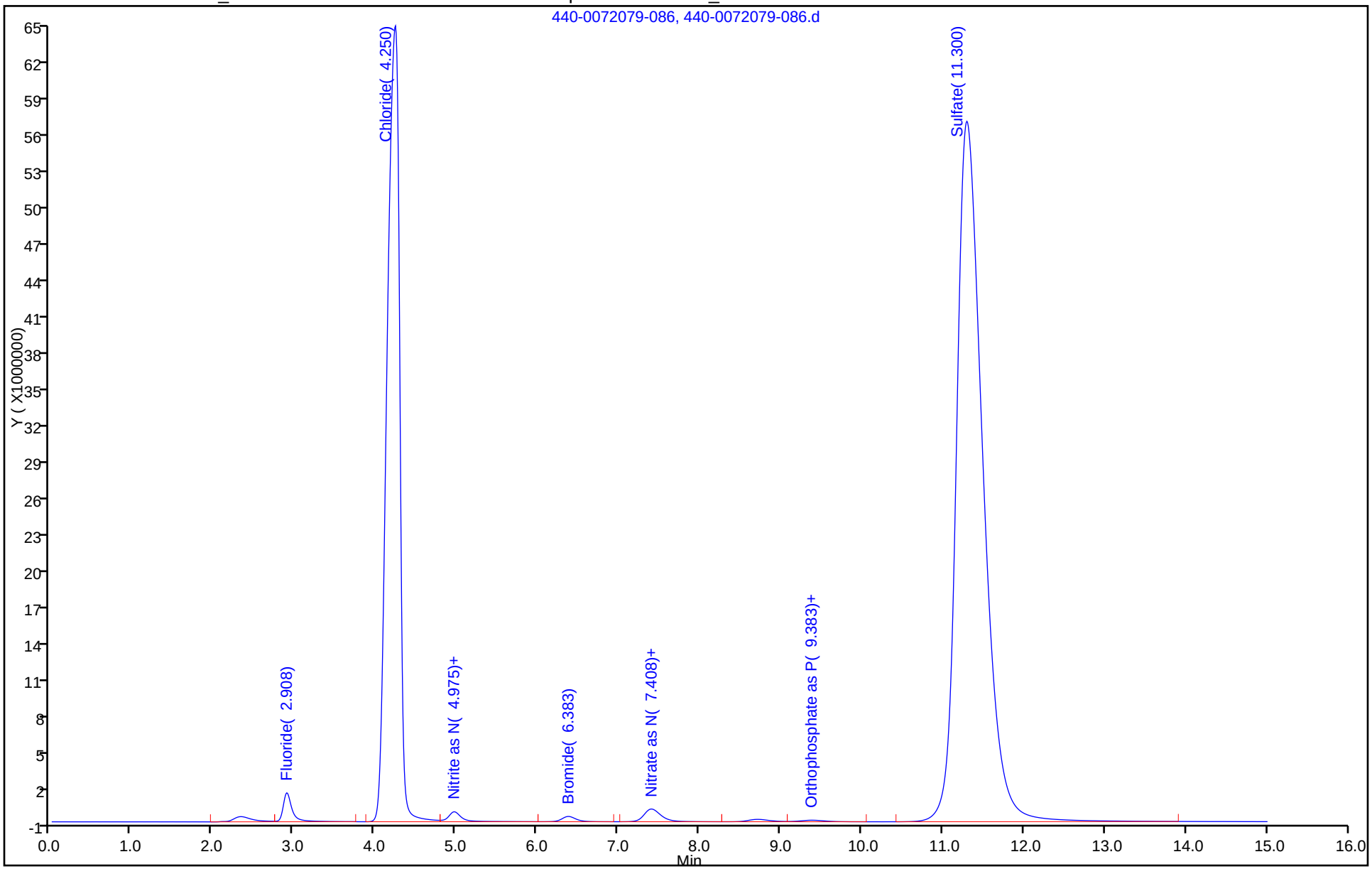
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 29-Apr-2016 11:47:02 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-086.d				
Injection Date:	21-Apr-2016 16:47:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144937-C-3 MS			Worklist Smp#:	86
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419 MSD
Lab Sample ID: 440-144937-3 MSD
Matrix: Water
Lab File ID: 440-0072079-087.d
Analysis Method: 300.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 17:05
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	29.1		10	5.0
16887-00-6	Chloride	1270		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-087.d				
Lims ID:	440-144937-C-3 MSD				
Client ID:	DBMW-1-20160419				
Sample Type:	MSD				
Inject. Date:	21-Apr-2016 17:05:00	ALS Bottle#:	0	Worklist Smp#:	87
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	440-0072079-087				
Misc. Info.:	16108 440-144937-C-3 MSD				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 09:52:47	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK008				
First Level Reviewer: nickloffn		Date:	29-Apr-2016 11:47:11		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.933	-0.025	18970701	2.50	1.39	
	2 Chloride	4.242	4.183	0.059	697871364	2.50	63.7	E
	12 Nitrite as N	4.967	4.975	-0.008	10352925	NC	NC	
	3 Nitrite as NO2	4.967	4.975	-0.008	10352925	NC	NC	
	4 Bromide	6.375	6.367	0.008	5803791	2.50	1.45	
	10 Nitrate as N	7.392	7.375	0.017	15649529	NC	NC	
	5 Nitrate as NO3	7.392	7.375	0.017	15649529	NC	NC	
	9 Orthophosphate as P	9.400	9.383	0.017	2964376	NC	NC	
	11 Orthophosphorus as PO4	9.400	9.383	0.017	2964376	NC	NC	
	7 Sulfate	11.308	11.450	-0.142	1288068983	2.50	171.1	E
S	8 Nitrate Nitrite as N					0.7611	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 29-Apr-2016 11:47:14 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-087.d

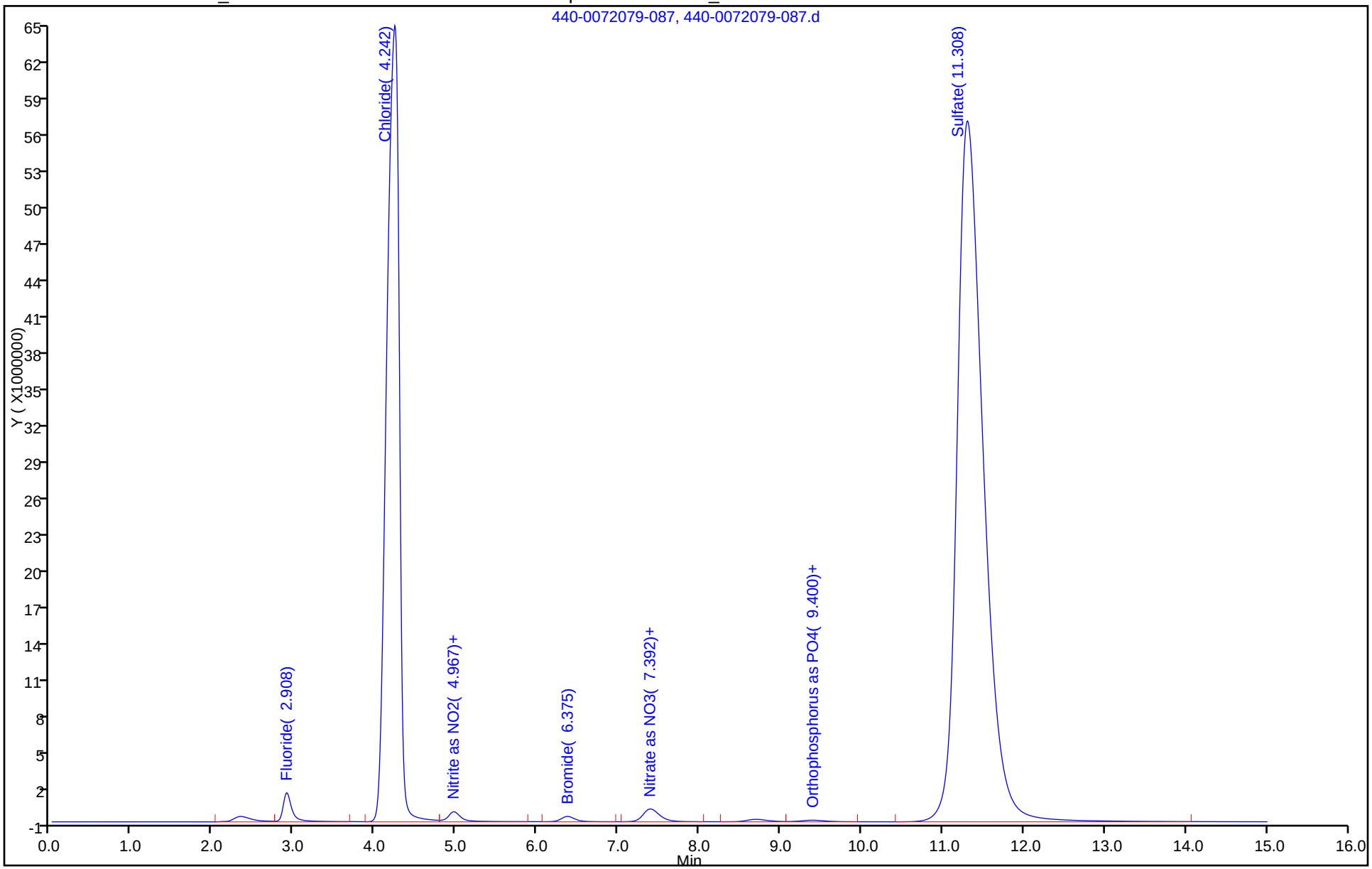
Injection Date: 21-Apr-2016 17:05:00 Instrument ID: IC-8 Operator ID:

Lims ID: 440-144937-C-3 MSD Worklist Smp#: 87

Client ID: DBMW-1-20160419

Injection Vol: 1.0 ul Dil. Factor: 20.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-8 Start Date: 03/15/2016 11:42

Analysis Batch Number: 317525 End Date: 03/16/2016 07:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0 440-317525/3 IC		03/15/2016 11:42	1	440-0070492-003 .d	AS14 4(mm)
STD1 440-317525/4 IC		03/15/2016 12:11	1	440-0070492-004 .d	AS14 4(mm)
STD2 440-317525/5 IC		03/15/2016 12:28	1	440-0070492-005 .d	AS14 4(mm)
STD3 440-317525/6 IC		03/15/2016 12:46	1	440-0070492-006 .d	AS14 4(mm)
STD4 440-317525/7 IC		03/15/2016 13:04	1	440-0070492-007 .d	AS14 4(mm)
STD5 440-317525/8 IC		03/15/2016 13:21	1	440-0070492-008 .d	AS14 4(mm)
STD6 440-317525/9 IC		03/15/2016 13:39	1	440-0070492-009 .d	AS14 4(mm)
STD7 440-317525/10 IC		03/15/2016 13:56	1	440-0070492-010 .d	AS14 4(mm)
STD8 440-317525/11 IC		03/15/2016 14:14	1	440-0070492-011 .d	AS14 4(mm)
ICV 440-317525/12		03/15/2016 16:13	1	440-0070492-012 .d	AS14 4(mm)
ZZZZZ		03/15/2016 17:57	1		AS14 4(mm)
ZZZZZ		03/15/2016 18:15	1		AS14 4(mm)
ZZZZZ		03/15/2016 18:32	1		AS14 4(mm)
ZZZZZ		03/15/2016 18:50	1		AS14 4(mm)
ZZZZZ		03/15/2016 19:08	1		AS14 4(mm)
ZZZZZ		03/15/2016 19:43	1		AS14 4(mm)
ZZZZZ		03/15/2016 20:01	1		AS14 4(mm)
ZZZZZ		03/15/2016 20:19	1		AS14 4(mm)
ZZZZZ		03/15/2016 20:36	20		AS14 4(mm)
ZZZZZ		03/15/2016 20:54	1000		AS14 4(mm)
ZZZZZ		03/15/2016 21:11	2000		AS14 4(mm)
ZZZZZ		03/15/2016 21:29	50		AS14 4(mm)
ZZZZZ		03/15/2016 21:47	50		AS14 4(mm)
ZZZZZ		03/15/2016 22:04	100		AS14 4(mm)
ZZZZZ		03/15/2016 22:22	100		AS14 4(mm)
CCV 440-317525/28		03/15/2016 22:39	1		AS14 4(mm)
CCB 440-317525/29		03/15/2016 22:57	1		AS14 4(mm)
ZZZZZ		03/15/2016 23:26	1		AS14 4(mm)
ZZZZZ		03/16/2016 00:36	1		AS14 4(mm)
ZZZZZ		03/16/2016 00:54	1		AS14 4(mm)
ZZZZZ		03/16/2016 01:11	1		AS14 4(mm)
ZZZZZ		03/16/2016 01:47	10		AS14 4(mm)
CCV 440-317525/40		03/16/2016 02:22	1		AS14 4(mm)
CCB 440-317525/41		03/16/2016 02:39	1		AS14 4(mm)
ZZZZZ		03/16/2016 02:57	1		AS14 4(mm)
ZZZZZ		03/16/2016 03:15	5		AS14 4(mm)
ZZZZZ		03/16/2016 03:32	1		AS14 4(mm)
ZZZZZ		03/16/2016 03:50	10		AS14 4(mm)
ZZZZZ		03/16/2016 04:07	1		AS14 4(mm)
ZZZZZ		03/16/2016 04:25	5		AS14 4(mm)
ZZZZZ		03/16/2016 04:43	1		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-8 Start Date: 03/15/2016 11:42

Analysis Batch Number: 317525 End Date: 03/16/2016 07:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		03/16/2016 05:00	20		AS14 4(mm)
ZZZZZ		03/16/2016 05:18	1		AS14 4(mm)
ZZZZZ		03/16/2016 05:35	50		AS14 4(mm)
CCV 440-317525/52		03/16/2016 05:53	1		AS14 4(mm)
CCB 440-317525/53		03/16/2016 06:11	1		AS14 4(mm)
ZZZZZ		03/16/2016 06:28	50		AS14 4(mm)
CCV 440-317525/55		03/16/2016 06:46	1		AS14 4(mm)
CCB 440-317525/56		03/16/2016 07:04	1		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-8 Start Date: 04/20/2016 11:13

Analysis Batch Number: 325445 End Date: 04/21/2016 18:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/20/2016 11:13	1		AS14 4(mm)
ZZZZZ		04/20/2016 11:31	1		AS14 4(mm)
ZZZZZ		04/20/2016 11:48	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:06	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:24	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:41	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:59	1		AS14 4(mm)
ZZZZZ		04/20/2016 13:43	1		AS14 4(mm)
CCV 440-325445/1008		04/20/2016 13:43	1		AS14 4(mm)
ZZZZZ		04/20/2016 14:01	1		AS14 4(mm)
CCB 440-325445/1009		04/20/2016 14:01	1		AS14 4(mm)
ZZZZZ		04/20/2016 17:49	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:06	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:24	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:42	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:59	1		AS14 4(mm)
ZZZZZ		04/20/2016 19:17	10		AS14 4(mm)
ZZZZZ		04/20/2016 19:34	1		AS14 4(mm)
ZZZZZ		04/20/2016 19:52	10		AS14 4(mm)
ZZZZZ		04/20/2016 20:10	10		AS14 4(mm)
ZZZZZ		04/20/2016 20:27	10		AS14 4(mm)
CCV 440-325445/20		04/20/2016 20:45	1		AS14 4(mm)
CCB 440-325445/21		04/20/2016 21:29	1		AS14 4(mm)
ZZZZZ		04/20/2016 21:54	1		AS14 4(mm)
ZZZZZ		04/20/2016 22:11	20		AS14 4(mm)
ZZZZZ		04/20/2016 22:29	1		AS14 4(mm)
ZZZZZ		04/20/2016 22:47	20		AS14 4(mm)
ZZZZZ		04/20/2016 23:04	20		AS14 4(mm)
ZZZZZ		04/20/2016 23:22	20		AS14 4(mm)
ZZZZZ		04/21/2016 00:15	200		AS14 4(mm)
ZZZZZ		04/21/2016 00:32	1		AS14 4(mm)
CCV 440-325445/32		04/21/2016 00:50	1		AS14 4(mm)
CCB 440-325445/33		04/21/2016 01:07	1		AS14 4(mm)
ZZZZZ		04/21/2016 01:32	1		AS14 4(mm)
ZZZZZ		04/21/2016 02:42	1		AS14 4(mm)
ZZZZZ		04/21/2016 03:00	50		AS14 4(mm)
ZZZZZ		04/21/2016 03:17	1		AS14 4(mm)
ZZZZZ		04/21/2016 03:35	50		AS14 4(mm)
ZZZZZ		04/21/2016 03:53	1		AS14 4(mm)
ZZZZZ		04/21/2016 04:10	50		AS14 4(mm)
CCV 440-325445/44		04/21/2016 04:28	1		AS14 4(mm)
CCB 440-325445/45		04/21/2016 04:45	1		AS14 4(mm)
ZZZZZ		04/21/2016 05:03	1		AS14 4(mm)
ZZZZZ		04/21/2016 05:21	50		AS14 4(mm)
ZZZZZ		04/21/2016 05:38	5		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-8 Start Date: 04/20/2016 11:13

Analysis Batch Number: 325445 End Date: 04/21/2016 18:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/21/2016 05:56	200		AS14 4(mm)
ZZZZZ		04/21/2016 06:13	1		AS14 4(mm)
MB 440-325445/51		04/21/2016 06:31	1	440-0072079-051 .d	AS14 4(mm)
LCS 440-325445/52		04/21/2016 06:49	1	440-0072079-052 .d	AS14 4(mm)
CCV 440-325445/56		04/21/2016 07:59	1	440-0072079-056 .d	AS14 4(mm)
CCB 440-325445/57		04/21/2016 08:17	1	440-0072079-057 .d	AS14 4(mm)
ZZZZZ		04/21/2016 10:38	5		AS14 4(mm)
ZZZZZ		04/21/2016 10:55	5		AS14 4(mm)
ZZZZZ		04/21/2016 11:13	5		AS14 4(mm)
CCV 440-325445/68		04/21/2016 11:30	1	440-0072079-068 .d	AS14 4(mm)
CCB 440-325445/69		04/21/2016 11:48	1	440-0072079-069 .d	AS14 4(mm)
ZZZZZ		04/21/2016 12:06	1		AS14 4(mm)
ZZZZZ		04/21/2016 12:23	10		AS14 4(mm)
ZZZZZ		04/21/2016 12:41	500		AS14 4(mm)
ZZZZZ		04/21/2016 12:58	20		AS14 4(mm)
ZZZZZ		04/21/2016 13:16	500		AS14 4(mm)
ZZZZZ		04/21/2016 13:34	20		AS14 4(mm)
ZZZZZ		04/21/2016 13:51	50		AS14 4(mm)
ZZZZZ		04/21/2016 14:09	20		AS14 4(mm)
440-144937-1		04/21/2016 14:26	20	440-0072079-078 .d	AS14 4(mm)
440-144937-1		04/21/2016 14:44	500	440-0072079-079 .d	AS14 4(mm)
CCV 440-325445/80		04/21/2016 15:02	1	440-0072079-080 .d	AS14 4(mm)
CCB 440-325445/81		04/21/2016 15:19	1	440-0072079-081 .d	AS14 4(mm)
440-144937-2		04/21/2016 15:37	10	440-0072079-082 .d	AS14 4(mm)
440-144937-2		04/21/2016 15:54	500	440-0072079-083 .d	AS14 4(mm)
440-144937-3		04/21/2016 16:12	500	440-0072079-084 .d	AS14 4(mm)
440-144937-3		04/21/2016 16:30	20	440-0072079-085 .d	AS14 4(mm)
440-144937-3 MS		04/21/2016 16:47	20	440-0072079-086 .d	AS14 4(mm)
440-144937-3 MSD		04/21/2016 17:05	20	440-0072079-087 .d	AS14 4(mm)
ZZZZZ		04/21/2016 17:22	5		AS14 4(mm)
CCV 440-325445/90		04/21/2016 17:58	1	440-0072079-090 .d	AS14 4(mm)
ZZZZZ		04/21/2016 18:15	1		AS14 4(mm)
CCB 440-325445/92		04/21/2016 18:41	1	440-0072079-092 .d	AS14 4(mm)

300.0

Method 300.1

Disinfection By-Products (IC) by Method 300.1

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): AS9-HC ID: 4 (mm)

Client Sample ID	Lab Sample ID	DCAA #
MCF-06C-20160419	440-144937-1	107
AA-20-20160419	440-144937-2	104
DBMW-1-20160419	440-144937-3	103
	MB 440-325632/4	103
	MB 440-326094/5	104
	LCS 440-325632/3	105
	LCS 440-326094/4	105
	MRL 440-325632/2	103
	MRL 440-326094/3	106
DBMW-1-20160419 MS	440-144937-3 MS	104
	440-144899-A-2 MS	105
DBMW-1-20160419 MSD	440-144937-3 MSD	104
	440-144899-A-2 MSD	106

	QC LIMITS
DCAA = Dichloroacetic acid(Surr)	90-115

Column to be used to flag recovery values

FORM II 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a003.d

Lab ID: LCS 440-325632/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	107	107	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a004.d

Lab ID: LCS 440-326094/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	98.0	98	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a002.d

Lab ID: MRL 440-325632/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	20.7	104	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a003.d

Lab ID: MRL 440-326094/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.0 J	95	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a013.d

Lab ID: 440-144937-3 MS Client ID: DBMW-1-20160419 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	400	22000	21700	27	75-125	4

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a018.d

Lab ID: 440-144899-A-2 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	200	430	114	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a014.d

Lab ID: 440-144937-3 MSD Client ID: DBMW-1-20160419 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chlorate	400	21600	4	0	25	75-125	4

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604210001a019.d

Lab ID: 440-144899-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Chlorate	200	433	116	1	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab File ID: 201604210001a004.d Lab Sample ID: MB 440-325632/4

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/21/2016 07:12

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-325632/3	201604210001a003.d	04/21/2016 06:39
	CCB 440-325632/16	201604210001a016.d	04/21/2016 13:51
	440-144899-A-2 MS	201604210001a018.d	04/21/2016 14:57
	440-144899-A-2 MSD	201604210001a019.d	04/21/2016 15:30
	CCB 440-325632/28	201604210001a028.d	04/21/2016 20:29
MCF-06C-20160419	440-144937-1	201604210001a036.d	04/22/2016 00:54
AA-20-20160419	440-144937-2	201604210001a037.d	04/22/2016 01:27
	CCB 440-325632/44	201604210001a040.d	04/22/2016 03:07

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab File ID: 201604230001a005.d Lab Sample ID: MB 440-326094/5

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/23/2016 10:22

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-326094/4	20160423000 1a004.d	04/23/2016 09:49
DBMW-1-20160419	440-144937-3	20160423000 1a012.d	04/23/2016 14:14
DBMW-1-20160419 MS	440-144937-3 MS	20160423000 1a013.d	04/23/2016 14:47
DBMW-1-20160419 MSD	440-144937-3 MSD	20160423000 1a014.d	04/23/2016 15:21
	CCB 440-326094/17	20160423000 1a017.d	04/23/2016 17:00

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: MCF-06C-20160419
Lab Sample ID: 440-144937-1
Matrix: Water
Lab File ID: 201604210001a036.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 08:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 00:54
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	9900		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a036.d				
Lims ID:	440-144937-A-1				
Client ID:	MCF-06C-20160419				
Sample Type:	Client				
Inject. Date:	22-Apr-2016 00:54:40	ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072110-036				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:10:46	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:10:46

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.543	13.370	0.173	13845764	1064.8	
2 Chlorate	16.530	16.230	0.300	2224782	98.5	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

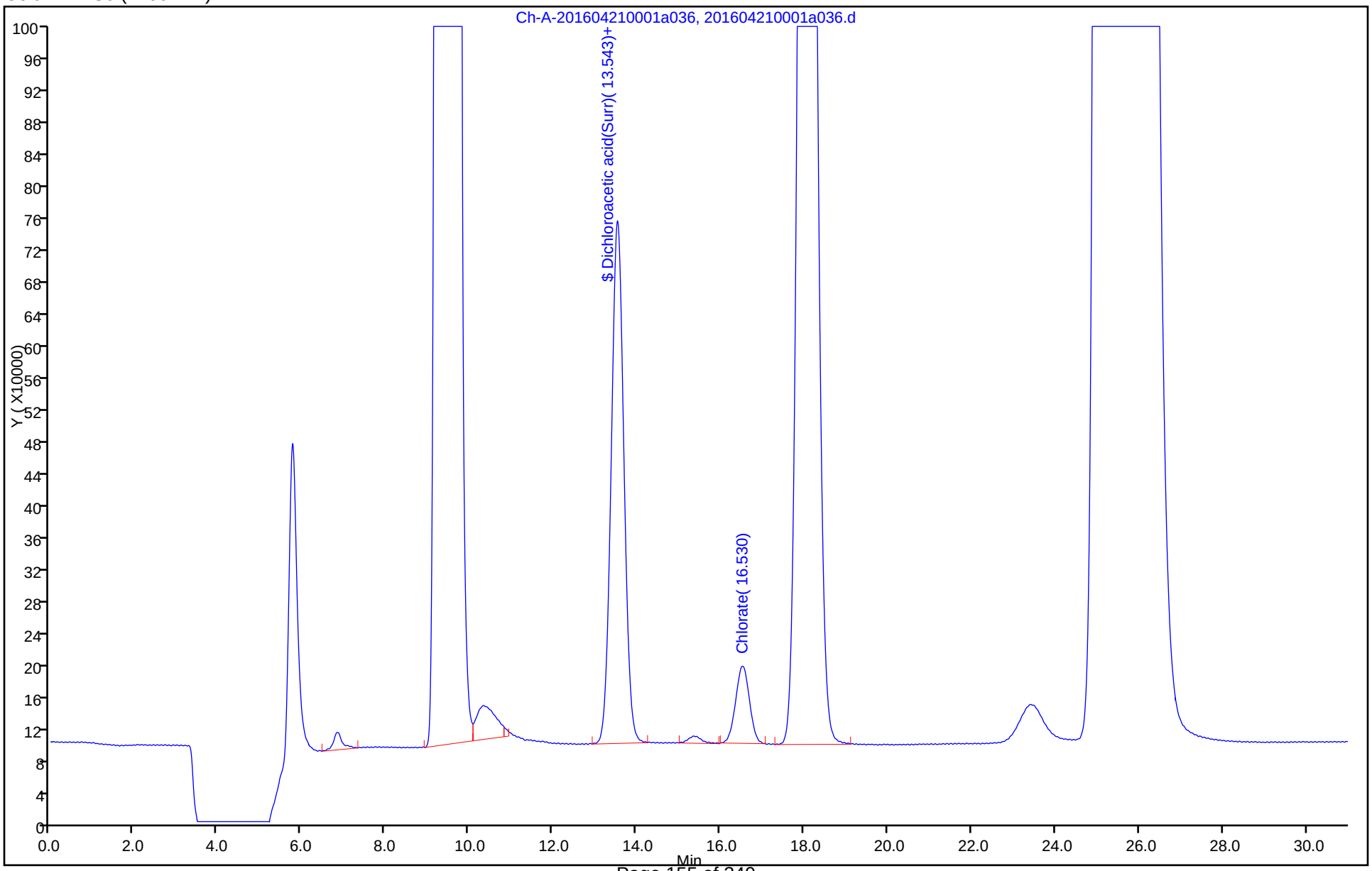
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 23-Apr-2016 07:10:46 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a036.d				
Injection Date:	22-Apr-2016 00:54:40	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144937-A-1	Lab Sample ID:	440-144937-1	Worklist Smp#:	36
Client ID:	MCF-06C-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

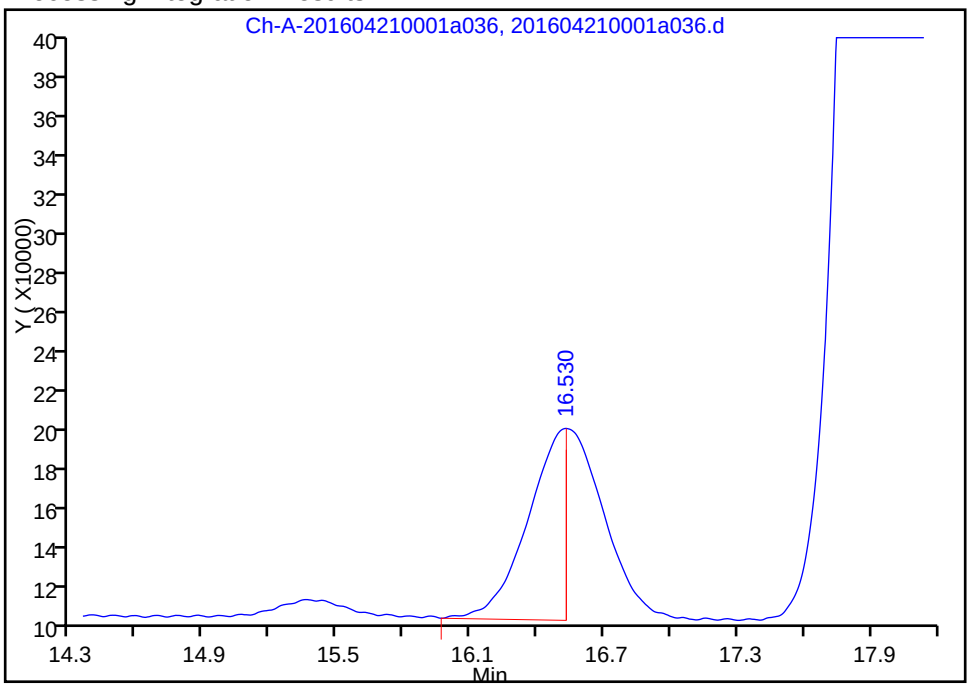
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a036.d				
Injection Date:	22-Apr-2016 00:54:40	Instrument ID:	IC-7		
Lims ID:	440-144937-A-1	Lab Sample ID:	440-144937-1		
Client ID:	MCF-06C-20160419				
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

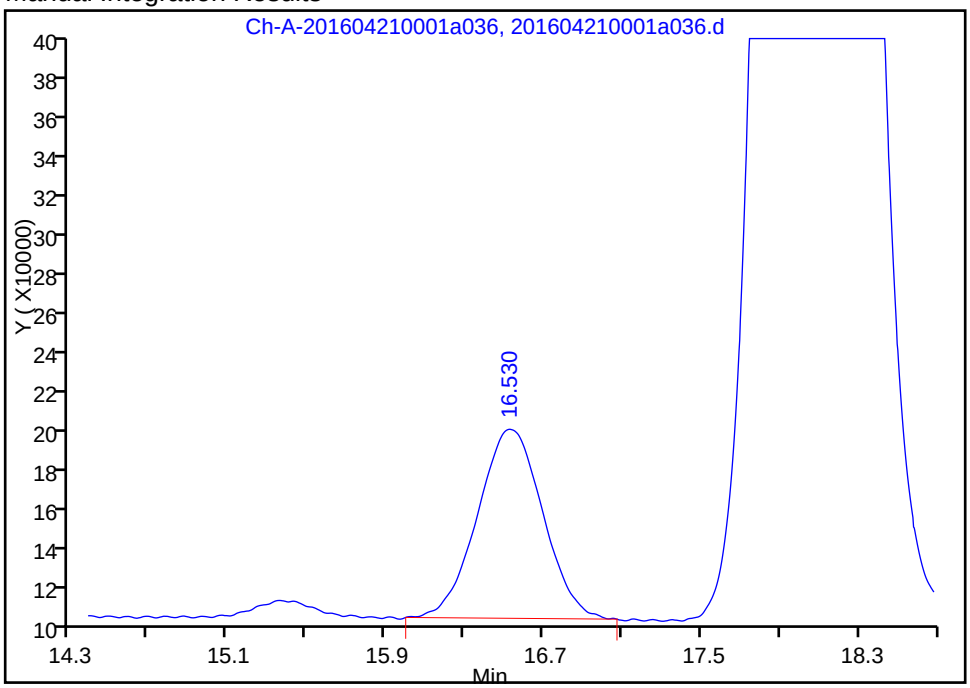
Processing Integration Results

RT: 16.53
Area: 1137564
Amount: 49.603548
Amount Units: ug/l



Manual Integration Results

RT: 16.53
Area: 2224782
Amount: 98.525425
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 07:10:46

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: AA-20-20160419
Lab Sample ID: 440-144937-2
Matrix: Water
Lab File ID: 201604210001a037.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 09:35
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 01:27
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	30000		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a037.d				
Lims ID:	440-144937-A-2				
Client ID:	AA-20-20160419				
Sample Type:	Client				
Inject. Date:	22-Apr-2016 01:27:51	ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072110-037				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:11:08	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:11:08		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.520	13.370	0.150	13424444	1032.4	
2 Chlorate	16.513	16.230	0.283	6671542	298.6	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

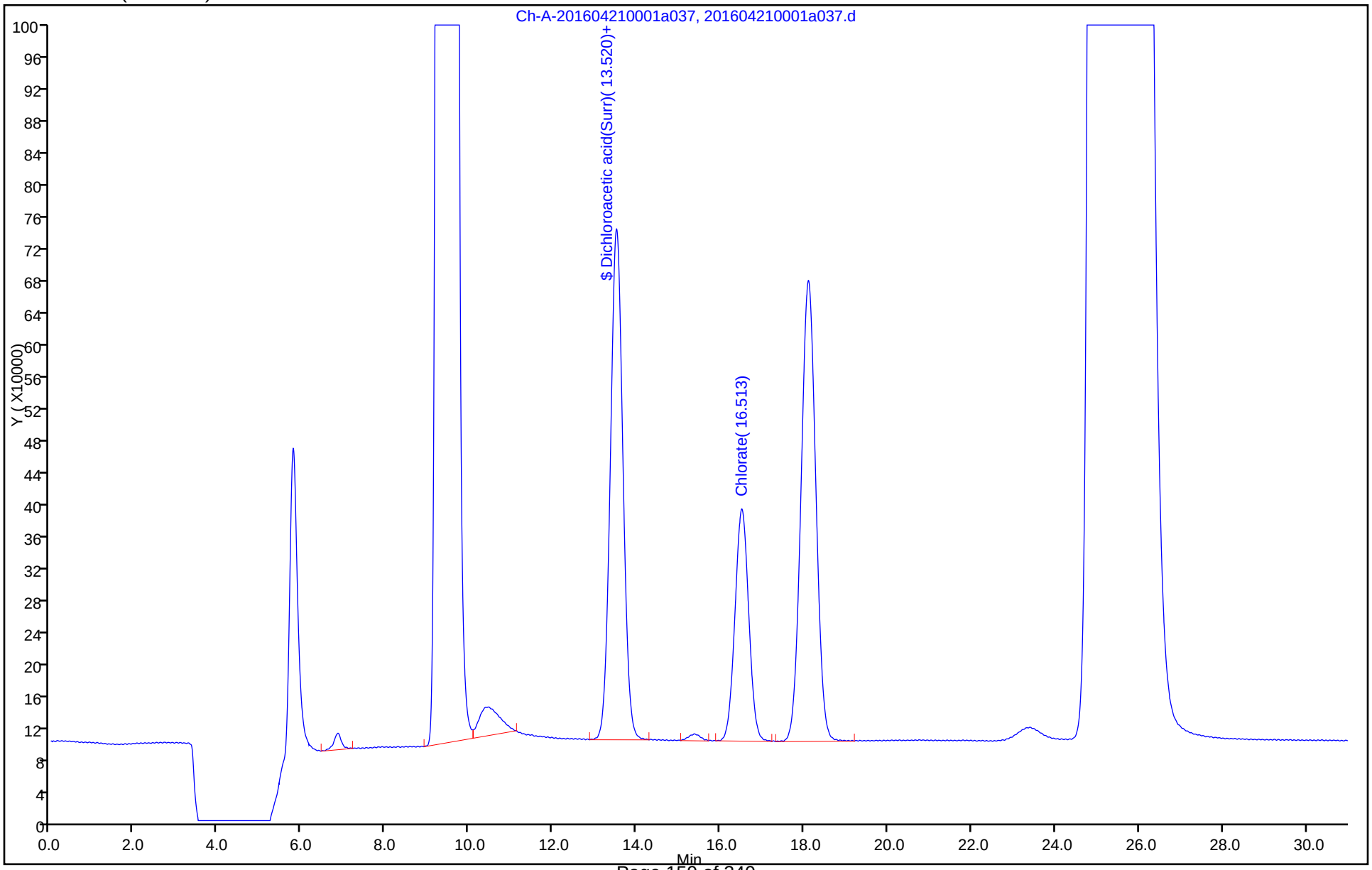
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 23-Apr-2016 07:11:08 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a037.d				
Injection Date:	22-Apr-2016 01:27:51	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144937-A-2	Lab Sample ID:	440-144937-2	Worklist Smp#:	37
Client ID:	AA-20-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

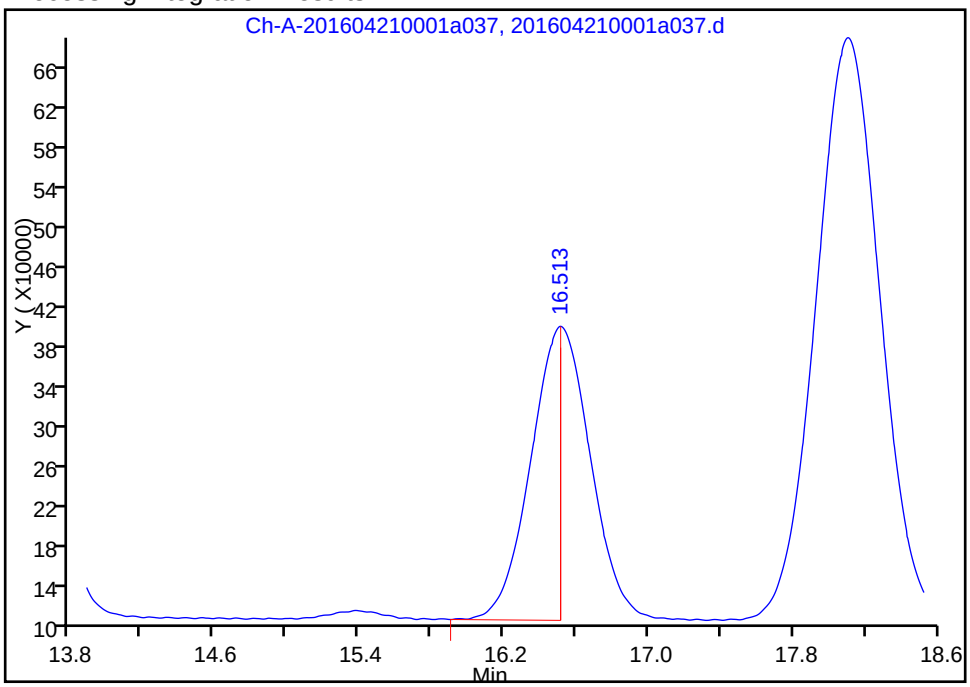
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a037.d				
Injection Date:	22-Apr-2016 01:27:51	Instrument ID:	IC-7		
Lims ID:	440-144937-A-2	Lab Sample ID:	440-144937-2		
Client ID:	AA-20-20160419				
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

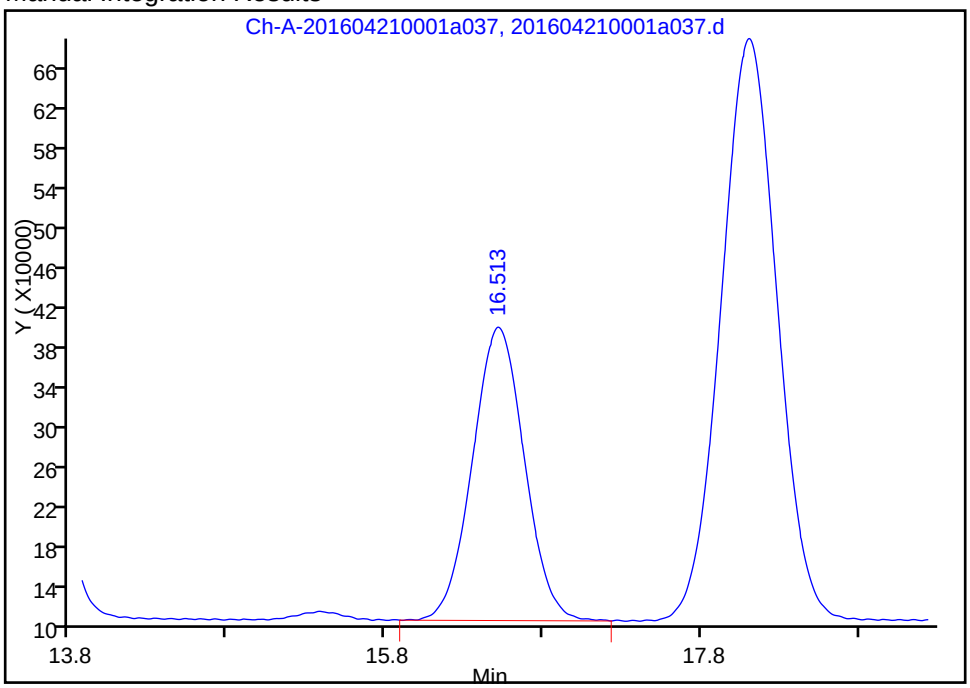
Processing Integration Results

RT: 16.51
Area: 3303579
Amount: 147.0684
Amount Units: ug/l



Manual Integration Results

RT: 16.51
Area: 6671542
Amount: 298.6176
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 07:11:08

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419
Lab Sample ID: 440-144937-3
Matrix: Water
Lab File ID: 201604230001a012.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 14:14
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	22000		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a012.d				
Lims ID:	440-144937-A-3				
Client ID:	DBMW-1-20160419				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 14:14:42	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072215-012				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:10:23	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:10:23

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.500	13.370	0.130	13356333	1027.1	
$ 1 Dichloroacetic acid	13.500	13.833	-0.333	13356333	NC	
4 Bromide	15.247	15.050	0.197	252842	3.73	7
2 Chlorate	16.417	16.230	0.187	4835332	216.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

7 - Failed Limit of Detection

Reagents:

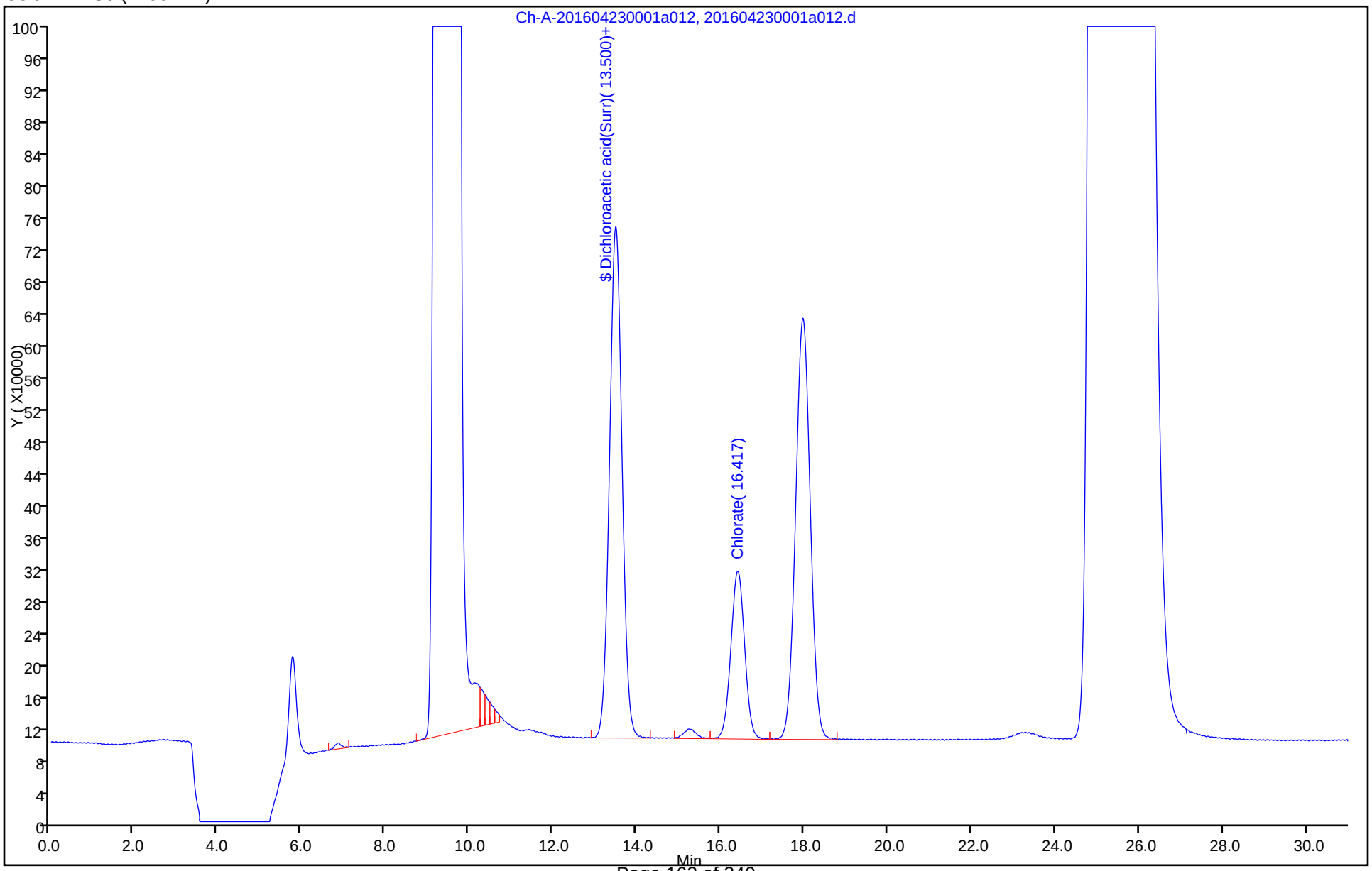
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 24-Apr-2016 05:10:23 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a012.d				
Injection Date:	23-Apr-2016 14:14:42	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144937-A-3	Lab Sample ID:	440-144937-3	Worklist Smp#:	12
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Bromate		8.617	8.637	8.630	8.637	8.637					0.000 - 0.000	8.632
Bromide		16.530	16.547	16.600	16.620	16.693					0.000 - 0.000	16.598
Chlorate		18.010	18.043	18.053	18.067	18.027					0.000 - 0.000	18.040
Dichloroacetic acid(Surr)	14.517	14.520	14.533	14.500	14.513	14.490					13.482 - 15.511	14.512

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Bromate	14349	19044 14698	14750	14388	Lin	3388.08196	14577.9338							1.0000		0.9950
Bromide	26042	23576 24541	25629	26061	Lin	160772.070	24672.7328							0.9990		0.9950
Chlorate	22433	21362 22252	23416	23379	Lin	35196.8608	22223.5543							1.0000		0.9950
Dichloroacetic acid(Surr)	13223 12831	13029 12797	13075	13067	Ave		13003.6499				1.2		15.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Bromate	Lin	1471315	95313	184560	360048	718151	0.000000 100	5.01	12.5	25.0	50.1
Bromide	Lin	24540865	1178813	3203639	6515129	13021197	0.000000 1000	50.0	125	250	500
Chlorate	Lin	8900719	427235	1170778	2337921	4486665	0.000000 400	20.0	50.0	100	200
Dichloroacetic acid(Surr)	Ave	13139591 12716735	12947051	12992376	12984873	12750586	994 994	994	994	994	994

Curve Type Legend:

Ave = Average
Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	28-Jan-2016 08:07:59	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-002				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:35	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	14.517	14.513	0.004	13139591	993.7	1010.5	

Reagents:

WC3001LCS_00034	Amount Added: 0.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

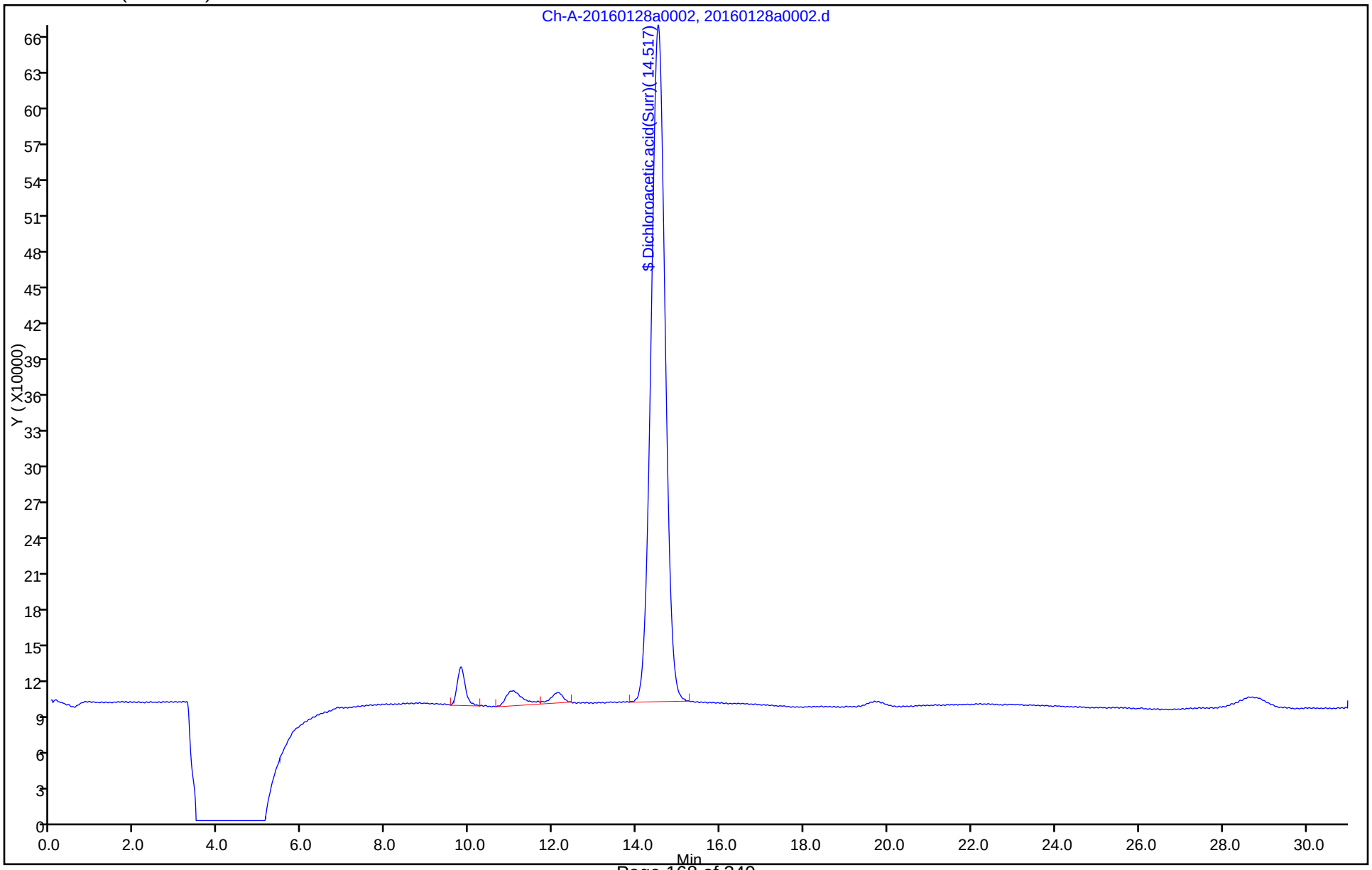
Report Date: 28-Jan-2016 11:28:36 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d

Injection Date:	28-Jan-2016 08:07:59	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std0			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d				
Lims ID:	std1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	28-Jan-2016 08:41:10	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-003				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:37	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				
First Level Reviewer: zakhrabovy		Date:	28-Jan-2016 09:17:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.547	7.547	0.000	495358	NC	NC	
3 Bromate	8.617	8.617	0.000	95313	5.01	6.31	
$ 6 Dichloroacetic acid(Surr)	14.520	14.513	0.007	12947051	993.7	995.6	
4 Bromide	16.530	16.530	0.000	1178813	50.0	41.3	
2 Chlorate	18.010	18.010	0.000	427235	20.0	17.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

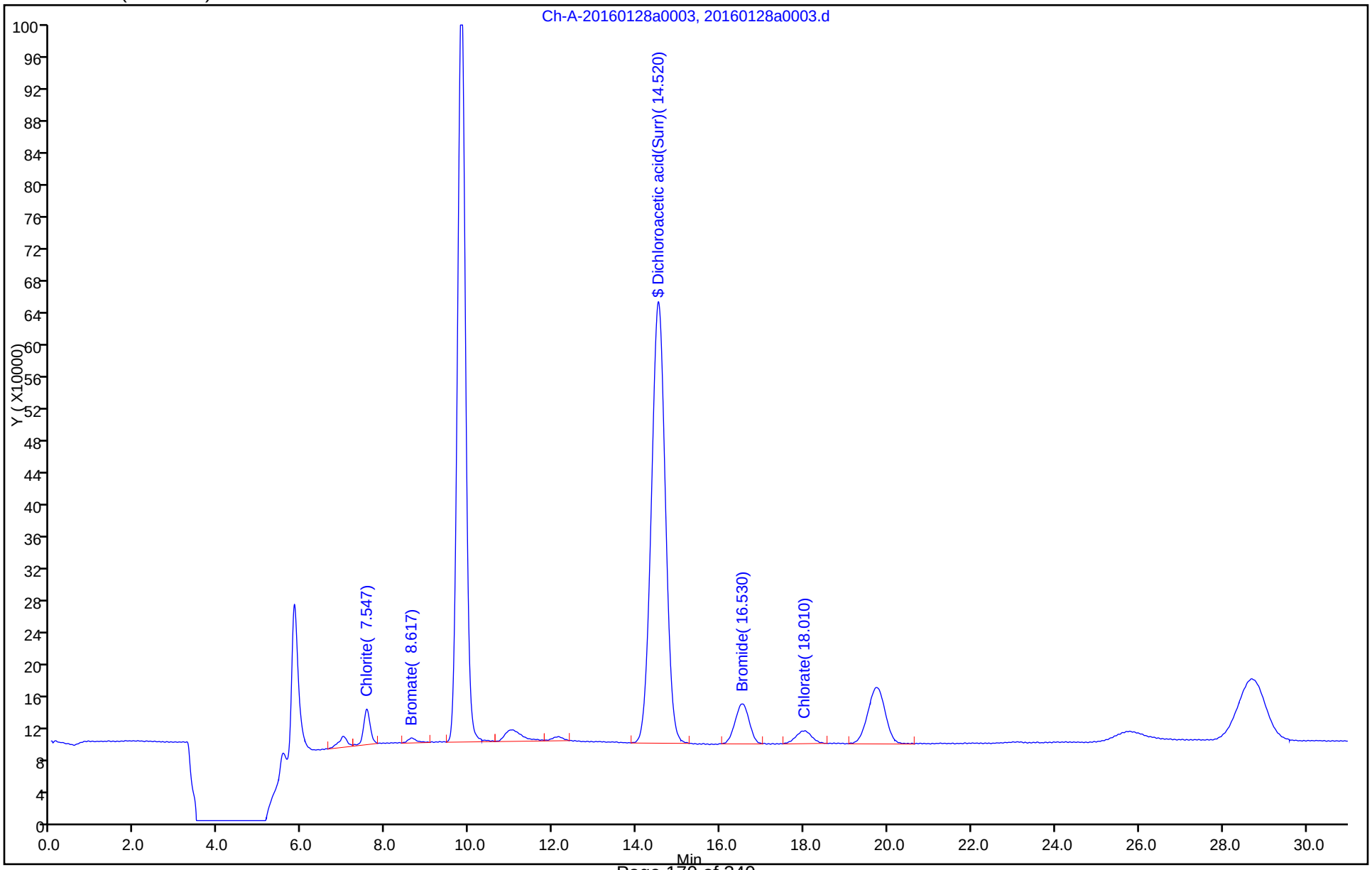
Report Date: 28-Jan-2016 11:28:37 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d

Injection Date:	28-Jan-2016 08:41:10	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std1			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	28-Jan-2016 09:14:20	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-004				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:38	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 09:50:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.557	7.547	0.010	1353340	NC	NC	
3 Bromate	8.637	8.617	0.020	184560	12.5	12.4	
$ 6 Dichloroacetic acid(Surr)	14.533	14.513	0.020	12992376	993.7	999.1	
4 Bromide	16.547	16.530	0.017	3203639	125.0	123.3	
2 Chlorate	18.043	18.010	0.033	1170778	50.0	51.1	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

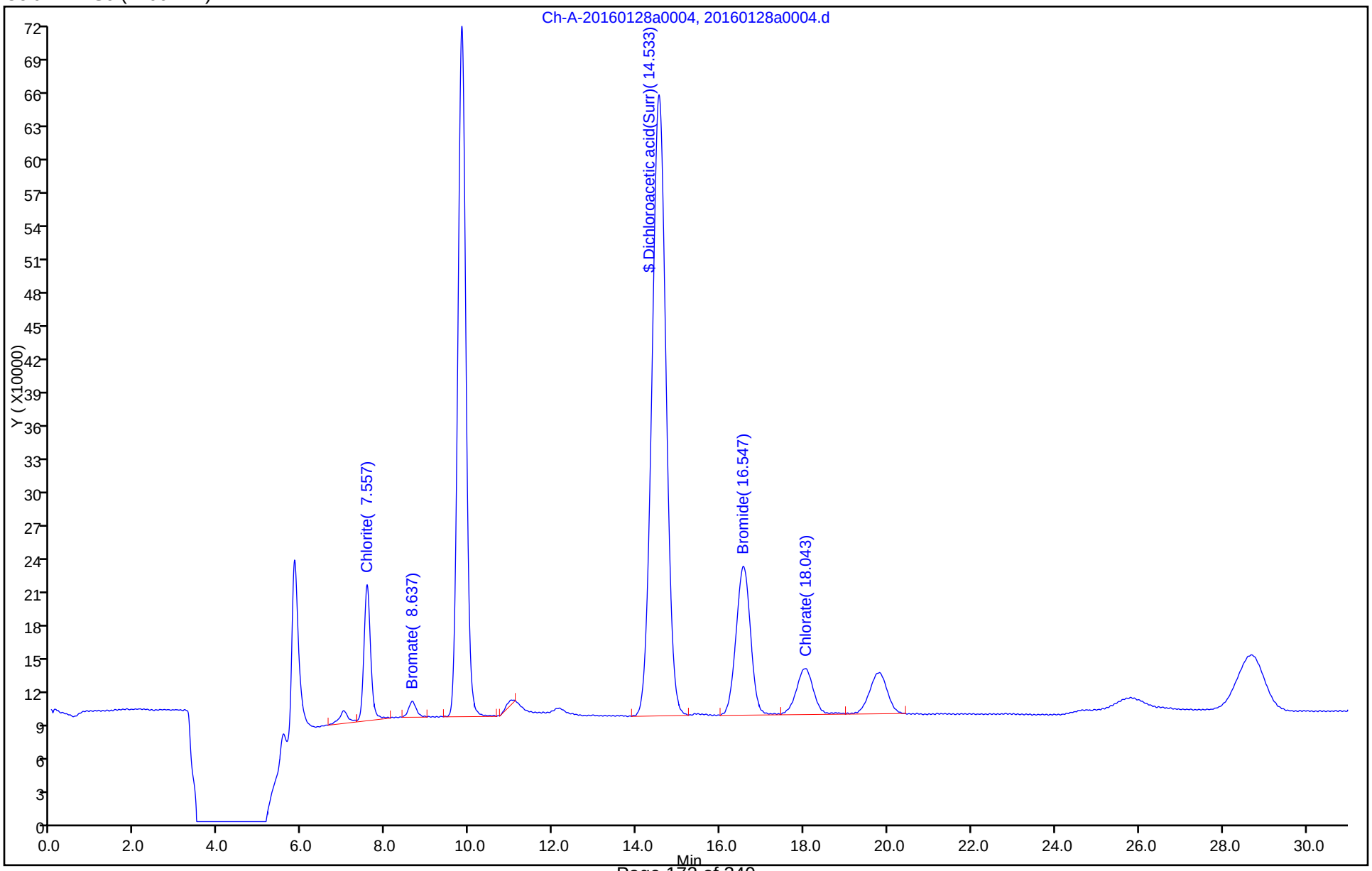
WC3001LCS_00034	Amount Added: 62.50	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 28-Jan-2016 11:28:38 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Injection Date:	28-Jan-2016 09:14:20	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std2			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	28-Jan-2016 09:47:31	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-005				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:23:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	2752443	NC	NC	
3 Bromate	8.630	8.617	0.013	360048	25.0	24.5	
$ 6 Dichloroacetic acid(Surr)	14.500	14.513	-0.013	12984873	993.7	998.6	
4 Bromide	16.600	16.530	0.070	6515129	250.0	257.5	
2 Chlorate	18.053	18.010	0.043	2337921	100.0	103.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

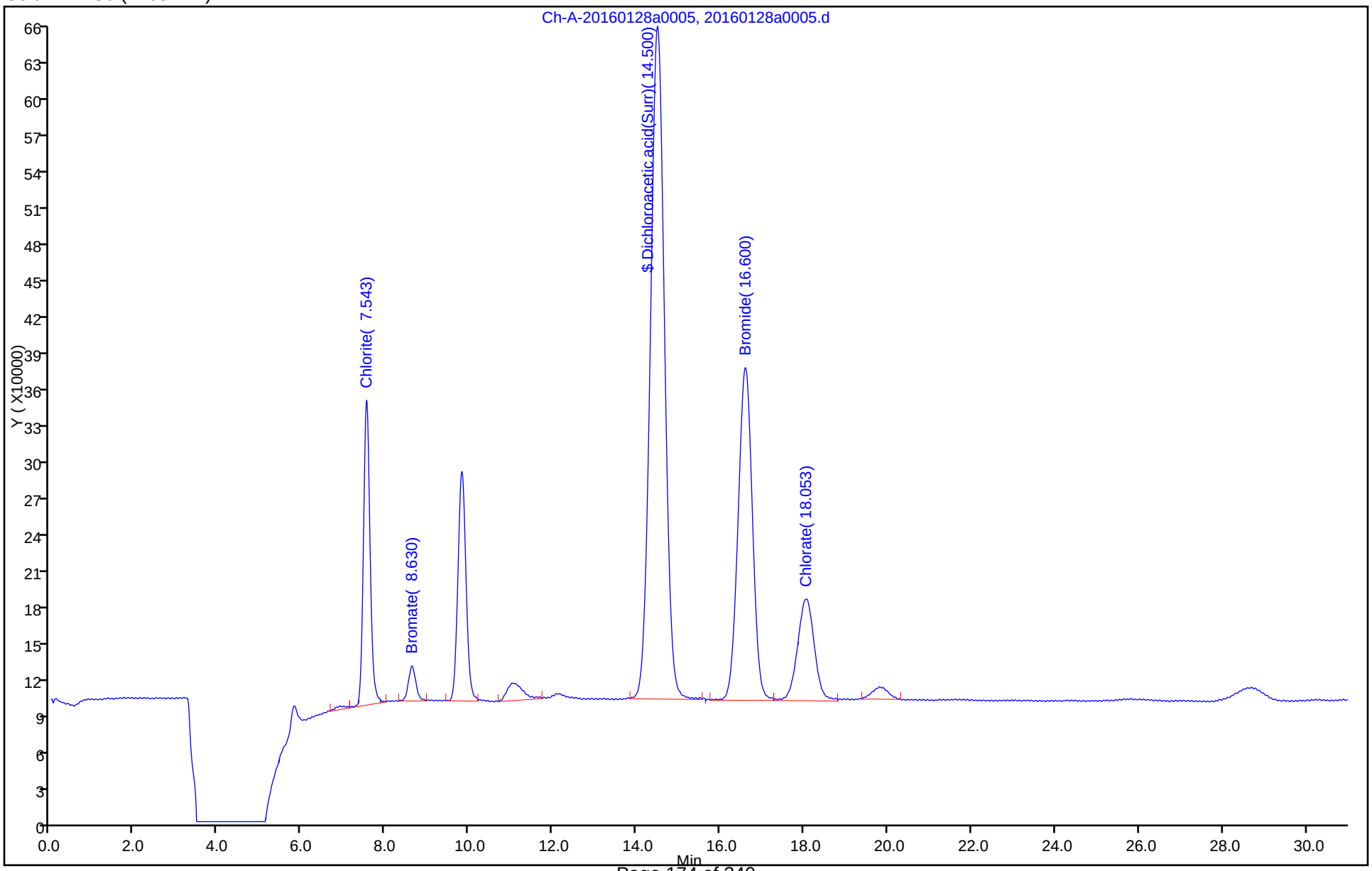
Report Date: 28-Jan-2016 11:28:39 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d

Injection Date:	28-Jan-2016 09:47:31	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std3			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	28-Jan-2016 10:20:42	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-006				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:57:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.550	7.547	0.003	5566429	NC	NC	
3 Bromate	8.637	8.617	0.020	718151	50.1	49.0	
$ 6 Dichloroacetic acid(Surr)	14.513	14.513	0.000	12750586	993.7	980.5	
4 Bromide	16.620	16.530	0.090	13021197	500.0	521.2	
2 Chlorate	18.067	18.010	0.057	4486665	200.0	200.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

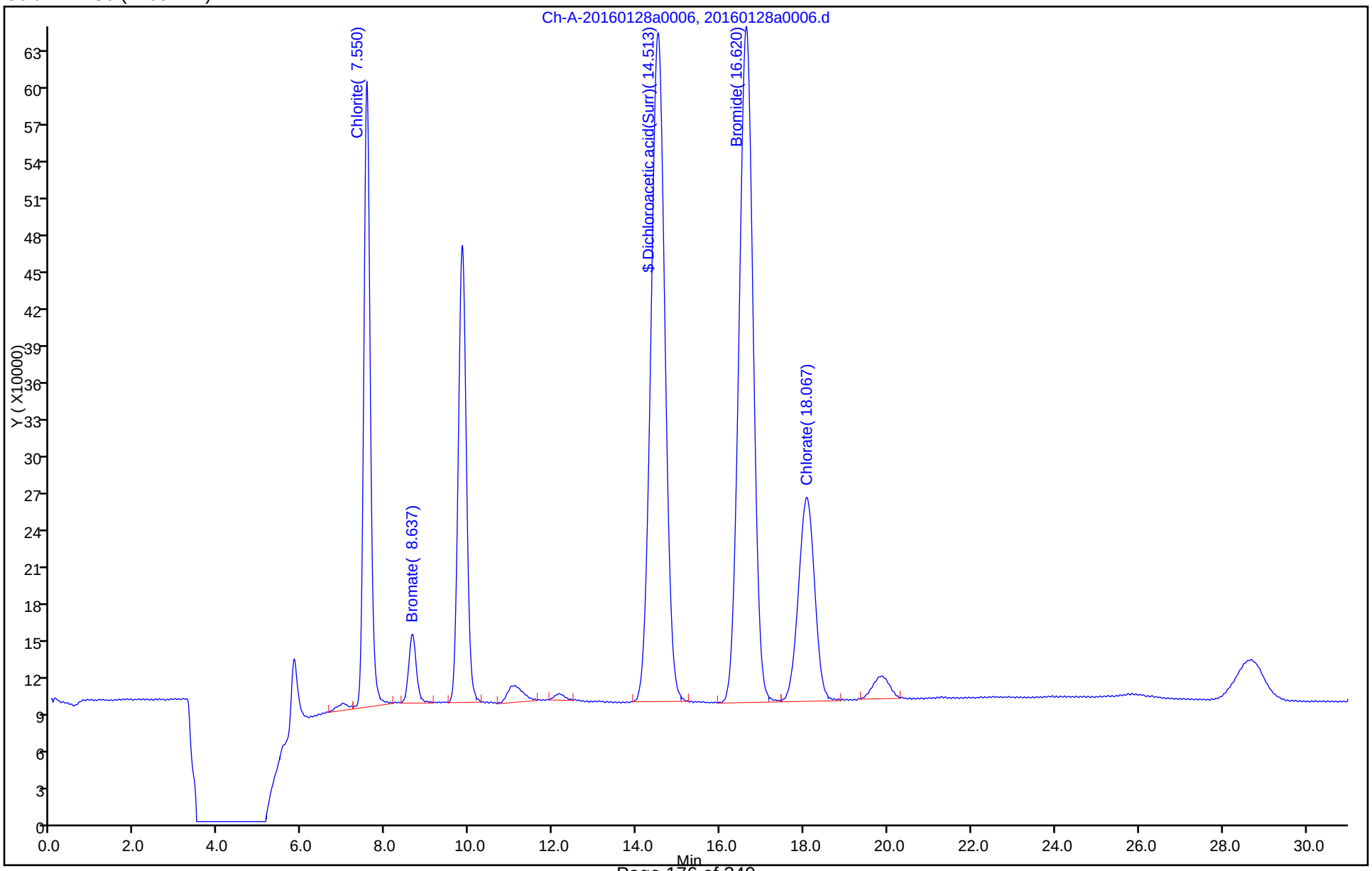
Report Date: 28-Jan-2016 11:28:40 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d

Injection Date:	28-Jan-2016 10:20:42	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std4			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	28-Jan-2016 10:53:53	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-007				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 12:05:32	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:05:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.580	7.547	0.033	11051100	NC	NC	
3 Bromate	8.637	8.617	0.020	1471315	100.1	100.7	
$ 6 Dichloroacetic acid(Surr)	14.490	14.513	-0.023	12716735	993.7	977.9	
4 Bromide	16.693	16.530	0.163	24540865	1000.0	988.1	
2 Chlorate	18.027	18.010	0.017	8900719	400.0	398.9	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

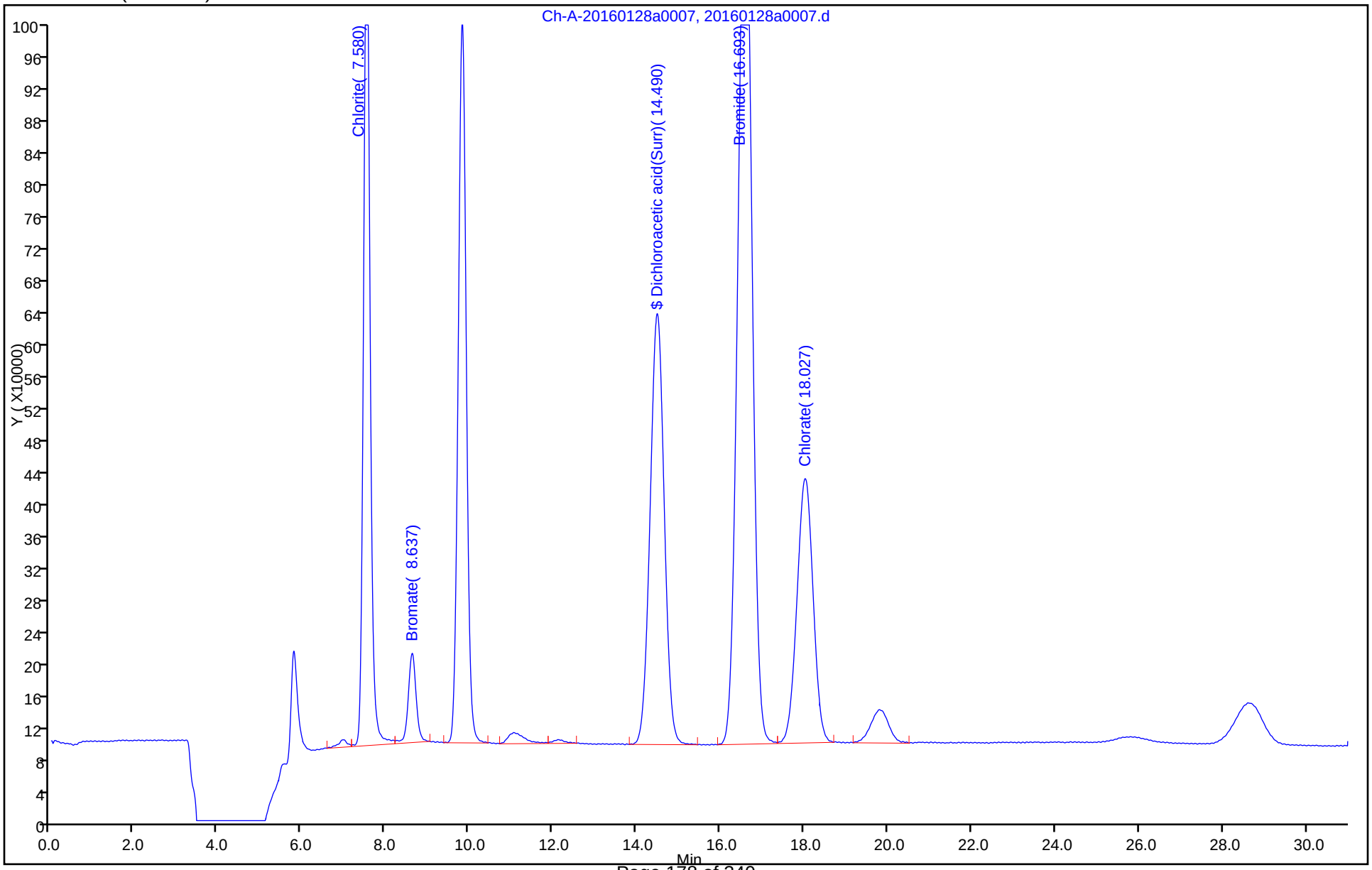
Report Date: 28-Jan-2016 12:05:34 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Injection Date:	28-Jan-2016 10:53:53	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std5			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		13546		27.7	30.0	-7.8	15.0
Bromide	Lin		25814		307	300	2.5	15.0
Chlorate	Lin		22301		119	120	-1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	12897		986	994	-0.8	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.62	8.01	9.22
Bromide	16.52	15.37	17.69
Chlorate	17.98	17.11	18.91
Dichloroacetic acid(Surr)	14.51	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 28-Jan-2016 11:30:56 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 68747 Name: 440-0068747-008
Operator ID: irvinstwet3 Instrument ID: IC-7
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 29-Jan-2016 05:10:00 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK019

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:08:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	3264833	NC	NC	
3 Bromate	8.623	8.617	0.006	406799	30.0	27.7	M
$ 6 Dichloroacetic acid(Surr)	14.510	14.513	-0.003	12815970	993.7	985.6	
4 Bromide	16.520	16.530	-0.010	7744059	300.0	307.4	
2 Chlorate	17.980	18.010	-0.030	2678751	120.1	119.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001ICV_00023 Amount Added: 150.00 Units: uL
WCDCA_00031 Amount Added: 10.00 Units: uL Run Reagent

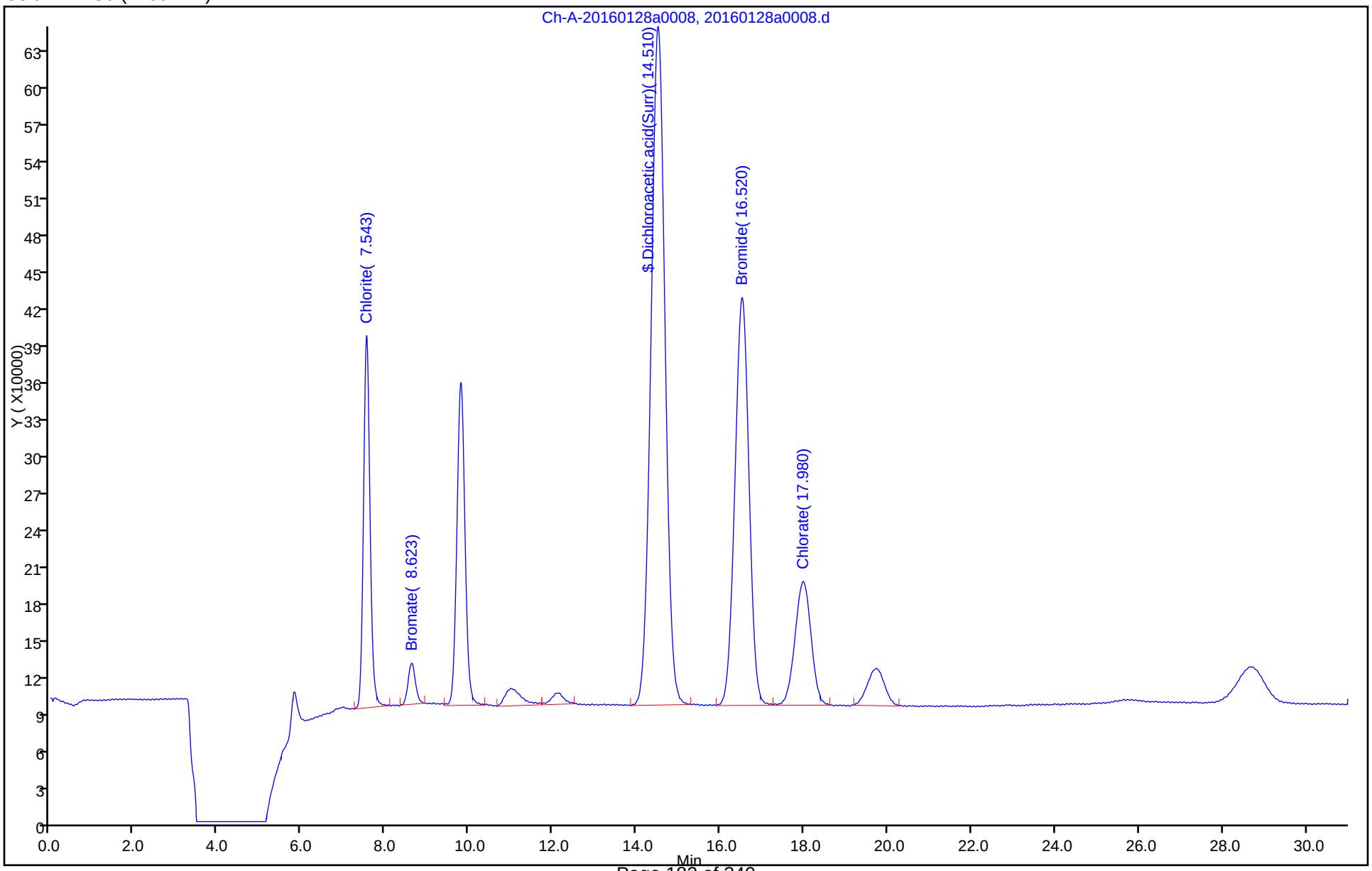
Report Date: 29-Jan-2016 05:10:43 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d

Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



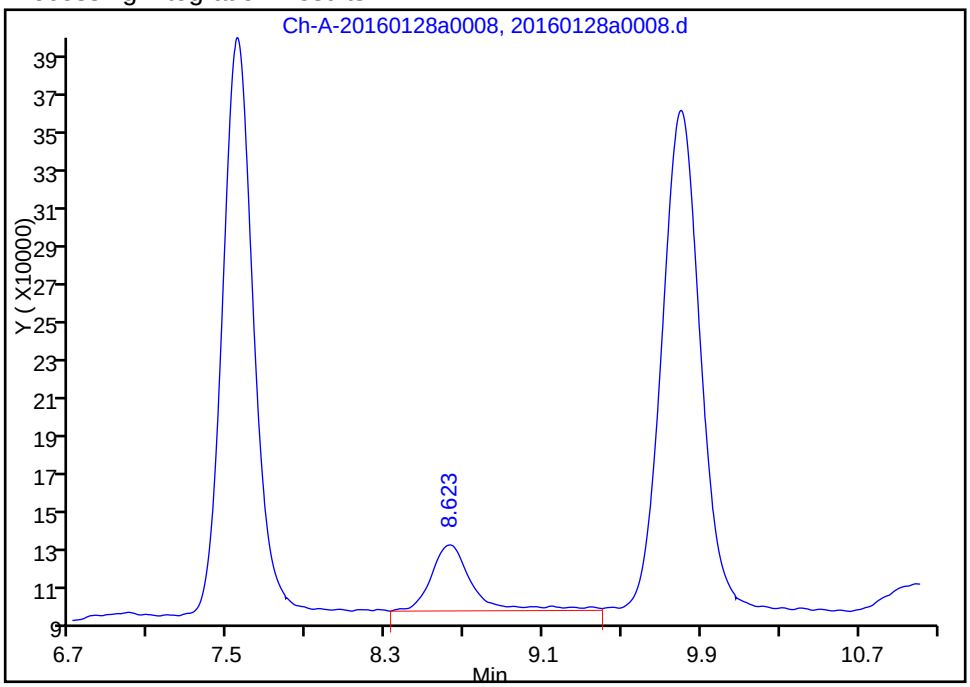
TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d				
Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7		
Lims ID:	ICV				
Client ID:					
Operator ID:	irvinstwet3	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

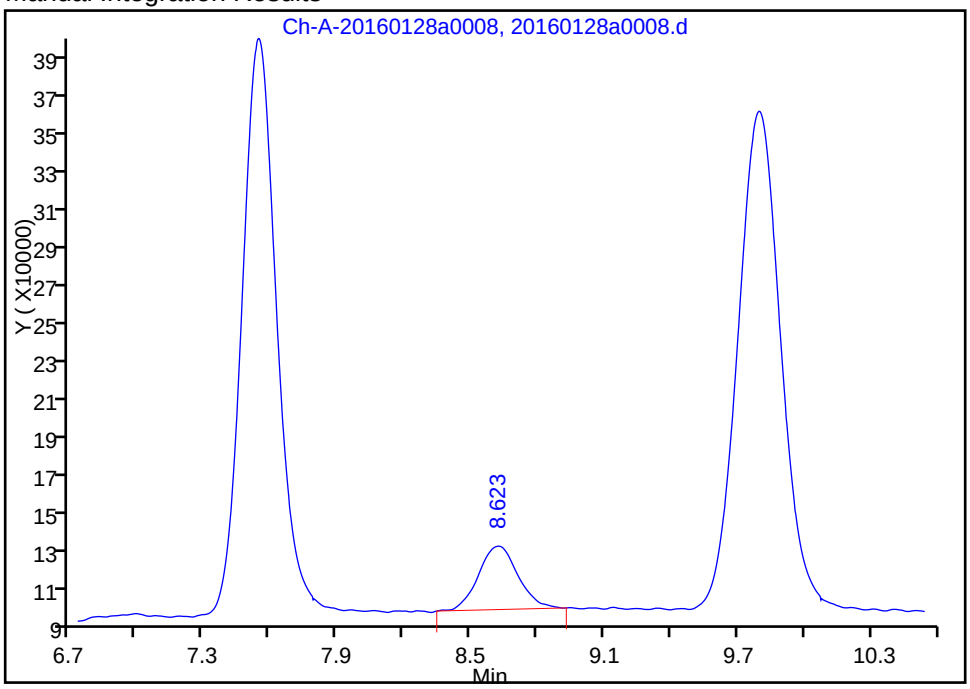
Processing Integration Results

RT: 8.62
Area: 504886
Amount: 34.401166
Amount Units: ug/l



Manual Integration Results

RT: 8.62
Area: 406799
Amount: 27.672709
Amount Units: ug/l



Reviewer: zakhrabovy, 28-Jan-2016 12:06:15
Audit Action: Manually Integrated
Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325632/15 Calibration Date: 04/21/2016 13:17

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a015.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14312		48.9	50.1	-2.3	15.0
Bromide	Lin		26496		530	500	6.1	15.0
Chlorate	Lin		22977		205	200	2.6	15.0
Dichloroacetic acid(Surr)	Ave	13004	13421		1030	994	3.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325632/15 Calibration Date: 04/21/2016 13:17

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a015.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.32	7.64	8.79
Bromide	15.32	14.00	16.10
Chlorate	16.48	15.42	17.04
Dichloroacetic acid(Surr)	13.54	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a015.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	21-Apr-2016 13:17:54	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-015				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:05:09	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:05:09

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.360	7.267	0.093	5551895	NC	NC	
3 Bromate	8.317	8.213	0.104	716303	50.1	48.9	
$ 6 Dichloroacetic acid(Surr)	13.537	13.370	0.167	13336542	993.7	1025.6	
4 Bromide	15.320	15.050	0.270	13247862	500.0	530.4	
2 Chlorate	16.480	16.230	0.250	4595374	200.0	205.2	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

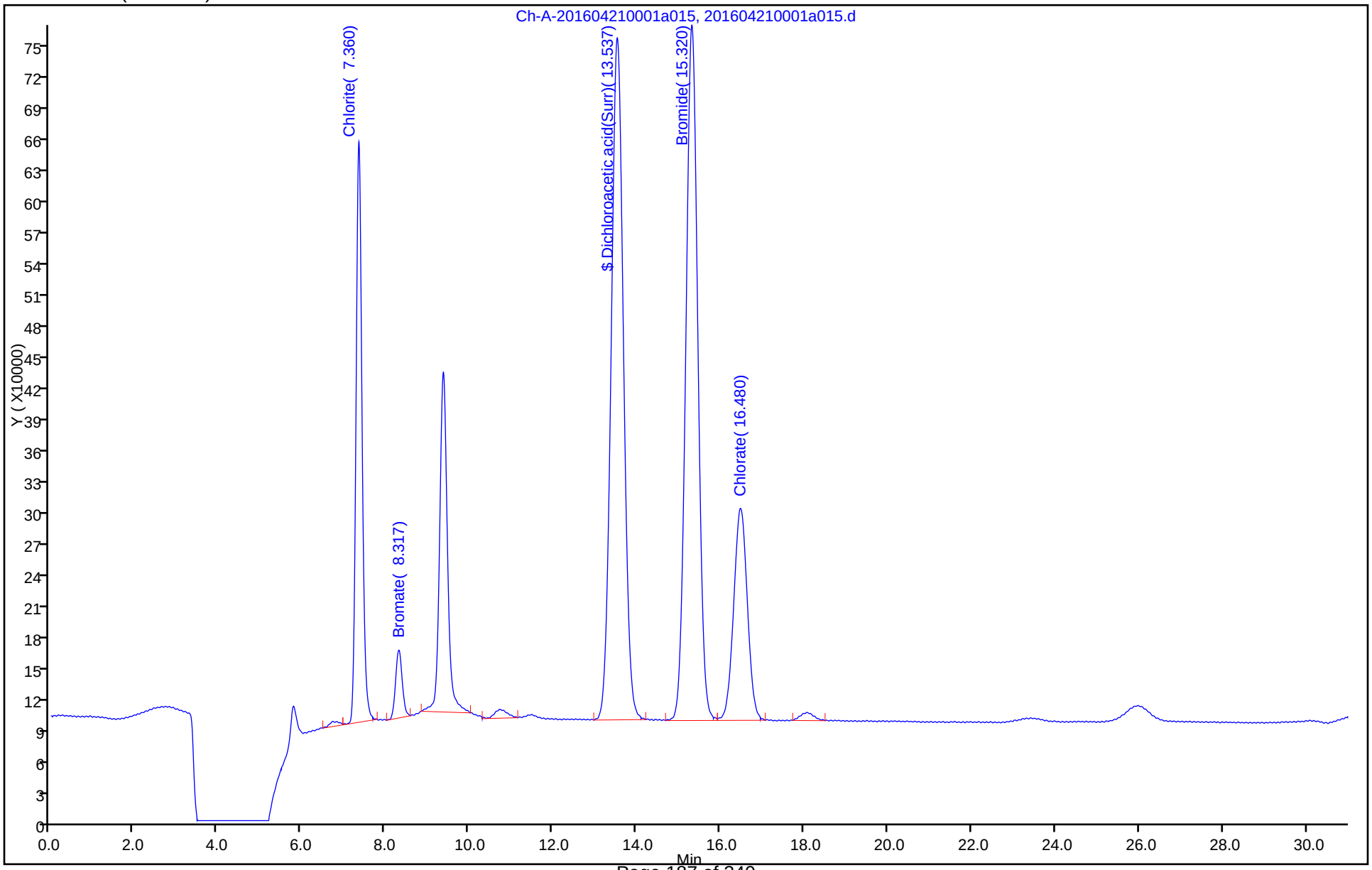
Report Date: 23-Apr-2016 07:05:11 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a015.d

Injection Date:	21-Apr-2016 13:17:54	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325632/27 Calibration Date: 04/21/2016 19:56

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a027.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14656		24.9	25.0	-0.4	15.0
Bromide	Lin		24590		243	250	-2.9	15.0
Chlorate	Lin		21467		95.0	100	-5.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	13566		1040	994	4.3	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325632/27 Calibration Date: 04/21/2016 19:56

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a027.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.36	7.64	8.79
Bromide	15.41	14.00	16.10
Chlorate	16.55	15.42	17.04
Dichloroacetic acid(Surr)	13.55	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a027.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	21-Apr-2016 19:56:03	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-027				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:07:52	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:07:52

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.387	7.267	0.120	2646343	NC	NC	
3 Bromate	8.357	8.213	0.144	366754	25.0	24.9	
$ 6 Dichloroacetic acid(Surr)	13.553	13.370	0.183	13480452	993.7	1036.7	
4 Bromide	15.413	15.050	0.363	6147510	250.0	242.6	
2 Chlorate	16.553	16.230	0.323	2146721	100.0	95.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

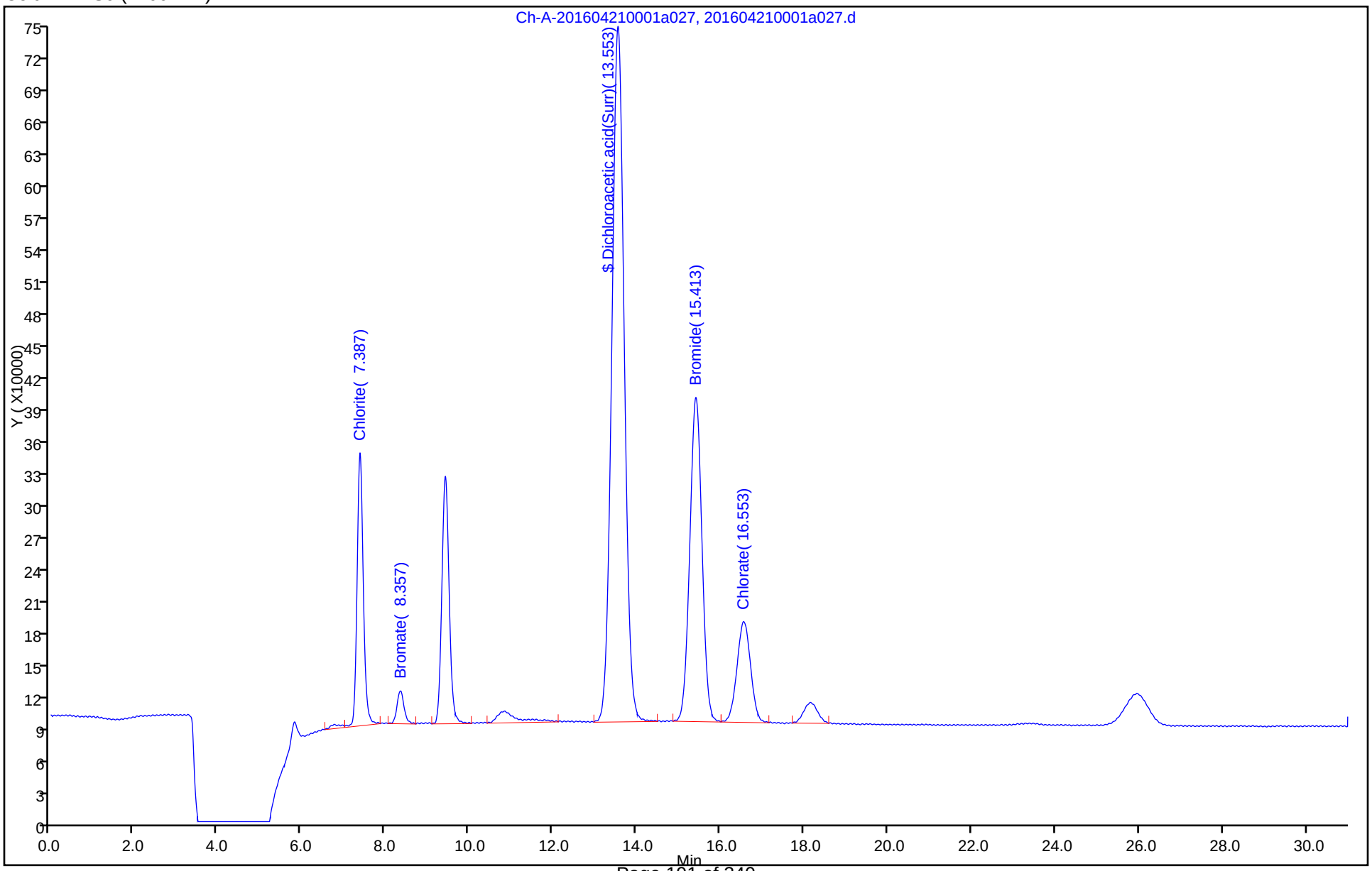
Report Date: 23-Apr-2016 07:07:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a027.d

Injection Date:	21-Apr-2016 19:56:03	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325632/43 Calibration Date: 04/22/2016 02:34

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a039.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14188		48.5	50.1	-3.1	15.0
Bromide	Lin		26077		522	500	4.4	15.0
Chlorate	Lin		22507		201	200	0.5	15.0
Dichloroacetic acid(Surr)	Ave	13004	13505		1030	994	3.9	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-325632/43 Calibration Date: 04/22/2016 02:34

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604210001a039.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.34	7.64	8.79
Bromide	15.41	14.00	16.10
Chlorate	16.55	15.42	17.04
Dichloroacetic acid(Surr)	13.53	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a039.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	22-Apr-2016 02:34:13	ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-039				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:11:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:11:39

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.370	7.267	0.103	5647247	NC	NC	
3 Bromate	8.340	8.213	0.127	710125	50.1	48.5	M
$ 6 Dichloroacetic acid(Surr)	13.527	13.370	0.157	13419942	993.7	1032.0	
4 Bromide	15.407	15.050	0.357	13038356	500.0	521.9	
2 Chlorate	16.553	16.230	0.323	4501488	200.0	201.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

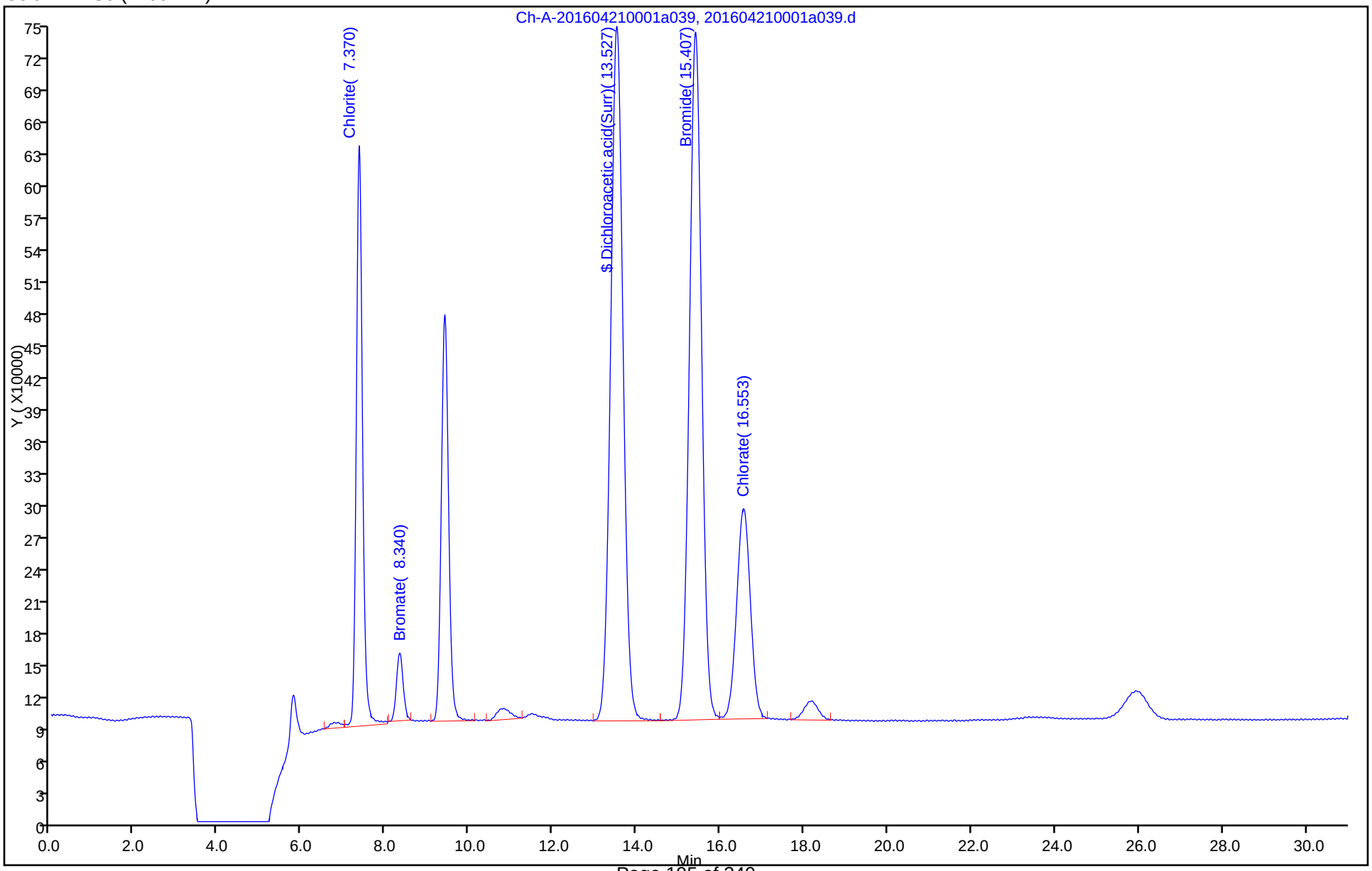
Report Date: 23-Apr-2016 07:11:40 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a039.d

Injection Date:	22-Apr-2016 02:34:13	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

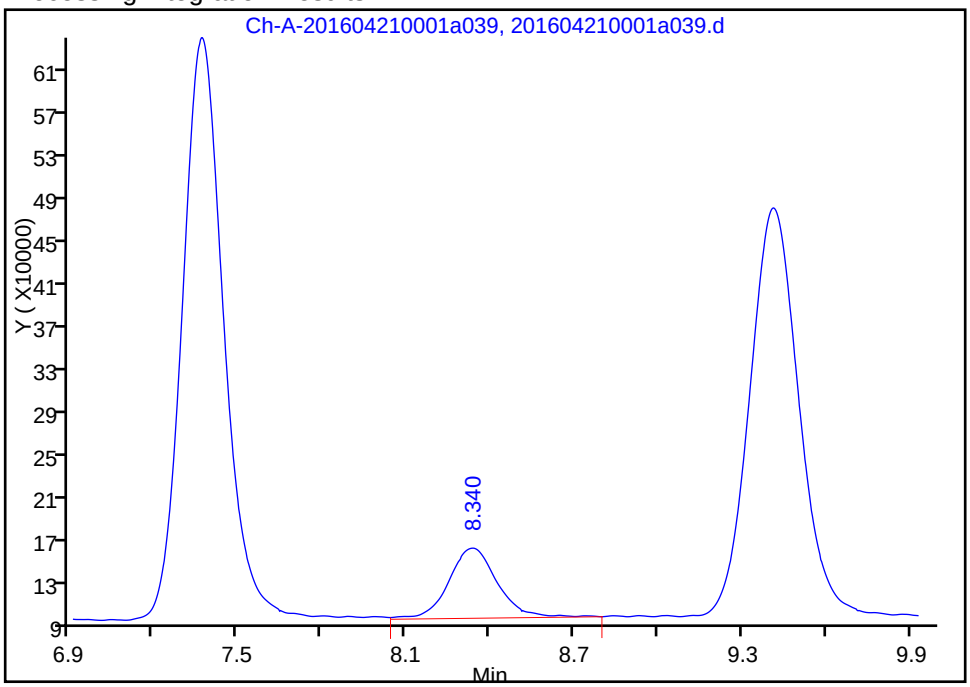
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a039.d				
Injection Date:	22-Apr-2016 02:34:13	Instrument ID:	IC-7		
Lims ID:	CCV				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

Signal: 1

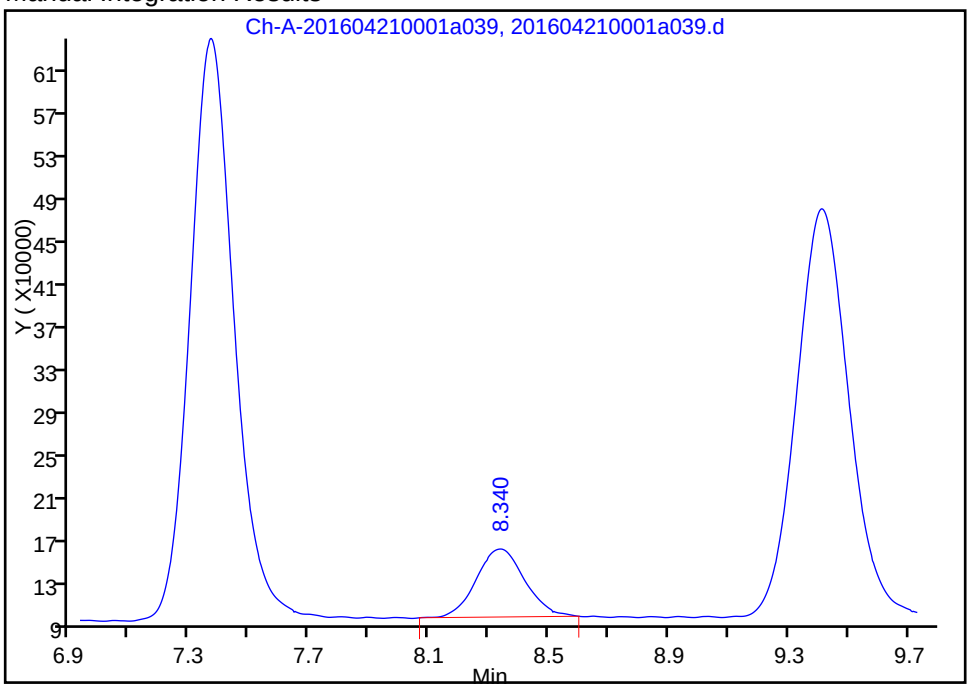
Processing Integration Results

RT: 8.34
Area: 788497
Amount: 53.855980
Amount Units: ug/l



Manual Integration Results

RT: 8.34
Area: 710125
Amount: 48.479910
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 07:11:39

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15365		52.5	50.1	4.9	15.0
Bromide	Lin		26519		531	500	6.2	15.0
Chlorate	Lin		22895		204	200	2.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	13554		1040	994	4.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.35	7.64	8.79
Bromide	15.40	14.00	16.10
Chlorate	16.57	15.42	17.04
Dichloroacetic acid(Surr)	13.57	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a016.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	23-Apr-2016 16:27:25	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-016				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:34	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:11:34

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.390	7.267	0.123	5519566	NC	NC	
3 Bromate	8.353	8.213	0.140	768996	50.1	52.5	
$ 6 Dichloroacetic acid(Surr)	13.570	13.370	0.200	13468399	993.7	1035.7	
4 Bromide	15.400	15.050	0.350	13259731	500.0	530.9	
2 Chlorate	16.567	16.230	0.337	4578974	200.0	204.5	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

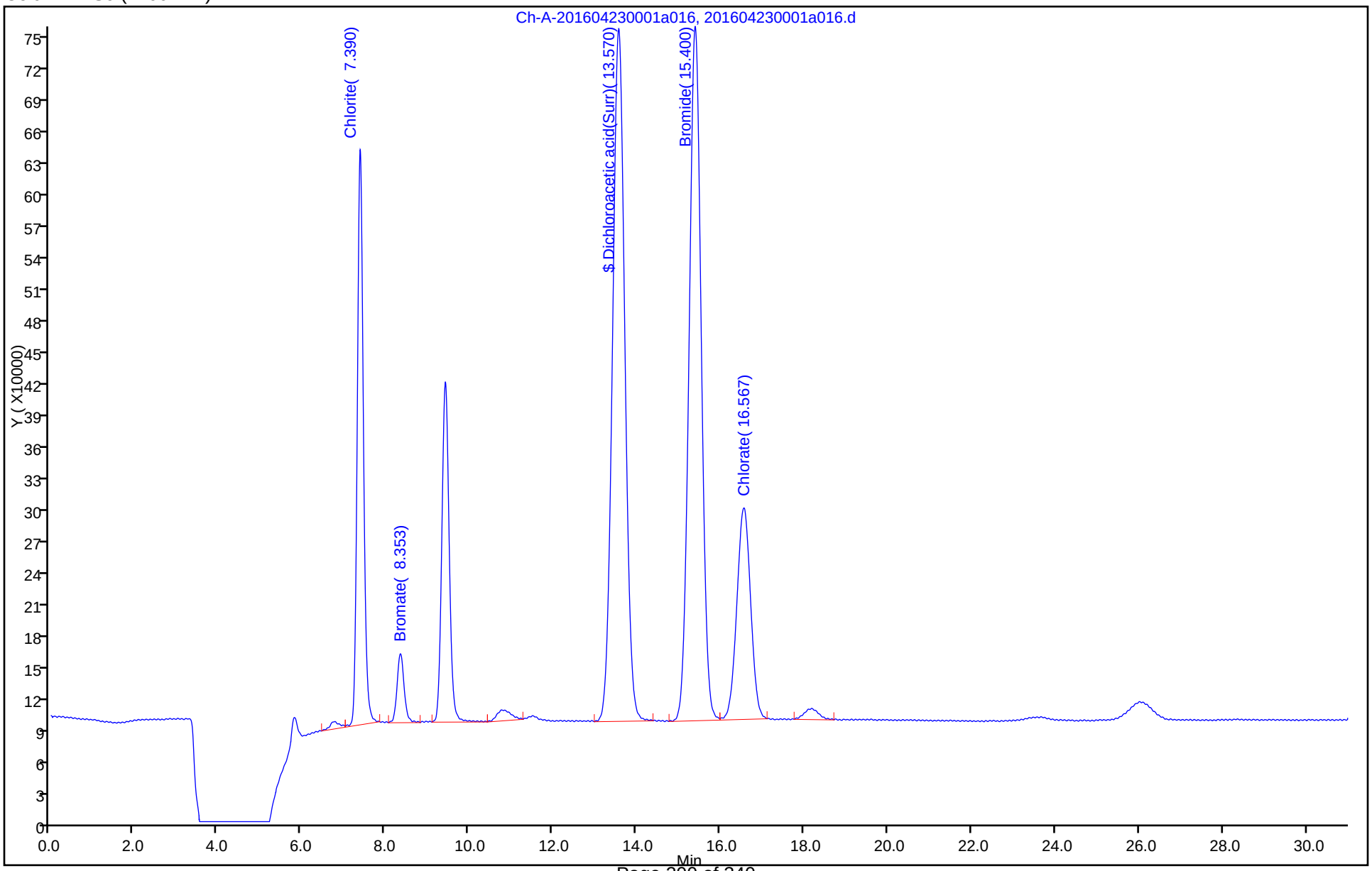
Report Date: 24-Apr-2016 05:11:35 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a016.d

Injection Date:	23-Apr-2016 16:27:25	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325632/4
Matrix: Water
Lab File ID: 201604210001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 07:12
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a004.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Apr-2016 07:12:56	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-004				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	21-Apr-2016 12:06:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.547	13.370	0.177	13266447	993.7	1020.2	
$ 1 Dichloroacetic acid	13.547	13.833	-0.286	13266447		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

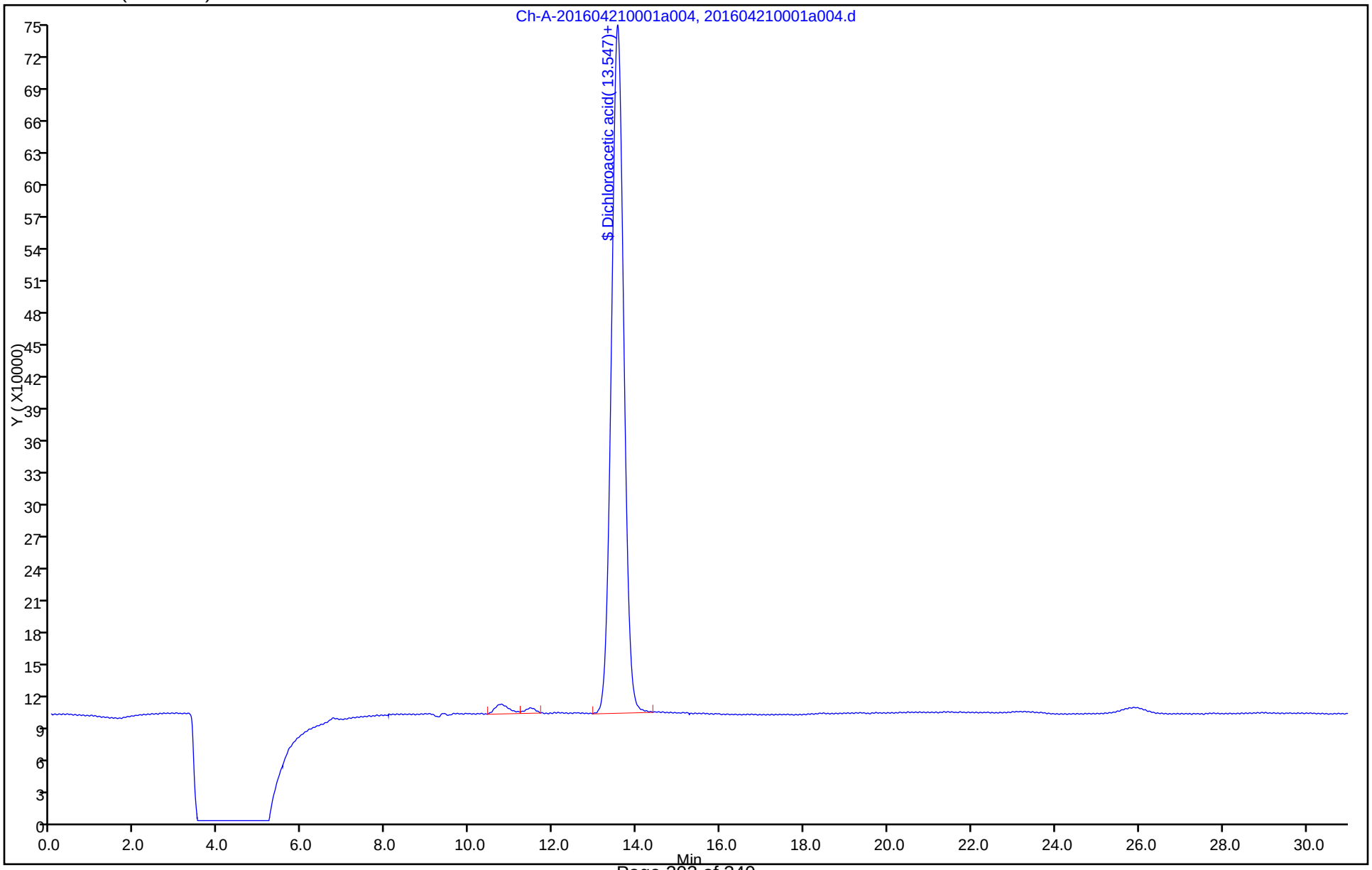
Report Date: 21-Apr-2016 11:11:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a004.d

Injection Date:	21-Apr-2016 07:12:56	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-326094/5
Matrix: Water
Lab File ID: 201604230001a005.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 10:22
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a005.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Apr-2016 10:22:27	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-005				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.527	13.370	0.157	13408777	993.7	1031.2	
$ 1 Dichloroacetic acid	13.527	13.833	-0.306	13408777		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

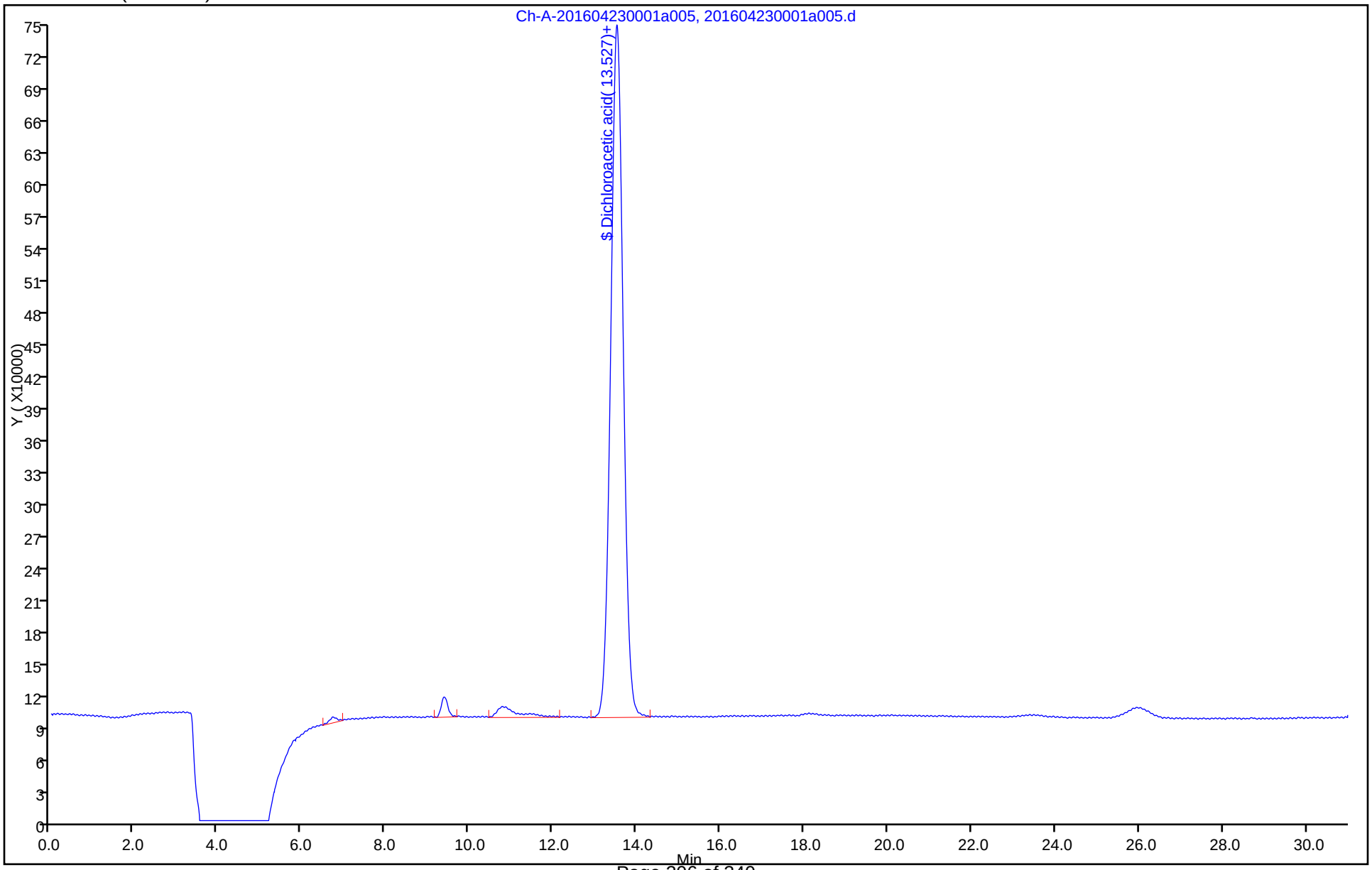
Report Date: 23-Apr-2016 12:25:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a005.d

Injection Date:	23-Apr-2016 10:22:27	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MB			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325632/16
Matrix: Water
Lab File ID: 201604210001a016.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 13:51
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	102		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a016.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 13:51:05	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-016				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:05:09	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:05:21		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.600	13.370	0.230	13242442	993.7	1018.4	
$ 1 Dichloroacetic acid	13.600	13.833	-0.233	13242442		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

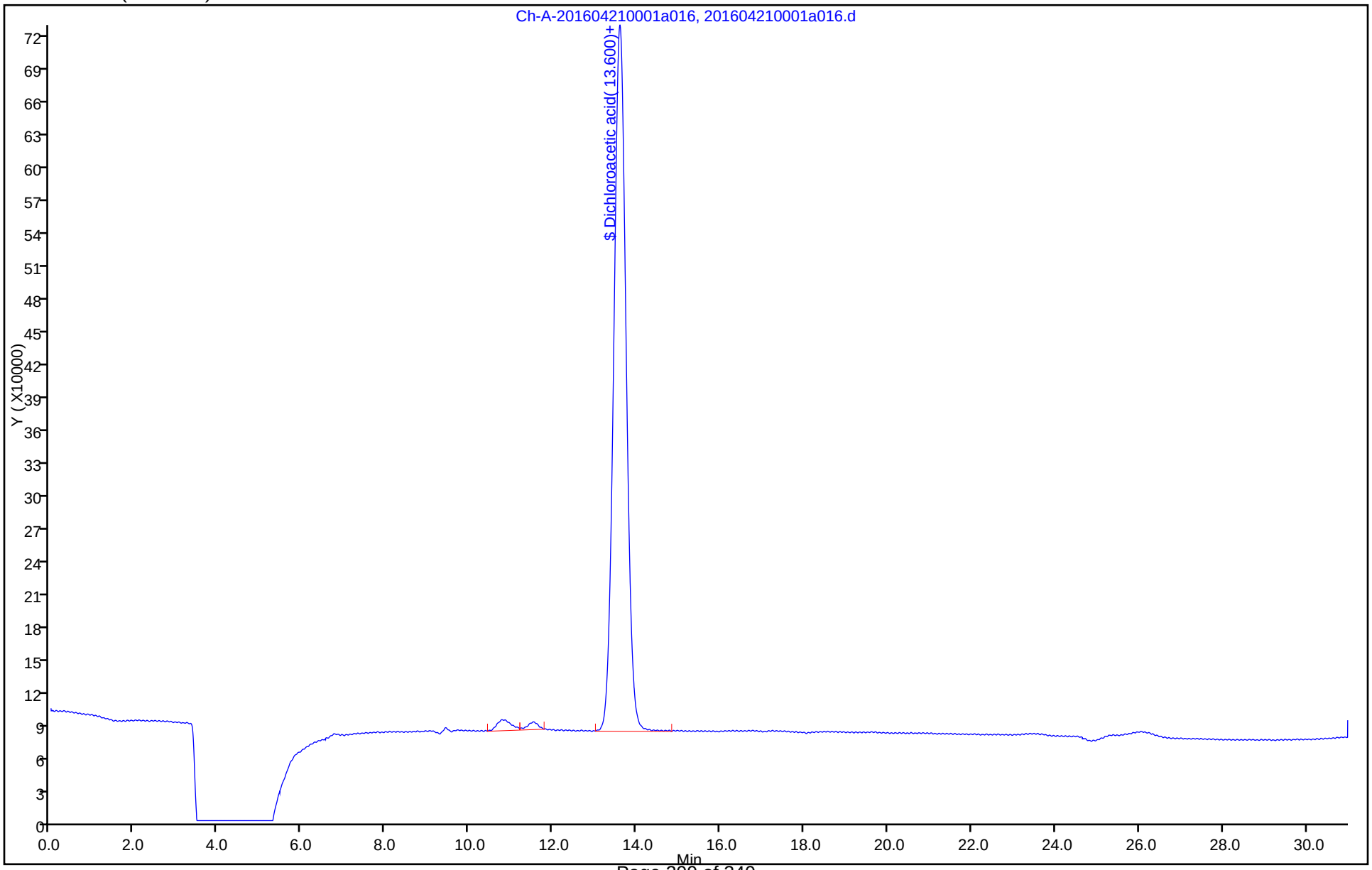
Report Date: 23-Apr-2016 07:05:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a016.d

Injection Date:	21-Apr-2016 13:51:05	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325632/28
Matrix: Water
Lab File ID: 201604210001a028.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 20:29
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a028.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 20:29:14	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-028				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:07:52	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:07:57		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.567	13.370	0.197	13390328	993.7	1029.7	
$ 1 Dichloroacetic acid	13.567	13.833	-0.266	13390328		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

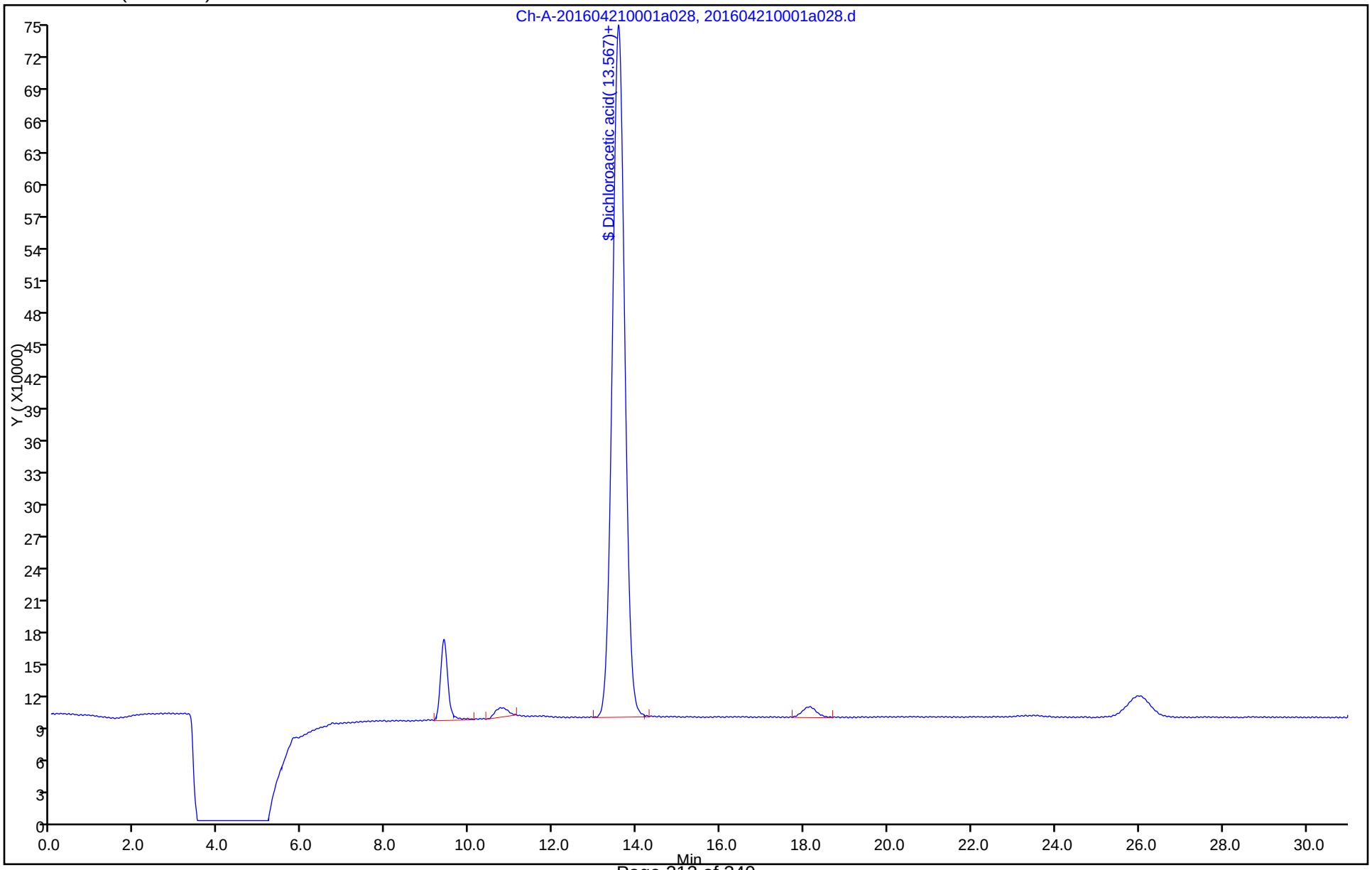
Report Date: 23-Apr-2016 07:07:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a028.d

Injection Date:	21-Apr-2016 20:29:14	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325632/44
Matrix: Water
Lab File ID: 201604210001a040.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 03:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a040.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	22-Apr-2016 03:07:23	ALS Bottle#:	0	Worklist Smp#:	44
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-040				
Misc. Info.:	Study: 72110 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 07:11:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 07:11:47		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.503	13.370	0.133	13546313	993.7	1041.7	
$ 1 Dichloroacetic acid	13.503	13.833	-0.330	13546313		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

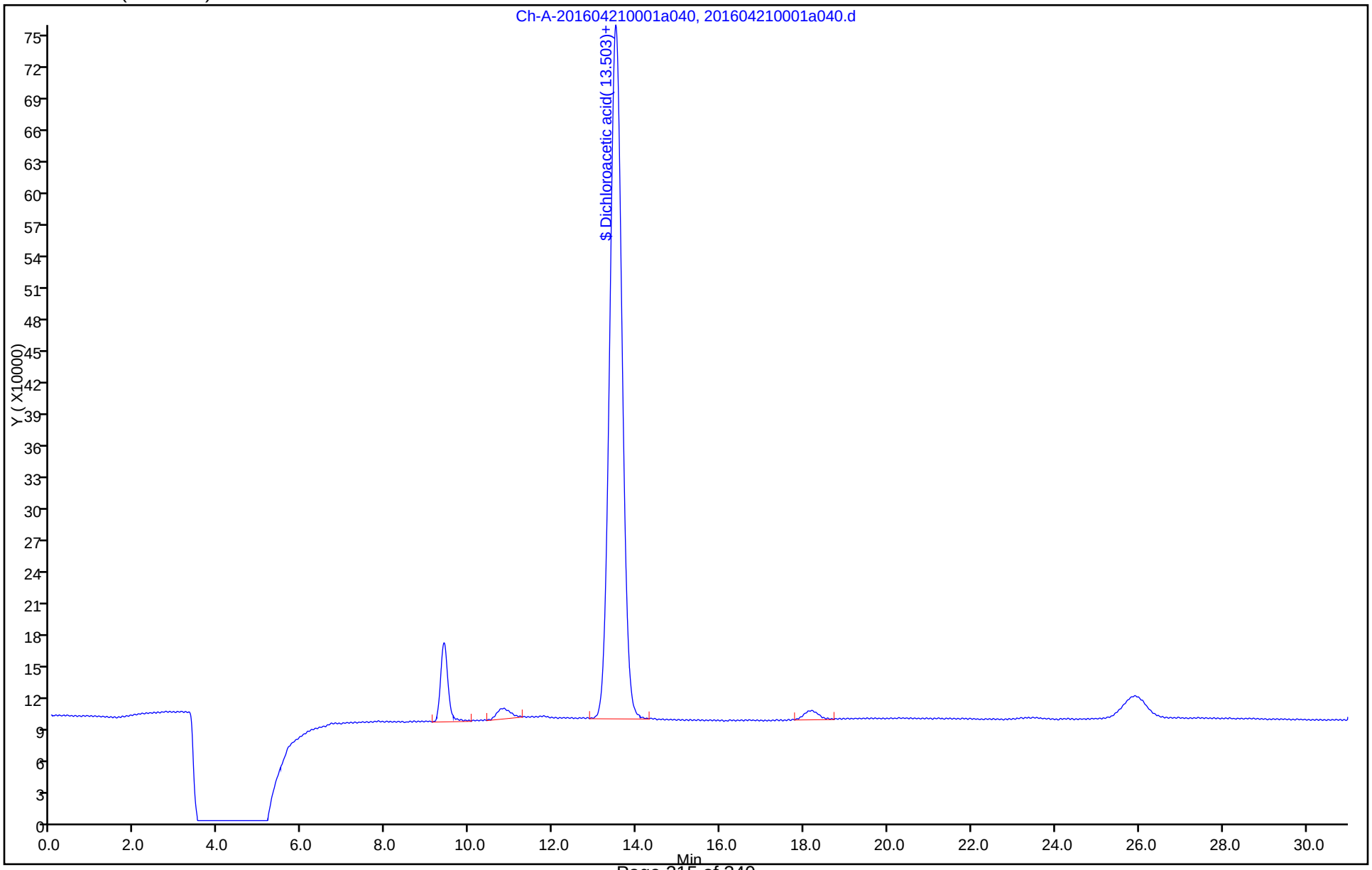
Report Date: 23-Apr-2016 07:11:47 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a040.d

Injection Date:	22-Apr-2016 03:07:23	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/17
Matrix: Water
Lab File ID: 201604230001a017.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 17:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 23-Apr-2016 17:00:36 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 440-0072215-017
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 24-Apr-2016 05:11:45 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK005

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:11:45

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.460	13.370	0.090	13361097	993.7	1027.5	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

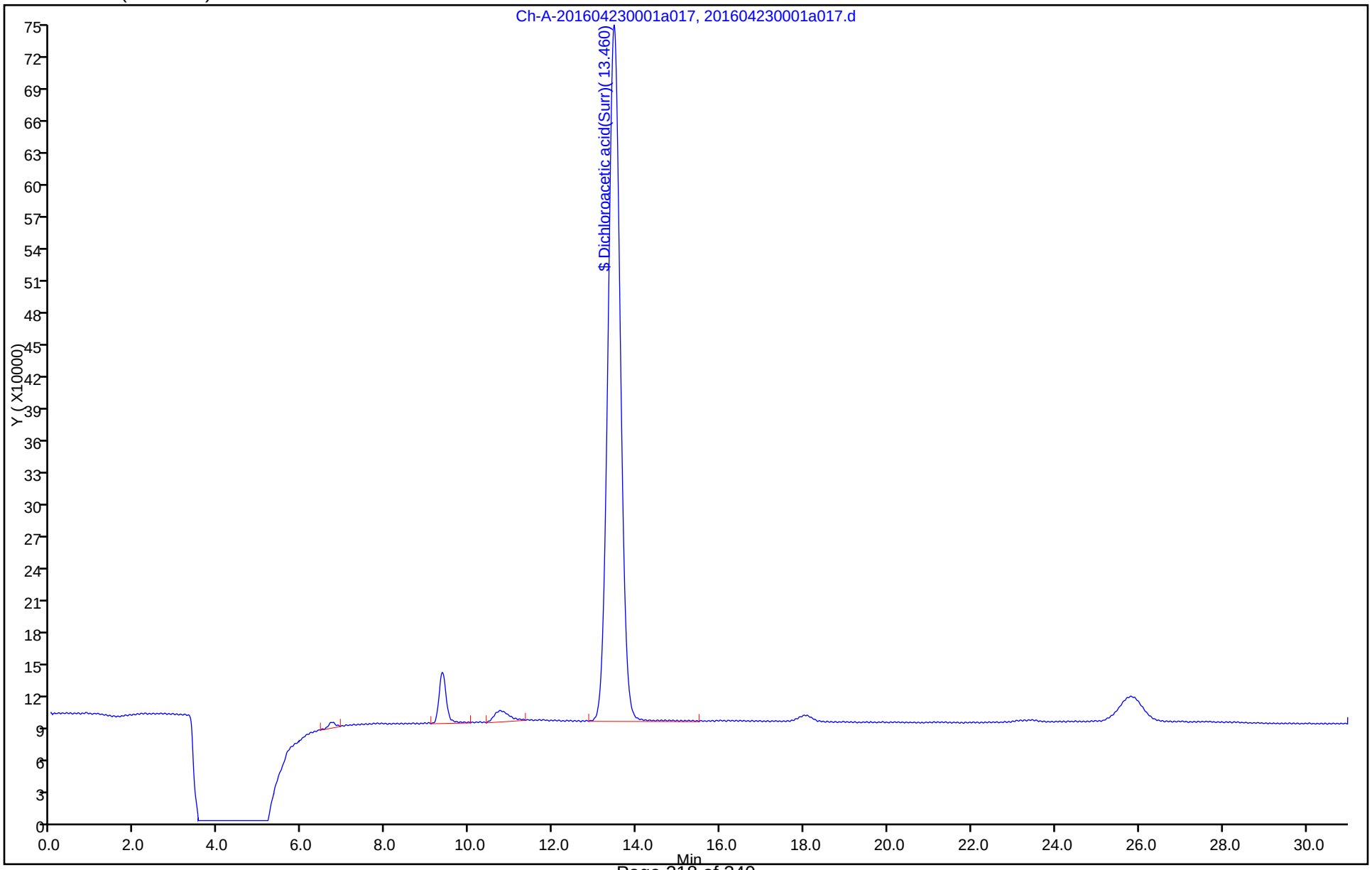
Report Date: 24-Apr-2016 05:11:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a017.d

Injection Date:	23-Apr-2016 17:00:36	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325632/3
Matrix: Water
Lab File ID: 201604210001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:39
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	107		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a003.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	21-Apr-2016 06:39:45	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-003				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	21-Apr-2016 12:06:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK027				

First Level Reviewer: zakhrabovy Date: 21-Apr-2016 08:38:28

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.383	7.267	0.116	2839240	NC	NC	
3 Bromate	8.337	8.213	0.124	353356	25.0	24.0	M
$ 6 Dichloroacetic acid(Surr)	13.577	13.370	0.207	13553439	993.7	1042.3	
4 Bromide	15.327	15.050	0.277	6618665	250.0	261.7	
2 Chlorate	16.497	16.230	0.267	2415632	100.0	107.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

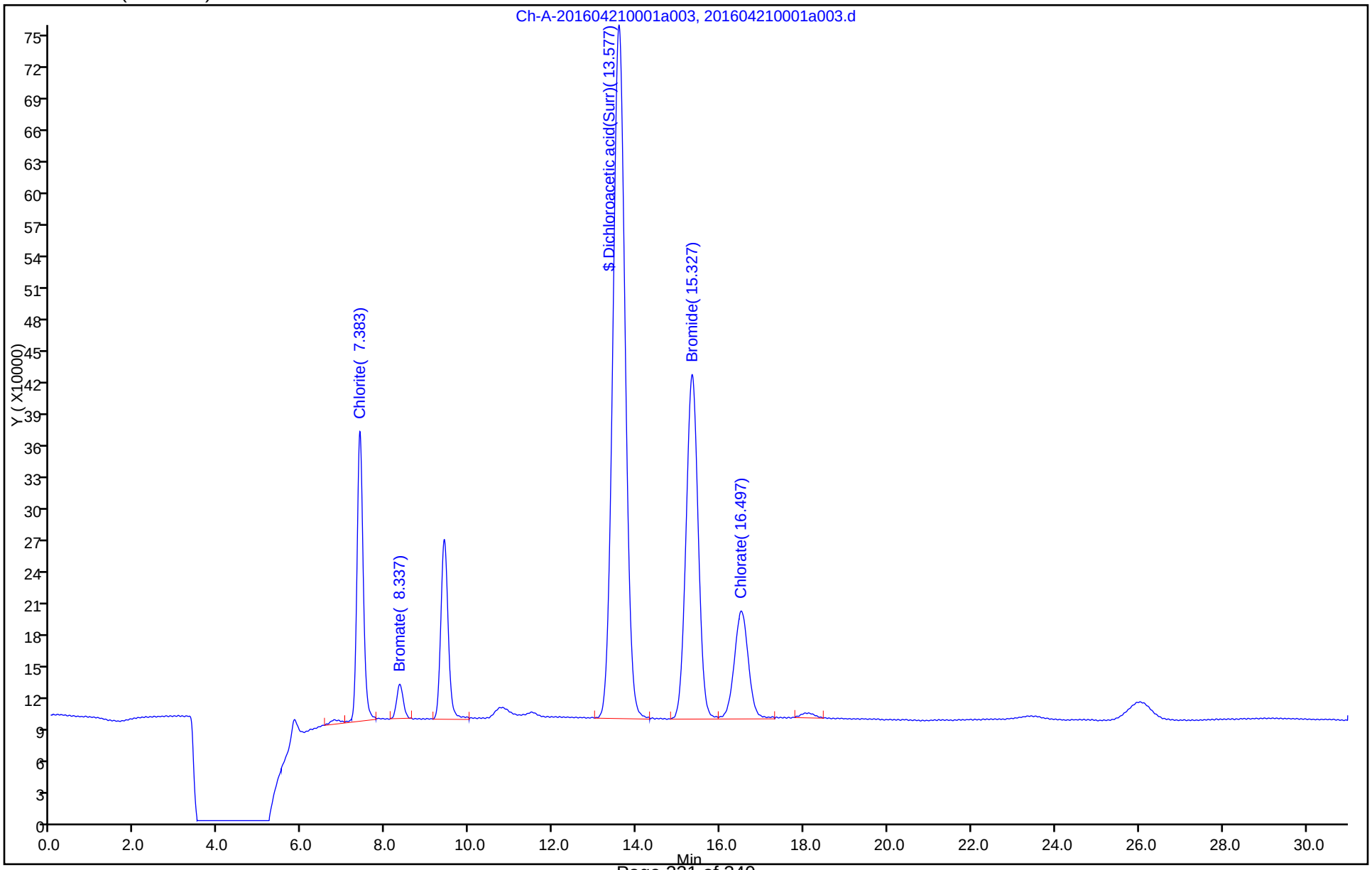
Report Date: 21-Apr-2016 11:11:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a003.d

Injection Date:	21-Apr-2016 06:39:45	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-326094/4
Matrix: Water
Lab File ID: 201604230001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	98.0		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a004.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Apr-2016 09:49:16	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-004				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 12:24:27		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.423	7.267	0.156	2651883	NC	NC	M
3 Bromate	8.393	8.213	0.180	343399	25.0	23.3	M
$ 6 Dichloroacetic acid(Surr)	13.633	13.370	0.263	13574777	993.7	1043.9	
4 Bromide	15.460	15.050	0.410	6355912	250.0	251.1	
2 Chlorate	16.613	16.230	0.383	2213018	100.0	98.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

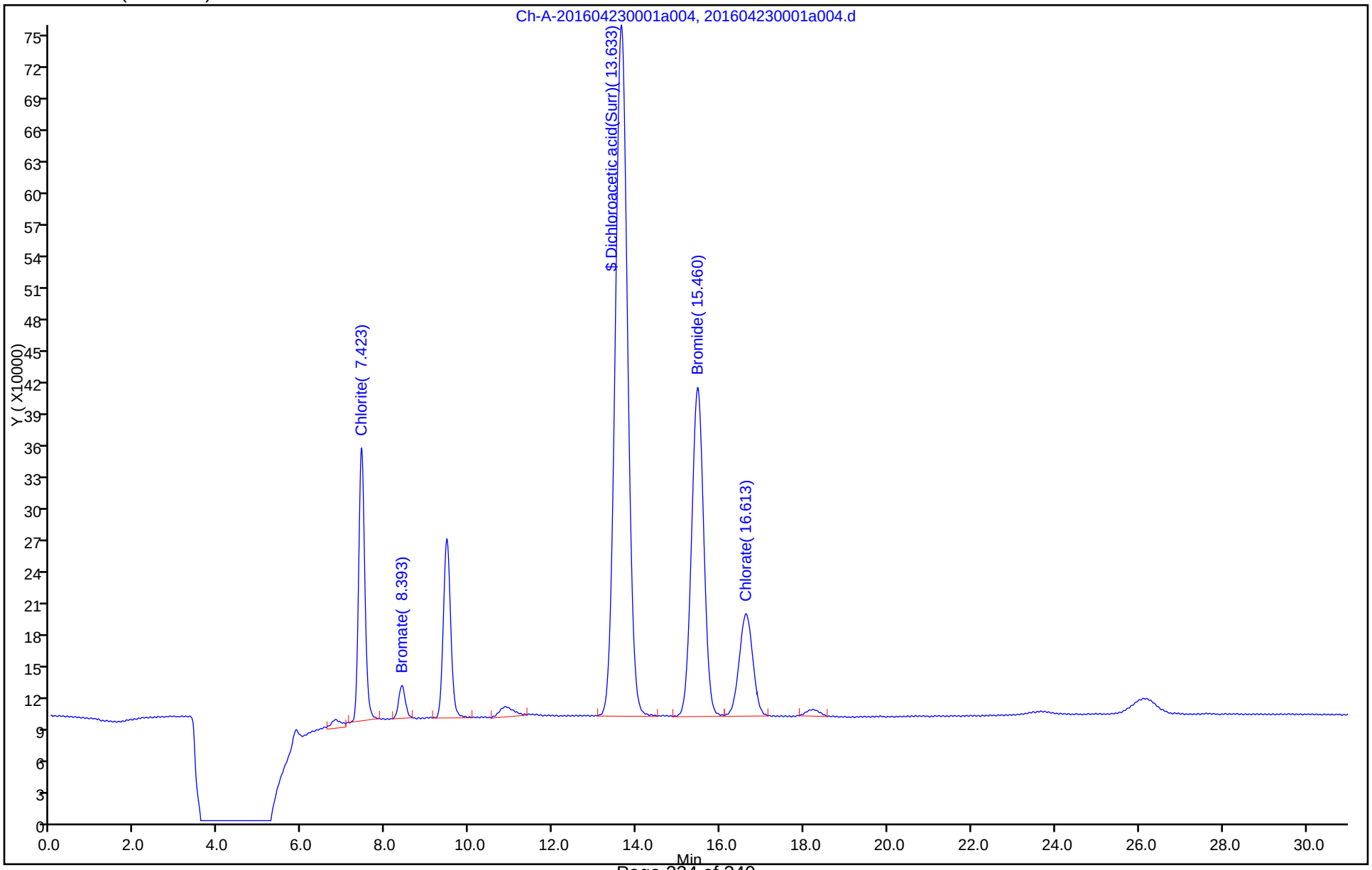
Report Date: 23-Apr-2016 12:25:18 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a004.d

Injection Date:	23-Apr-2016 09:49:16	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-325632/2
Matrix: Water
Lab File ID: 201604210001a002.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 05:39
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	20.7		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a002.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	21-Apr-2016 05:39:56	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072110-002				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	21-Apr-2016 12:06:07	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK027	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.347	7.267	0.080	602314	NC	NC	
3 Bromate	8.303	8.213	0.090	87844	5.01	5.79	
$ 6 Dichloroacetic acid(Surr)	13.513	13.370	0.143	13357125	993.7	1027.2	
$ 1 Dichloroacetic acid	13.513	13.833	-0.320	13357125		NC	
4 Bromide	15.217	15.050	0.167	1384940	50.0	49.6	
2 Chlorate	16.380	16.230	0.150	495471	20.0	20.7	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

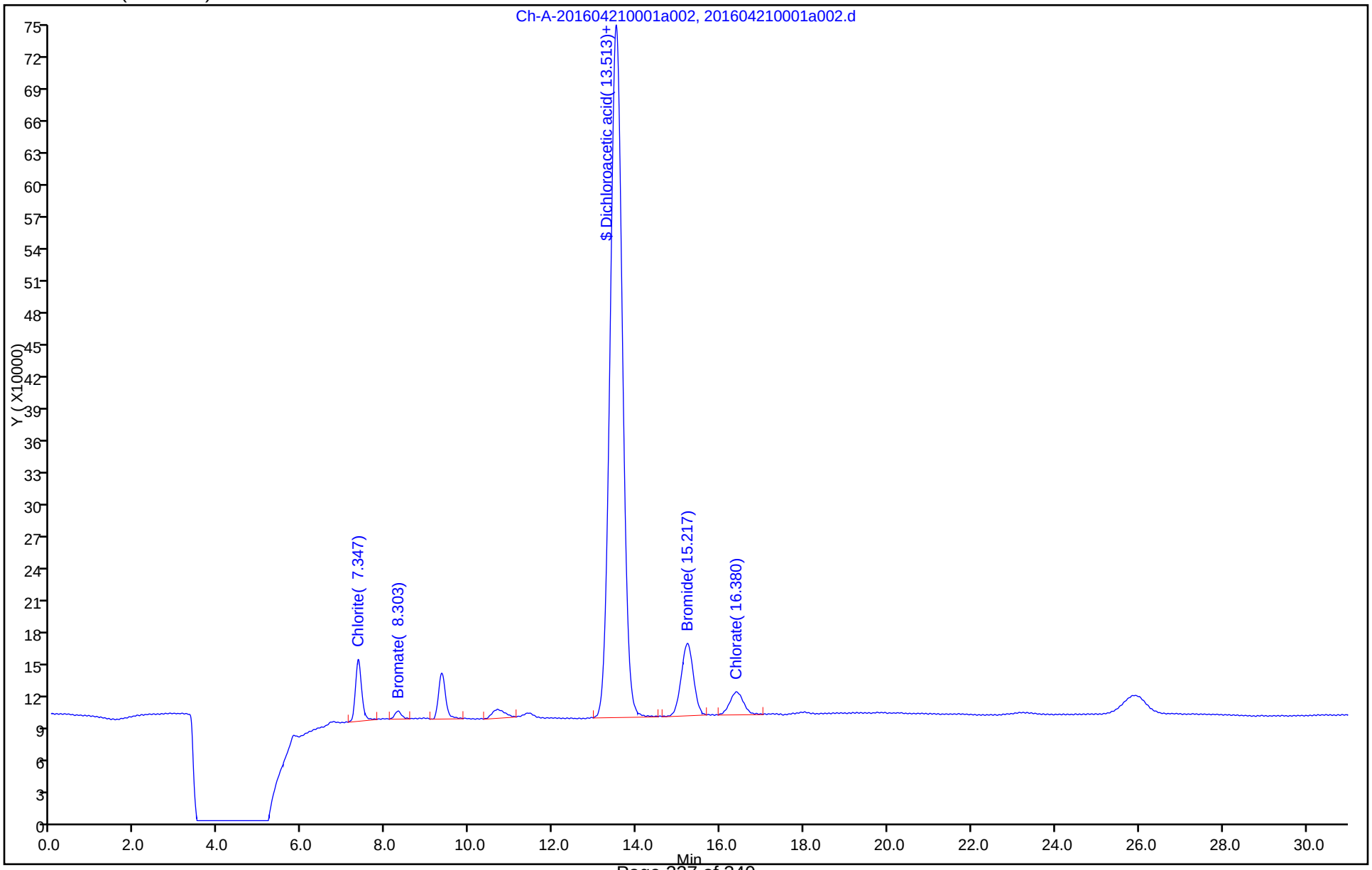
Report Date: 21-Apr-2016 11:11:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a002.d

Injection Date:	21-Apr-2016 05:39:56	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MRL			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-326094/3
Matrix: Water
Lab File ID: 201604230001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.0	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	23-Apr-2016 09:16:05	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-003				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK018	

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 12:23:55

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.343	7.267	0.076	576282	NC	NC	M
3 Bromate	8.287	8.213	0.074	78404	5.01	5.15	
$ 6 Dichloroacetic acid(Surr)	13.520	13.370	0.150	13644290	993.7	1049.3	
$ 1 Dichloroacetic acid	13.520	13.833	-0.313	13644290		NC	
4 Bromide	15.320	15.050	0.270	1366163	50.0	48.9	
2 Chlorate	16.467	16.230	0.237	457537	20.0	19.0	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

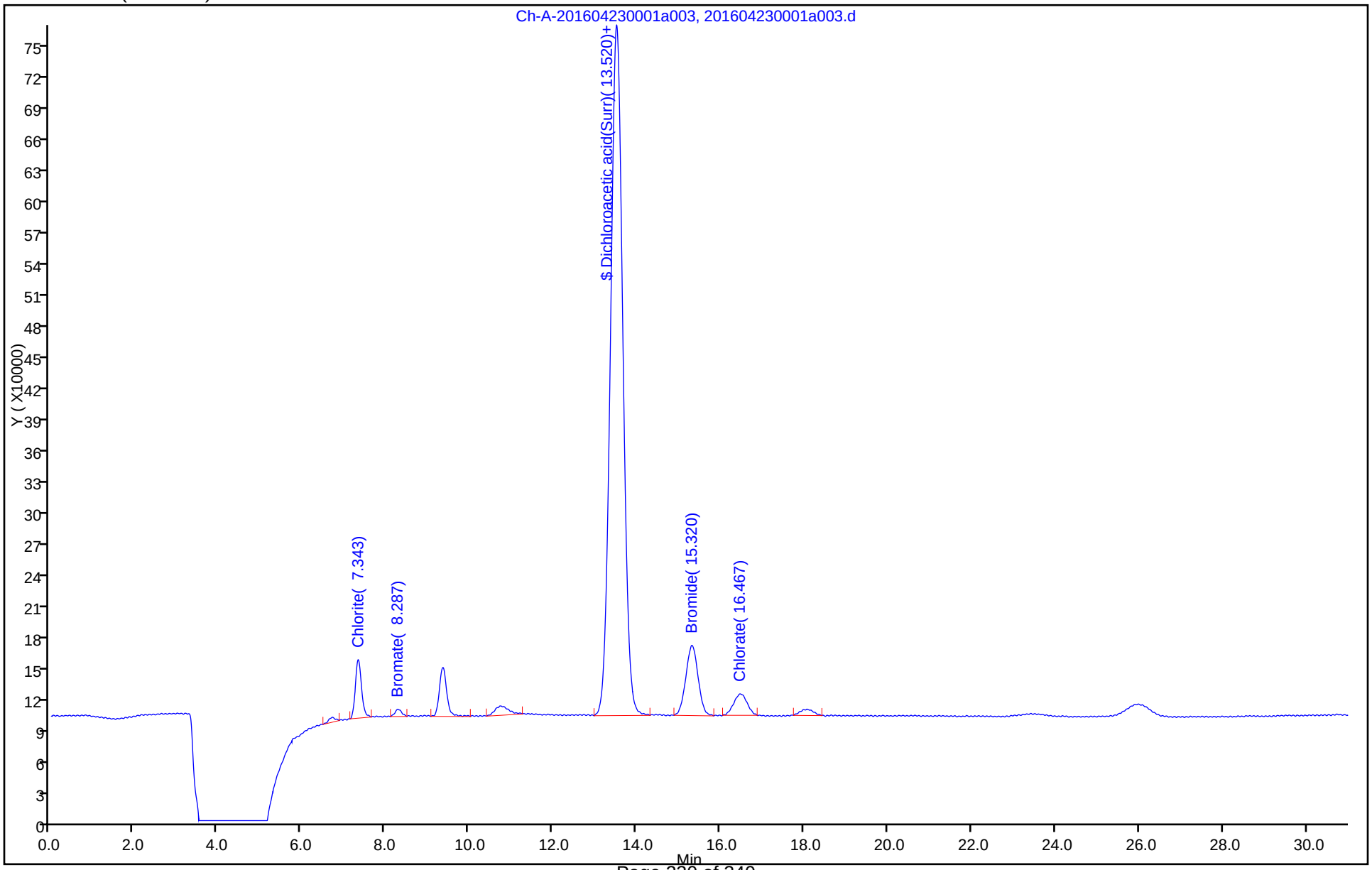
Report Date: 23-Apr-2016 12:25:17 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d

Injection Date:	23-Apr-2016 09:16:05	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

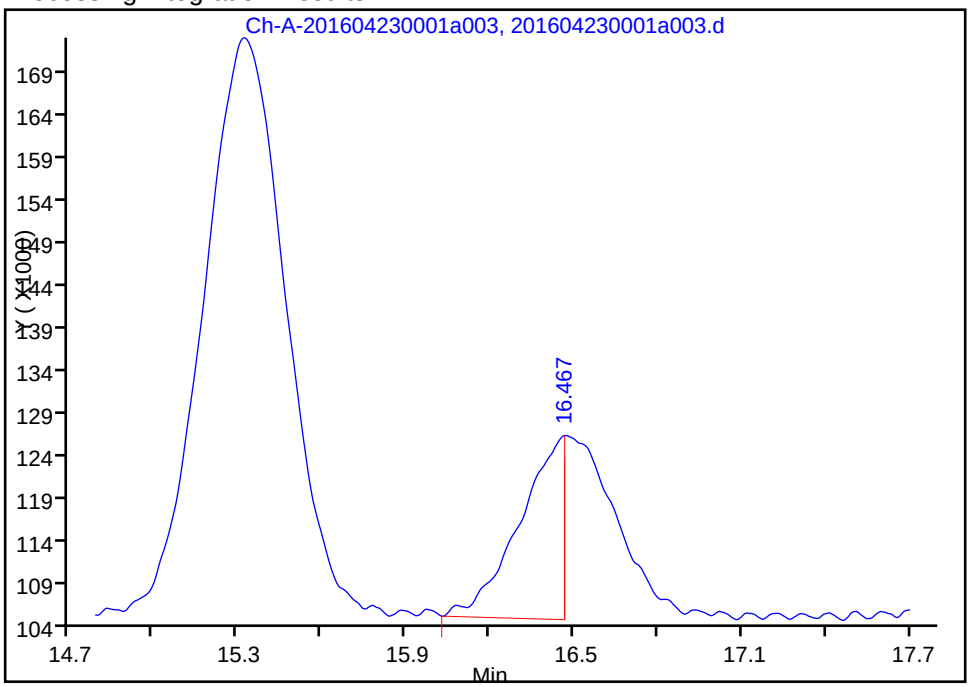
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d				
Injection Date:	23-Apr-2016 09:16:05	Instrument ID:	IC-7		
Lims ID:	MRL				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

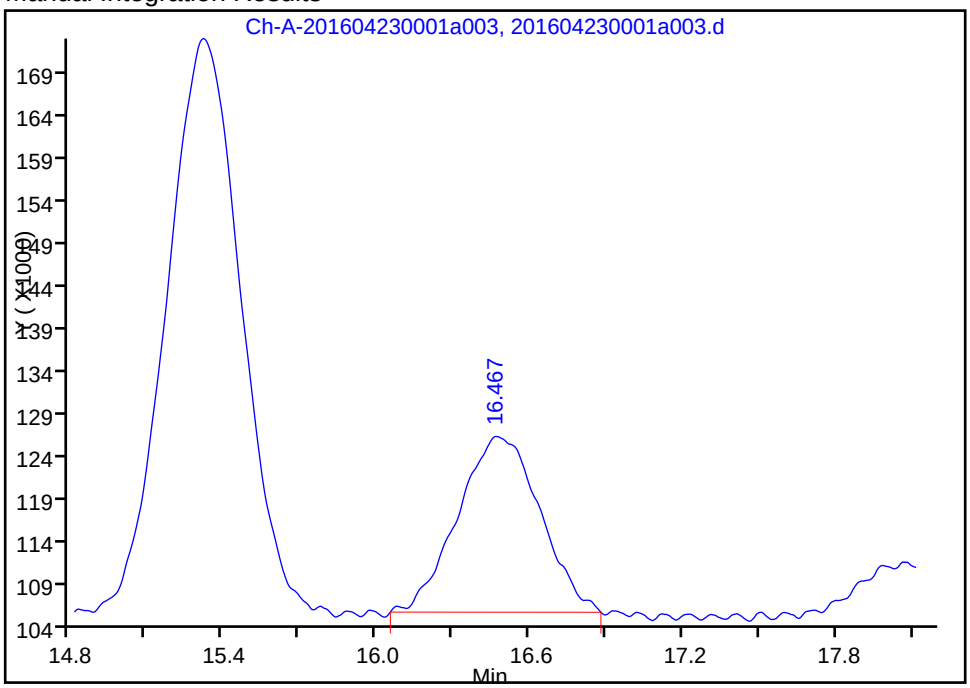
Processing Integration Results

RT: 16.47
Area: 230772
Amount: 8.800354
Amount Units: ug/l



Manual Integration Results

RT: 16.47
Area: 457537
Amount: 19.004167
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 12:23:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419 MS
Lab Sample ID: 440-144937-3 MS
Matrix: Water
Lab File ID: 201604230001a013.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 14:47
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	21700		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a013.d				
Lims ID:	440-144937-A-3 MSD				
Client ID:	DBMW-1-20160419				
Sample Type:	MSD				
Inject. Date:	23-Apr-2016 14:47:53	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072215-013				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:01	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 05:11:01		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.450	13.370	0.080	13456972	9.94	1034.9	
4 Bromide	15.210	15.050	0.160	259163	10.0	3.99	7
2 Chlorate	16.393	16.230	0.163	4859061	4.00	217.1	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

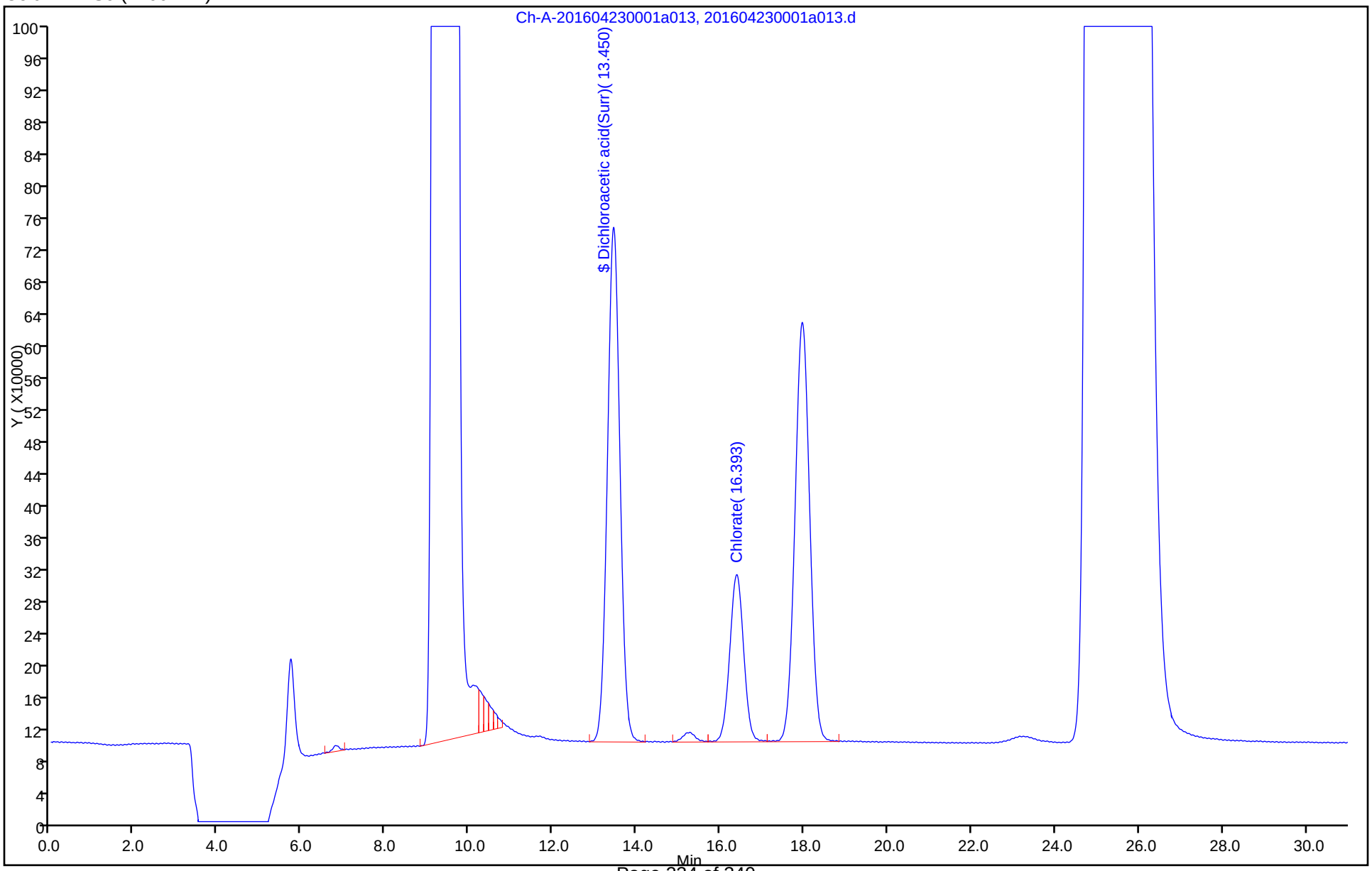
Report Date: 24-Apr-2016 05:11:02 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a013.d

Injection Date:	23-Apr-2016 14:47:53	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144937-A-3 MSD			Worklist Smp#:	13
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144899-A-2 MS
Matrix: Water
Lab File ID: 201604210001a018.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 08:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 14:57
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	430		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a018.d				
Lims ID:	440-144899-A-2 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	21-Apr-2016 14:57:27	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072110-018				
Misc. Info.:	Study: 72013 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	23-Apr-2016 07:06:04	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK018	

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:06:04

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.313	7.267	0.046	2755596	NC	NC	
3 Bromate	8.320	8.213	0.107	223340	25.0	15.1	M
$ 6 Dichloroacetic acid(Surr)	13.533	13.370	0.163	13558980	496.9	1042.7	
$ 1 Dichloroacetic acid	13.533	13.833	-0.300	13558980		NC	
4 Bromide	15.297	15.050	0.247	9304627	250.0	370.6	
2 Chlorate	16.457	16.230	0.227	4808839	100.0	214.8	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

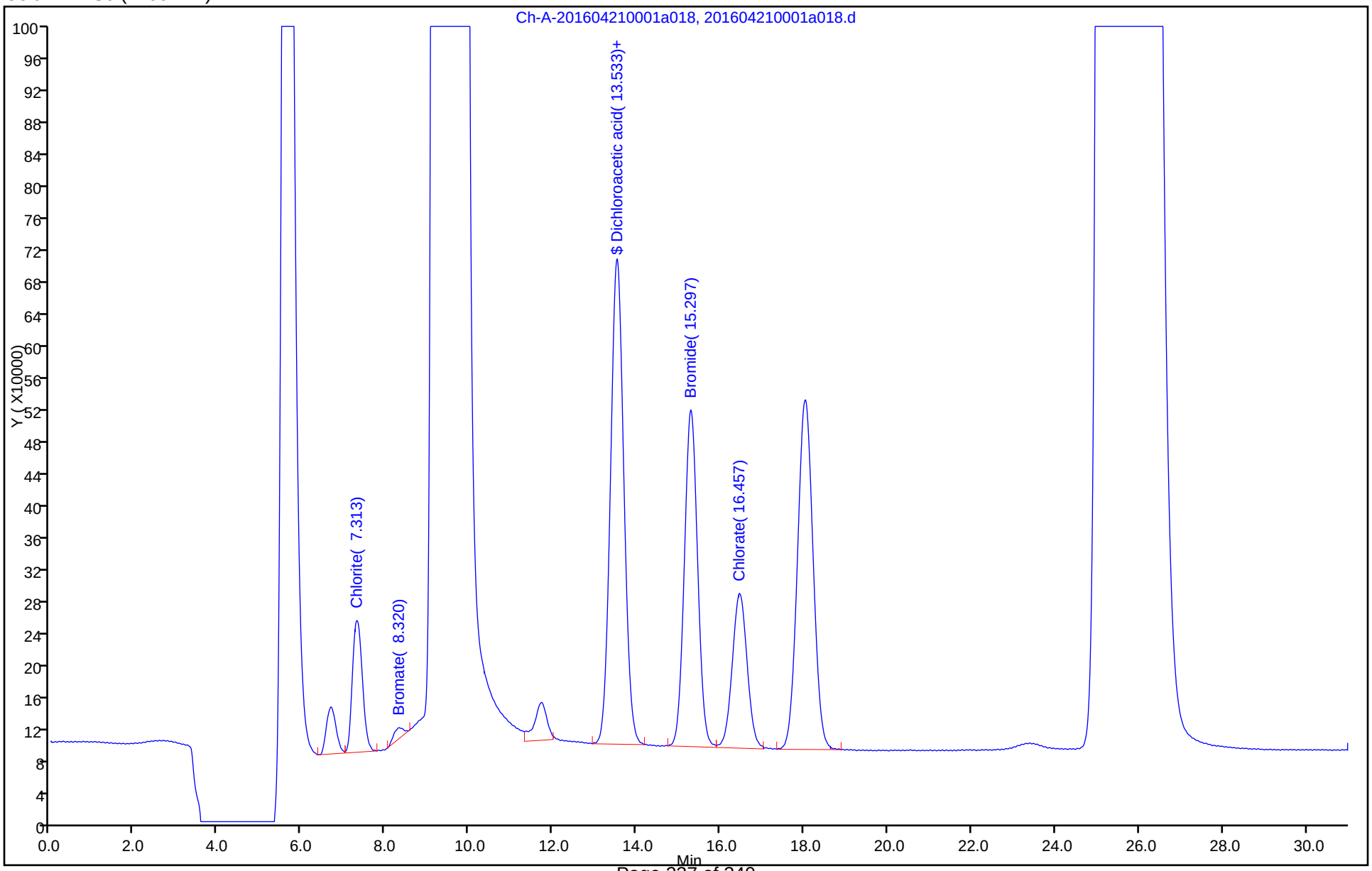
Report Date: 23-Apr-2016 07:06:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a018.d

Injection Date:	21-Apr-2016 14:57:27	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144899-A-2 MS			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419 MSD
Lab Sample ID: 440-144937-3 MSD
Matrix: Water
Lab File ID: 201604230001a014.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 15:21
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	21600		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a014.d				
Lims ID:	440-144937-A-3 MSD				
Client ID:	DBMW-1-20160419				
Sample Type:	MSD				
Inject. Date:	23-Apr-2016 15:21:04	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072215-014				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:10:44	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:10:44

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.437	13.370	0.067	13409557	9.94	1031.2	
4 Bromide	15.193	15.050	0.143	235203	10.0	3.02	7
2 Chlorate	16.347	16.230	0.117	4839233	4.00	216.2	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

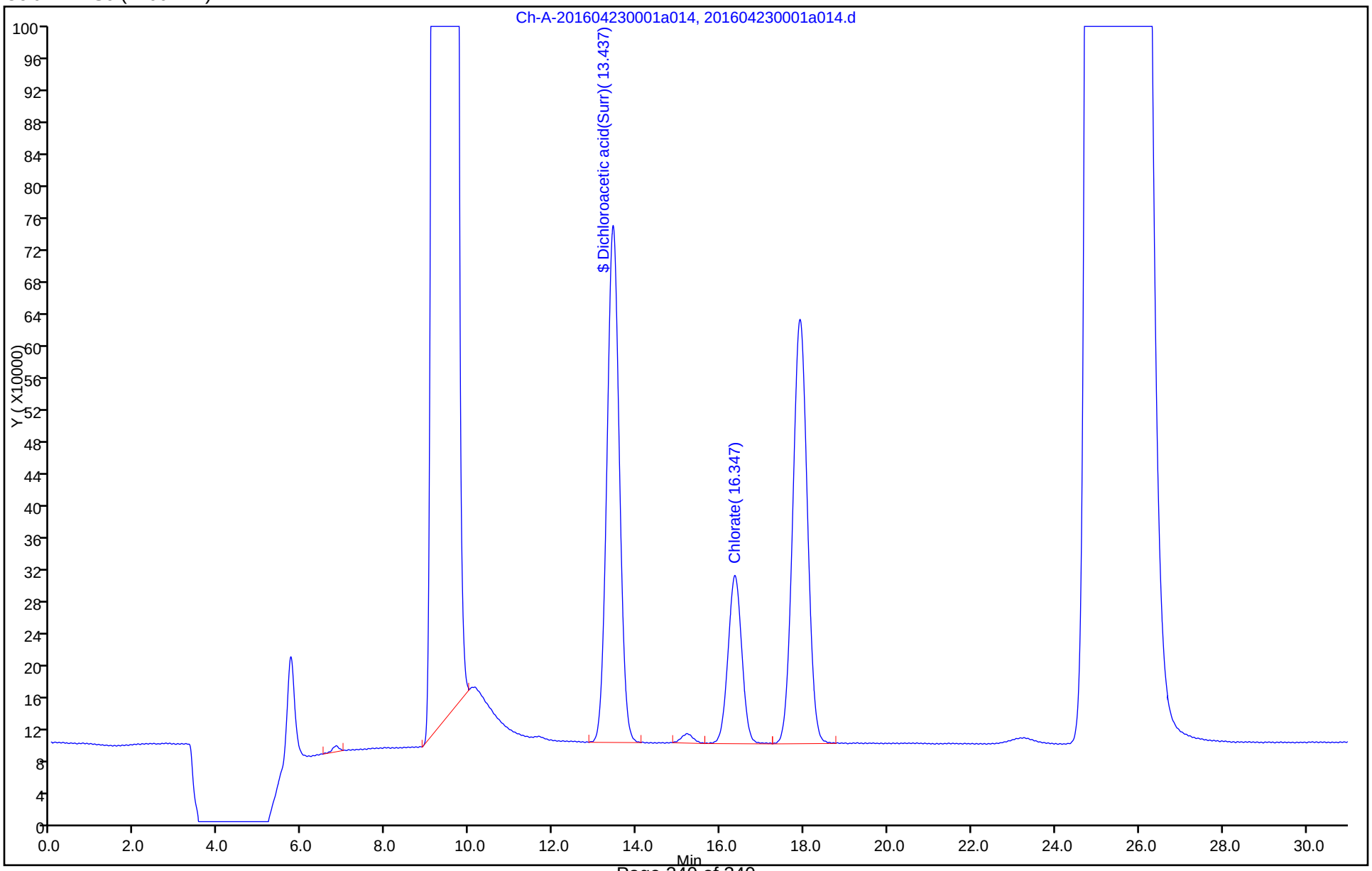
WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Apr-2016 05:10:44 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a014.d				
Injection Date:	23-Apr-2016 15:21:04	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144937-A-3 MSD			Worklist Smp#:	14
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144899-A-2 MSD
Matrix: Water
Lab File ID: 201604210001a019.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 08:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 15:30
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325632
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	433		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a019.d
Lims ID: 440-144899-A-2 MSD
Client ID:
Sample Type: MSD
Inject. Date: 21-Apr-2016 15:30:37 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: #: 001 Name: 440-0072110-019
Misc. Info.: Study: 72013 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 23-Apr-2016 07:06:25 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK018

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 07:06:25

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.337	7.267	0.070	2780052	NC	NC	
3 Bromate	8.357	8.213	0.144	248050	25.0	16.8	M
$ 6 Dichloroacetic acid(Surr)	13.547	13.370	0.177	13726090	496.9	1055.6	
$ 1 Dichloroacetic acid	13.547	13.833	-0.286	13726090		NC	
4 Bromide	15.320	15.050	0.270	9367591	250.0	373.2	
2 Chlorate	16.487	16.230	0.257	4844149	100.0	216.4	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 250.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

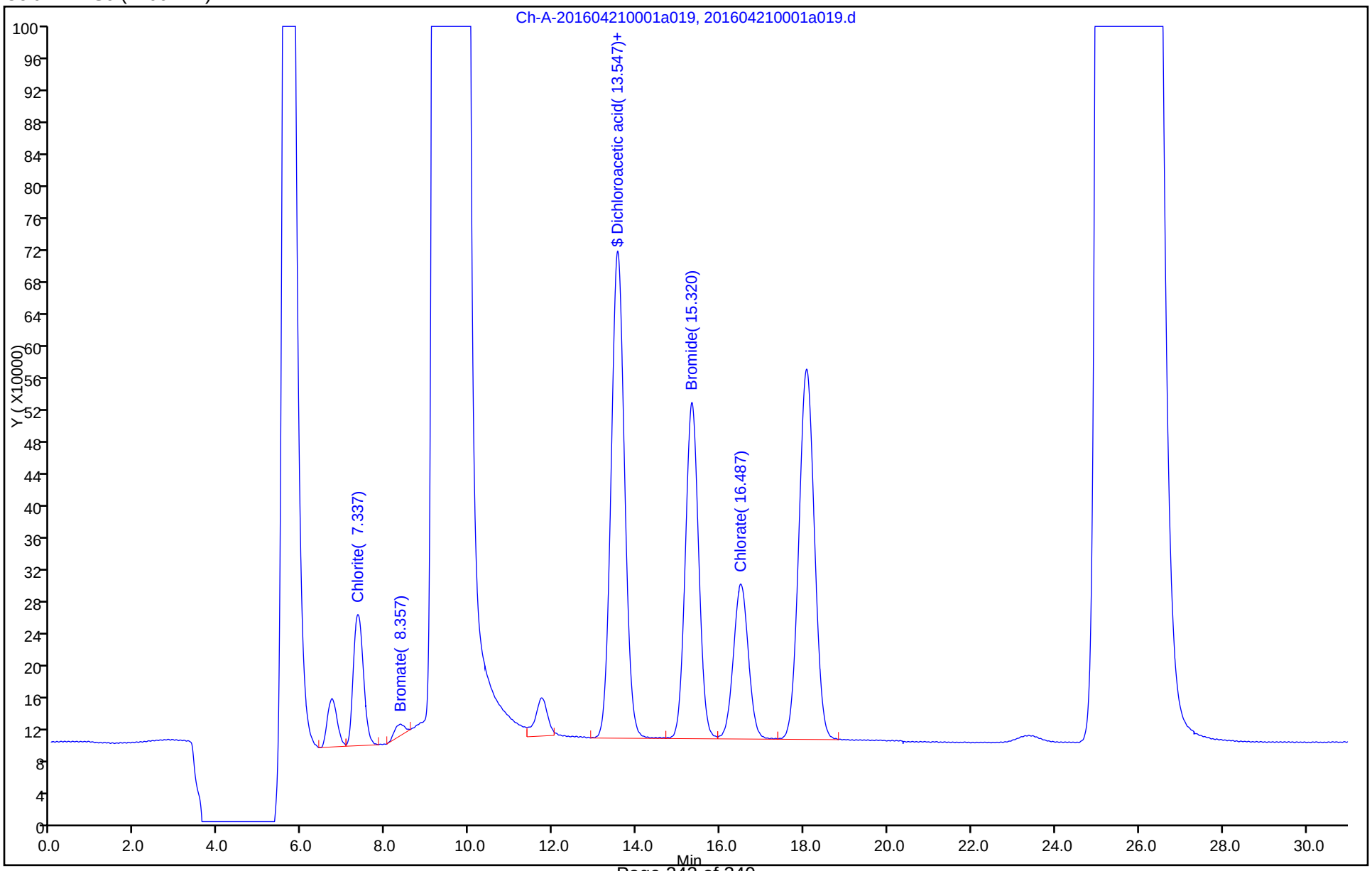
Report Date: 23-Apr-2016 07:06:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160421-72110.b\201604210001a019.d

Injection Date:	21-Apr-2016 15:30:37	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144899-A-2 MSD			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		01/28/2016 07:34	1		AS9-HC 4(mm)
STD0 440-308526/2 IC		01/28/2016 08:07	1	20160128a0002.d	AS9-HC 4(mm)
STD1 440-308526/3 IC		01/28/2016 08:41	1	20160128a0003.d	AS9-HC 4(mm)
STD2 440-308526/4 IC		01/28/2016 09:14	1	20160128a0004.d	AS9-HC 4(mm)
STD3 440-308526/5 IC		01/28/2016 09:47	1	20160128a0005.d	AS9-HC 4(mm)
STD4 440-308526/6 IC		01/28/2016 10:20	1	20160128a0006.d	AS9-HC 4(mm)
STD5 440-308526/7 IC		01/28/2016 10:53	1	20160128a0007.d	AS9-HC 4(mm)
ICV 440-308526/8		01/28/2016 11:30	1		AS9-HC 4(mm)
ICB 440-308526/9		01/28/2016 12:04	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 12:37	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:10	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:43	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:16	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:50	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:23	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:56	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 16:29	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 17:02	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 18:42	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 19:15	5		AS9-HC 4(mm)
CCV 440-308526/23		01/28/2016 19:48	1		AS9-HC 4(mm)
CCB 440-308526/24		01/28/2016 20:21	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 20:54	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 21:28	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 22:01	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:20	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:53	1		AS9-HC 4(mm)
CCV 440-308526/35		01/29/2016 02:26	1		AS9-HC 4(mm)
CCB 440-308526/36		01/29/2016 02:59	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 03:33	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 04:09	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:01	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:34	10		AS9-HC 4(mm)
CCV 440-308526/47		01/29/2016 09:08	1		AS9-HC 4(mm)
CCB 440-308526/48		01/29/2016 09:41	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 10:14	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:20	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:54	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 12:27	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:00	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:33	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:06	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:39	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 15:13	10		AS9-HC 4(mm)
CCV 440-308526/59		01/29/2016 15:46	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 440-308526/60		01/29/2016 16:19	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/21/2016 05:06

Analysis Batch Number: 325632 End Date: 04/22/2016 03:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/21/2016 05:06	1		AS9-HC 4(mm)
MRL 440-325632/2		04/21/2016 05:39	1	201604210001a002.d	AS9-HC 4(mm)
LCS 440-325632/3		04/21/2016 06:39	1	201604210001a003.d	AS9-HC 4(mm)
MB 440-325632/4		04/21/2016 07:12	1	201604210001a004.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 07:46	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 08:19	1		AS9-HC 4(mm)
ZZZZZ		04/21/2016 08:52	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 09:25	1		AS9-HC 4(mm)
ZZZZZ		04/21/2016 09:58	2		AS9-HC 4(mm)
ZZZZZ		04/21/2016 10:32	2		AS9-HC 4(mm)
ZZZZZ		04/21/2016 11:05	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 11:38	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 12:11	100		AS9-HC 4(mm)
CCV 440-325632/15		04/21/2016 13:17	1	201604210001a015.d	AS9-HC 4(mm)
CCB 440-325632/16		04/21/2016 13:51	1	201604210001a016.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 14:24	1		AS9-HC 4(mm)
440-144899-A-2 MS		04/21/2016 14:57	2	201604210001a018.d	AS9-HC 4(mm)
440-144899-A-2 MSD		04/21/2016 15:30	2	201604210001a019.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 16:03	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 16:36	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 17:10	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 17:43	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 18:16	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 18:49	500		AS9-HC 4(mm)
ZZZZZ		04/21/2016 19:22	500		AS9-HC 4(mm)
CCV 440-325632/27		04/21/2016 19:56	1	201604210001a027.d	AS9-HC 4(mm)
CCB 440-325632/28		04/21/2016 20:29	1	201604210001a028.d	AS9-HC 4(mm)
ZZZZZ		04/21/2016 21:02	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 21:35	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 22:08	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 22:41	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 23:15	100		AS9-HC 4(mm)
ZZZZZ		04/21/2016 23:48	100		AS9-HC 4(mm)
ZZZZZ		04/22/2016 00:21	100		AS9-HC 4(mm)
440-144937-1		04/22/2016 00:54	100	201604210001a036.d	AS9-HC 4(mm)
440-144937-2		04/22/2016 01:27	100	201604210001a037.d	AS9-HC 4(mm)
ZZZZZ		04/22/2016 02:01	500		AS9-HC 4(mm)
CCV 440-325632/43		04/22/2016 02:34	1	201604210001a039.d	AS9-HC 4(mm)
CCB 440-325632/44		04/22/2016 03:07	1	201604210001a040.d	AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/23/2016 08:09

Analysis Batch Number: 326094 End Date: 04/24/2016 10:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/23/2016 08:09	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 08:42	1		AS9-HC 4(mm)
MRL 440-326094/3		04/23/2016 09:16	1	201604230001a003.d	AS9-HC 4(mm)
LCS 440-326094/4		04/23/2016 09:49	1	201604230001a004.d	AS9-HC 4(mm)
MB 440-326094/5		04/23/2016 10:22	1	201604230001a005.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 10:55	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 11:28	5		AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:01	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:35	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 13:08	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 13:41	2		AS9-HC 4(mm)
440-144937-3		04/23/2016 14:14	100	201604230001a012.d	AS9-HC 4(mm)
440-144937-3 MS		04/23/2016 14:47	100	201604230001a013.d	AS9-HC 4(mm)
440-144937-3 MSD		04/23/2016 15:21	100	201604230001a014.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 15:54	1000		AS9-HC 4(mm)
CCV 440-326094/16		04/23/2016 16:27	1	201604230001a016.d	AS9-HC 4(mm)
CCB 440-326094/17		04/23/2016 17:00	1	201604230001a017.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 17:33	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 18:06	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 18:40	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 20:52	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:26	10		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:59	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 22:32	10		AS9-HC 4(mm)
CCV 440-326094/28		04/23/2016 23:05	10		AS9-HC 4(mm)
CCB 440-326094/29		04/23/2016 23:38	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 00:45	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 01:51	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 02:57	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:04	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:37	1000		AS9-HC 4(mm)
ZZZZZ		04/24/2016 05:19	10000		AS9-HC 4(mm)
CCV 440-326094/40		04/24/2016 05:53	1		AS9-HC 4(mm)
CCB 440-326094/41		04/24/2016 06:26	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 07:32	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 08:39	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 09:12	1		AS9-HC 4(mm)
CCV 440-326094/47		04/24/2016 09:45	1		AS9-HC 4(mm)
CCB 440-326094/55		04/24/2016 10:18	1		AS9-HC 4(mm)

300.1B

Method 314

Perchlorate (IC) by Method 314

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_2.d

Lab ID: LCS 440-327049/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	24.7	99	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_5.d

Lab ID: MRL 440-327049/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Perchlorate	4.00	3.84 J	96	75-125	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_10.d

Lab ID: 440-144937-3 MS Client ID: DBMW-1-20160419 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	25.0	9000	8560	-1647	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_11.d

Lab ID: 440-144937-3 MSD Client ID: DBMW-1-20160419 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perchlorate	25.0	8640	-1332	1	20	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_4.d

Lab ID: INF 440-327049/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	25.0	23.1	93	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab File ID: 20160428_3.d Lab Sample ID: MB 440-327049/3

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 04/28/2016 08:33

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-327049/2	20160428_2.d	04/28/2016 08:16
	CCB 440-327049/1003	20160428_3-CCB.d	04/28/2016 08:33
DBMW-1-20160419	440-144937-3	20160428_8.d	04/28/2016 09:53
DBMW-1-20160419 MS	440-144937-3 MS	20160428_10.d	04/28/2016 10:26
DBMW-1-20160419 MSD	440-144937-3 MSD	20160428_11.d	04/28/2016 10:43
AA-20-20160419	440-144937-2	20160428_14.d	04/28/2016 11:34
MCF-06C-20160419	440-144937-1	20160428_15.d	04/28/2016 11:50
	CCB 440-327049/17	20160428_17.d	04/28/2016 12:24

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: MCF-06C-20160419
Lab Sample ID: 440-144937-1
Matrix: Water
Lab File ID: 20160428_15.d
Analysis Method: 314.0
Date Collected: 04/19/2016 08:10
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 11:50
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	5600		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_15.d				
Lims ID:	440-144937-C-1				
Client ID:	MCF-06C-20160419				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 11:50:00	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-015				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 13:09:15	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.021	12.061	-0.040	10165000	55.7	

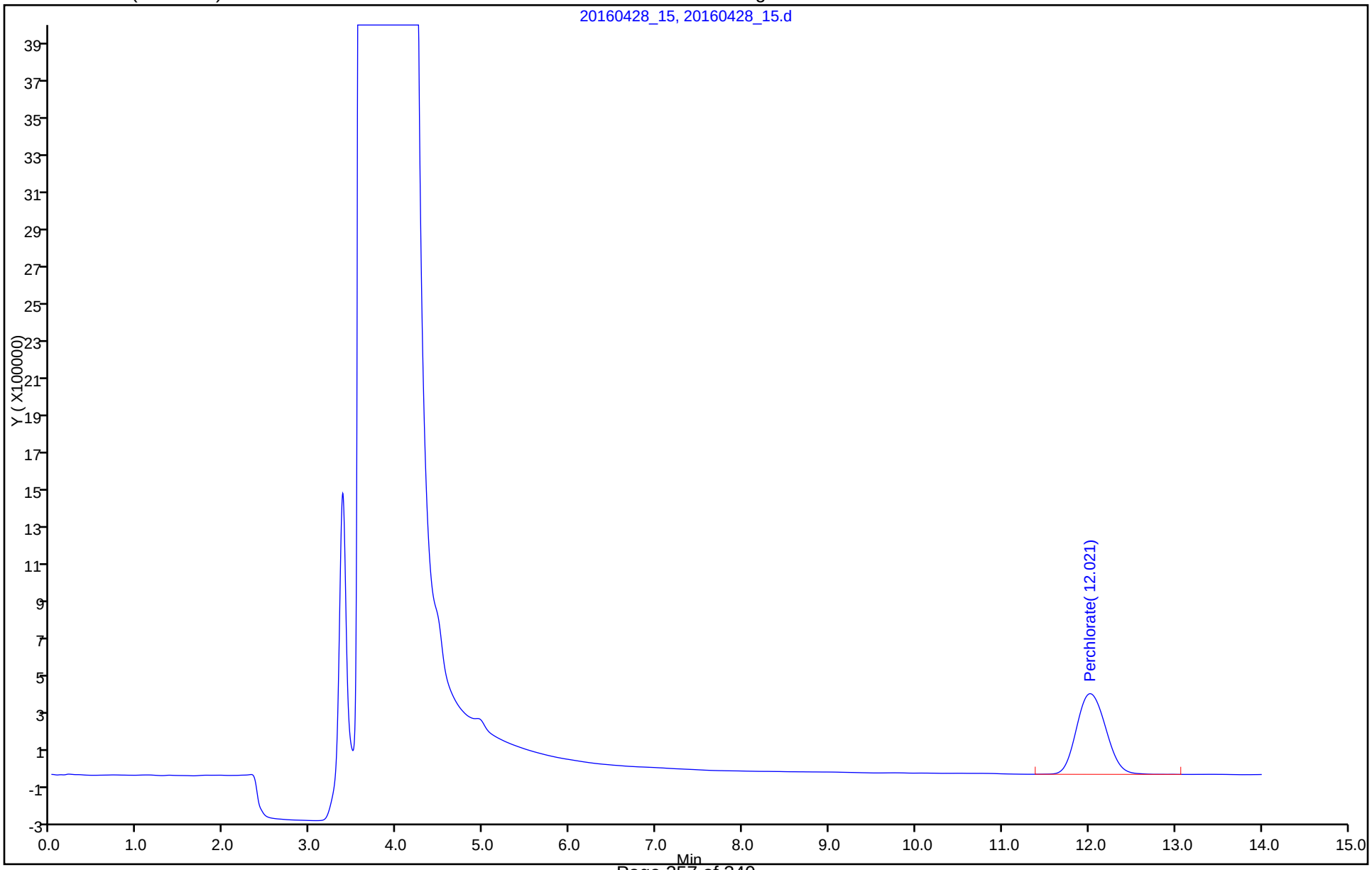
Report Date: 28-Apr-2016 12:16:15 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_15.d

Injection Date:	28-Apr-2016 11:50:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144937-C-1	Lab Sample ID:	440-144937-1	Worklist Smp#:	15
Client ID:	MCF-06C-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: AA-20-20160419
Lab Sample ID: 440-144937-2
Matrix: Water
Lab File ID: 20160428_14.d
Analysis Method: 314.0
Date Collected: 04/19/2016 09:35
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 11:34
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	4400		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_14.d				
Lims ID:	440-144937-C-2				
Client ID:	AA-20-20160419				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 11:34:00	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-014				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 11:59:01	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

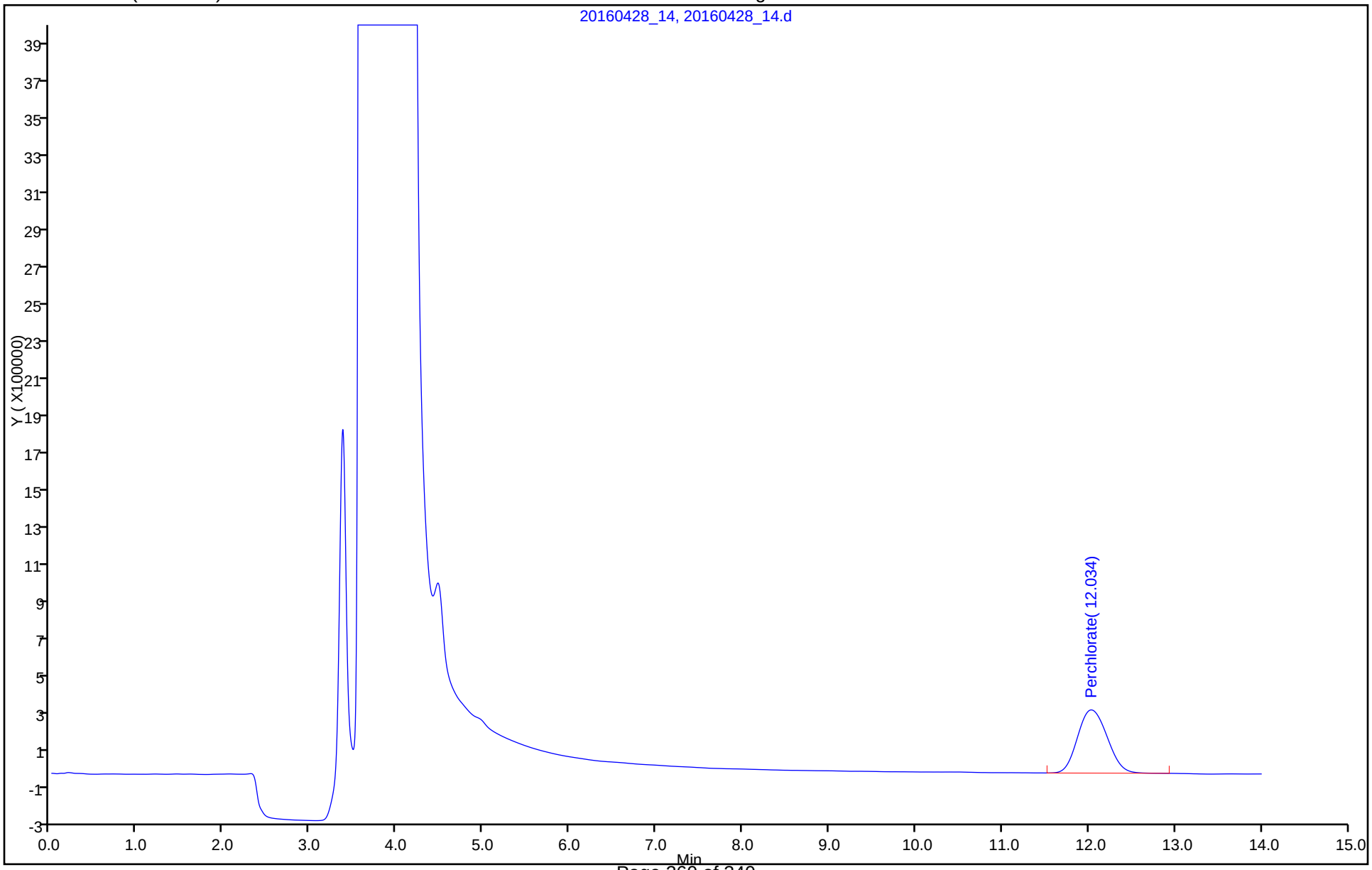
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.034	12.061	-0.027	8035804	44.5	

Report Date: 28-Apr-2016 11:59:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_14.d				
Injection Date:	28-Apr-2016 11:34:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144937-C-2	Lab Sample ID:	440-144937-2	Worklist Smp#:	14
Client ID:	AA-20-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419
Lab Sample ID: 440-144937-3
Matrix: Water
Lab File ID: 20160428_8.d
Analysis Method: 314.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 09:53
Con. Extract Vol.:
Dilution Factor: 1000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	9000	F1	4000	950

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_8.d				
Lims ID:	440-144937-C-3				
Client ID:	DBMW-1-20160419				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 09:53:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	440-0072408-008				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 11:59:01	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

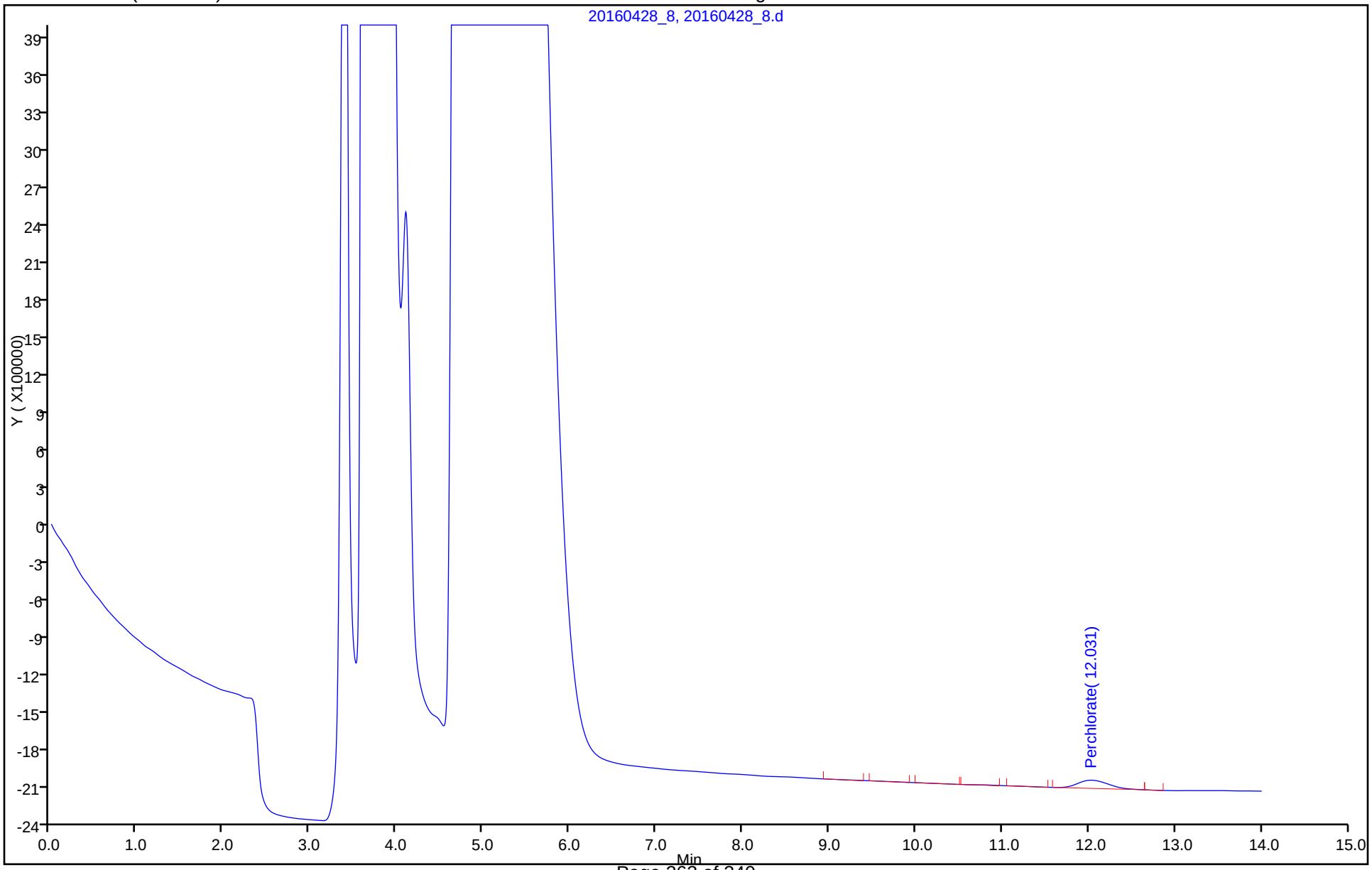
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.031	12.061	-0.030	1599422	8.97	

Report Date: 28-Apr-2016 11:59:24 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_8.d				
Injection Date:	28-Apr-2016 09:53:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144937-C-3	Lab Sample ID:	440-144937-3	Worklist Smp#:	8
Client ID:	DBMW-1-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Perchlorate	12.640	12.654	12.647	12.651	12.621	12.594	12.571				12.008 - 13.272	12.625

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Perchlorate	201999 176880	208422 181735	193440 189815	178617	Qua	43397.2609	171899.532	174.932115						1.0000		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144937-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perchlorate	Qua	201999 9086740	416844 18981540	773758	1786170	4421988	1.00 50.0	2.00 100	4.00	10.0	25.0

Curve Type Legend:

Qua = Quadratic

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	22-Apr-2016 15:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:54	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:23		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.640	12.640	0.000	201999	1.00	0.9218	

Reagents:

WCCLO41st-10_00001 Amount Added: 10.00 Units: uL

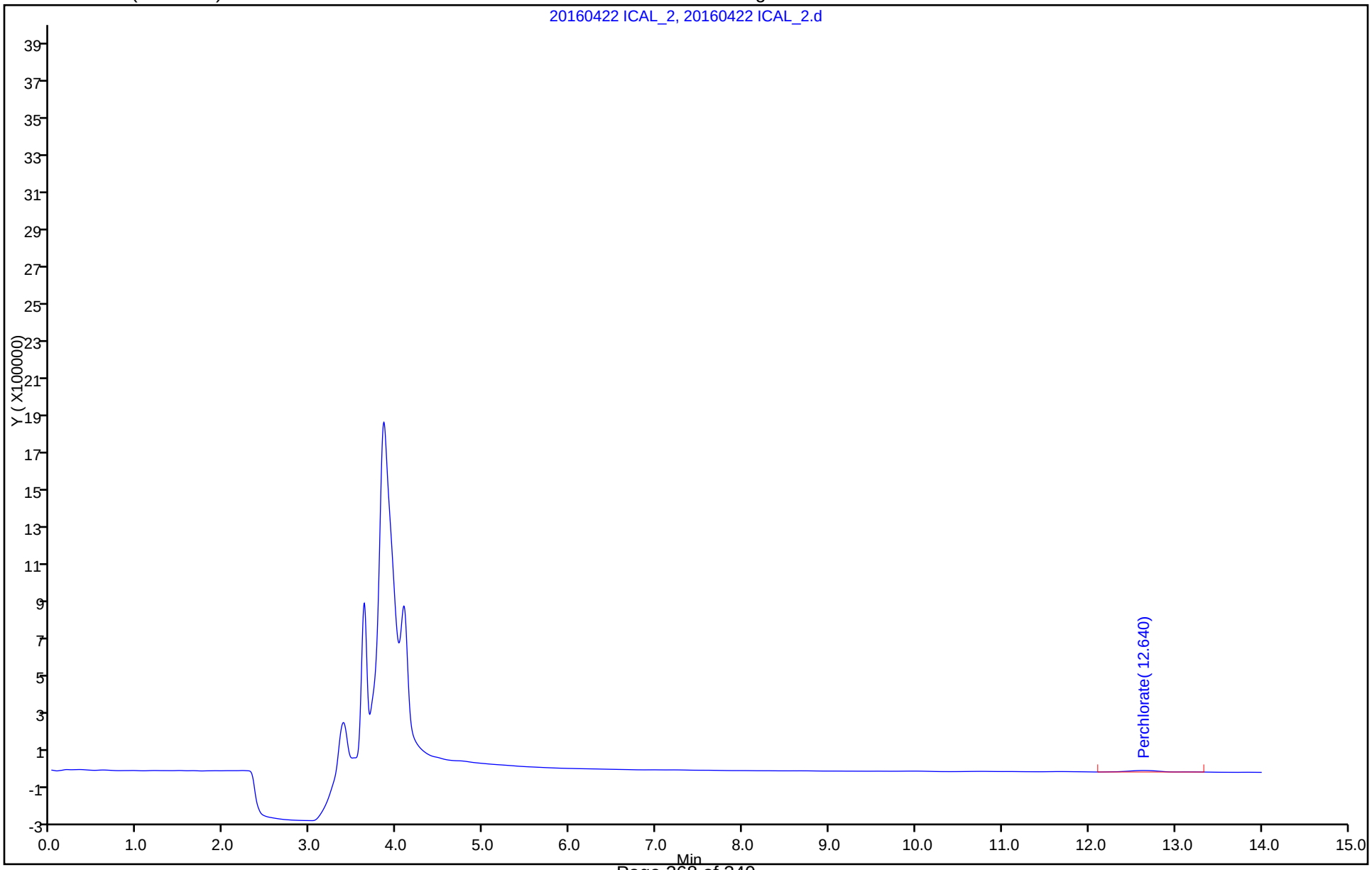
Report Date: 25-Apr-2016 05:36:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d

Injection Date:	22-Apr-2016 15:16:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std2			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	22-Apr-2016 15:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.654	12.640	0.014	416844	2.00	2.17	

Reagents:

WCCLO41st-10_00001 Amount Added: 20.00 Units: uL

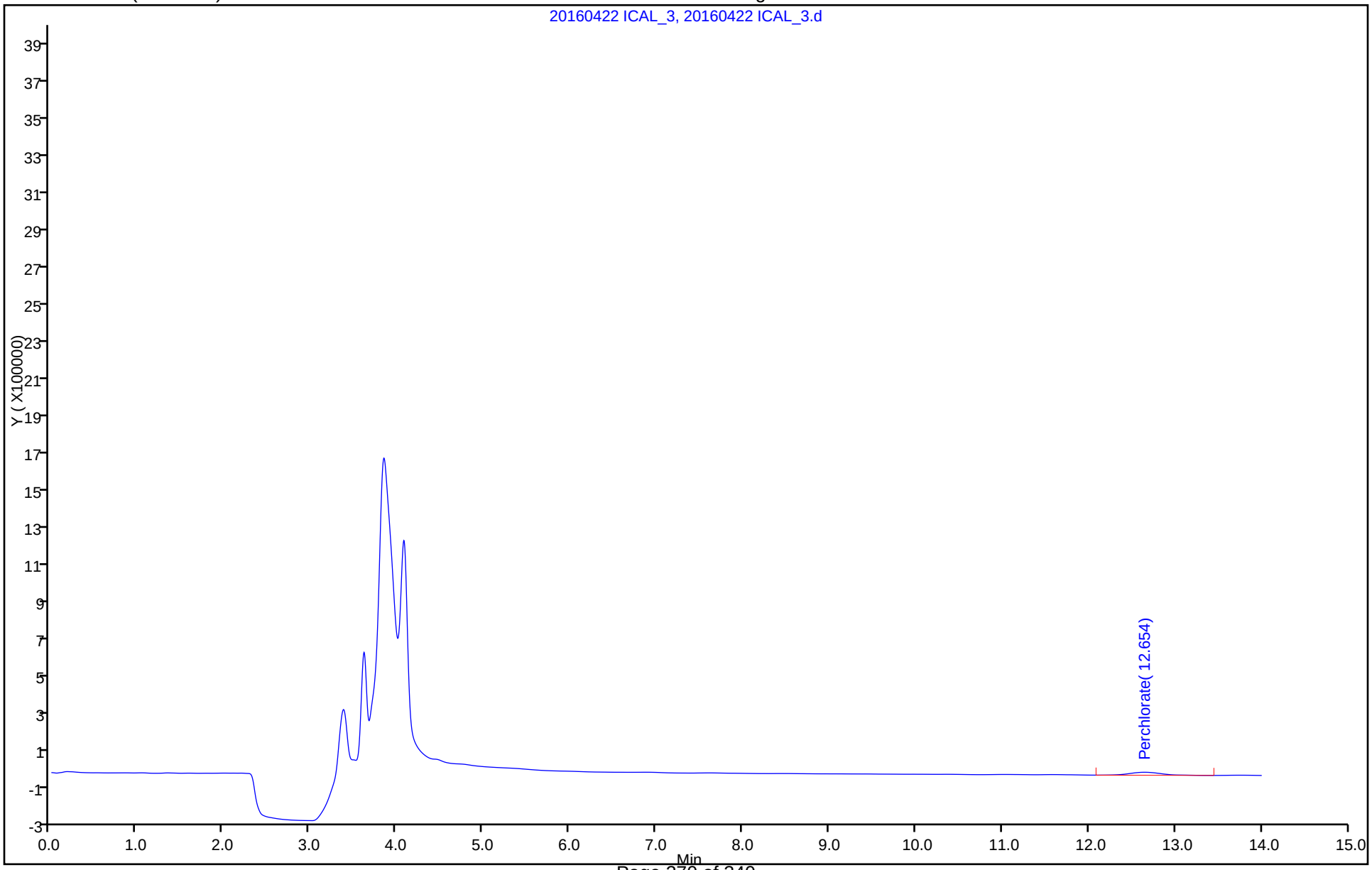
Report Date: 25-Apr-2016 05:36:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d

Injection Date:	22-Apr-2016 15:33:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std3			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	22-Apr-2016 15:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:49		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.647	12.640	0.007	773758	4.00	4.23	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

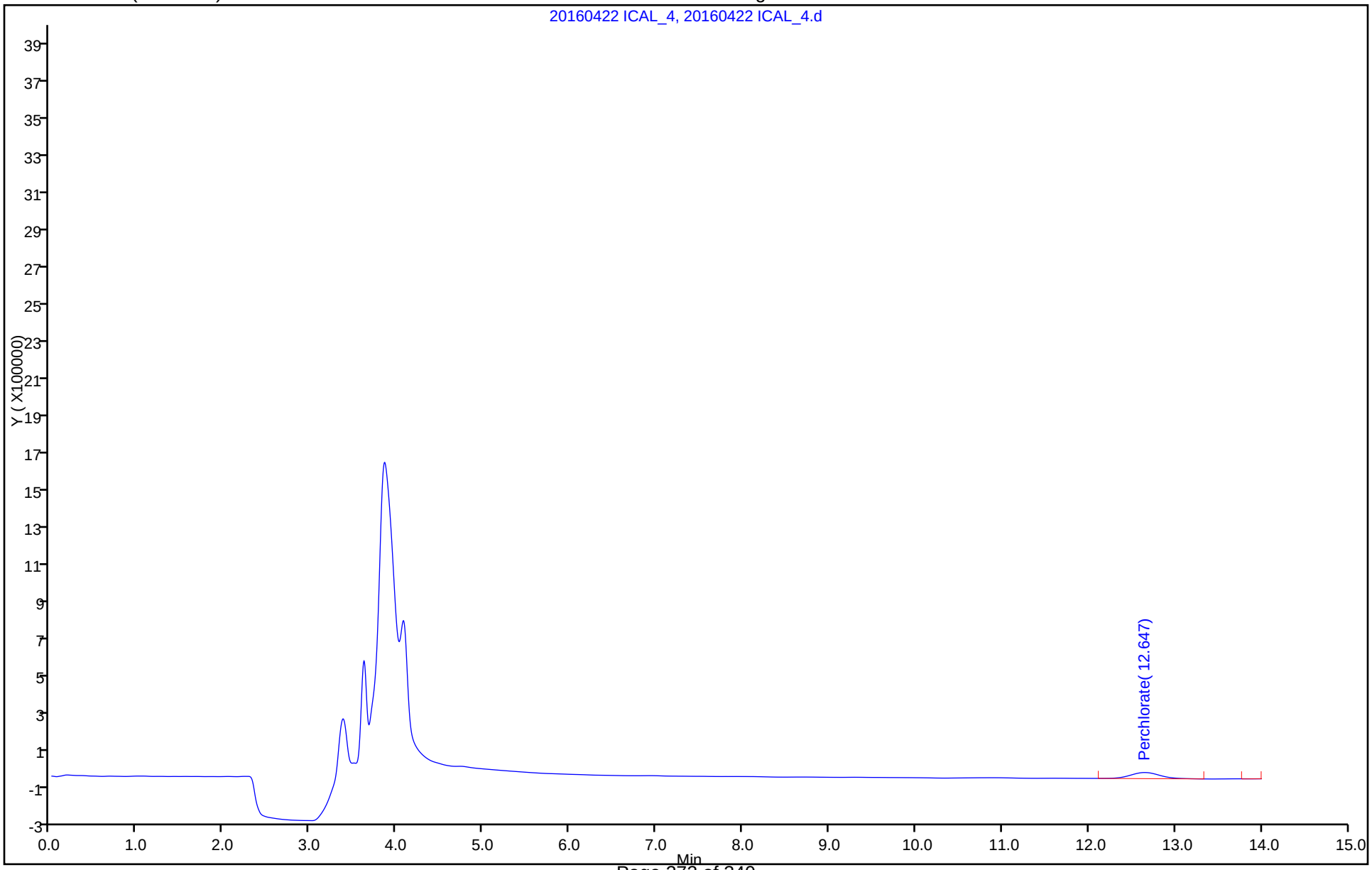
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d

Injection Date:	22-Apr-2016 15:50:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std4			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	22-Apr-2016 16:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:02		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.651	12.640	0.011	1786170	10.0	10.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 100.00 Units: uL

Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d

Injection Date: 22-Apr-2016 16:07:00 Instrument ID: IC-25 Operator ID:

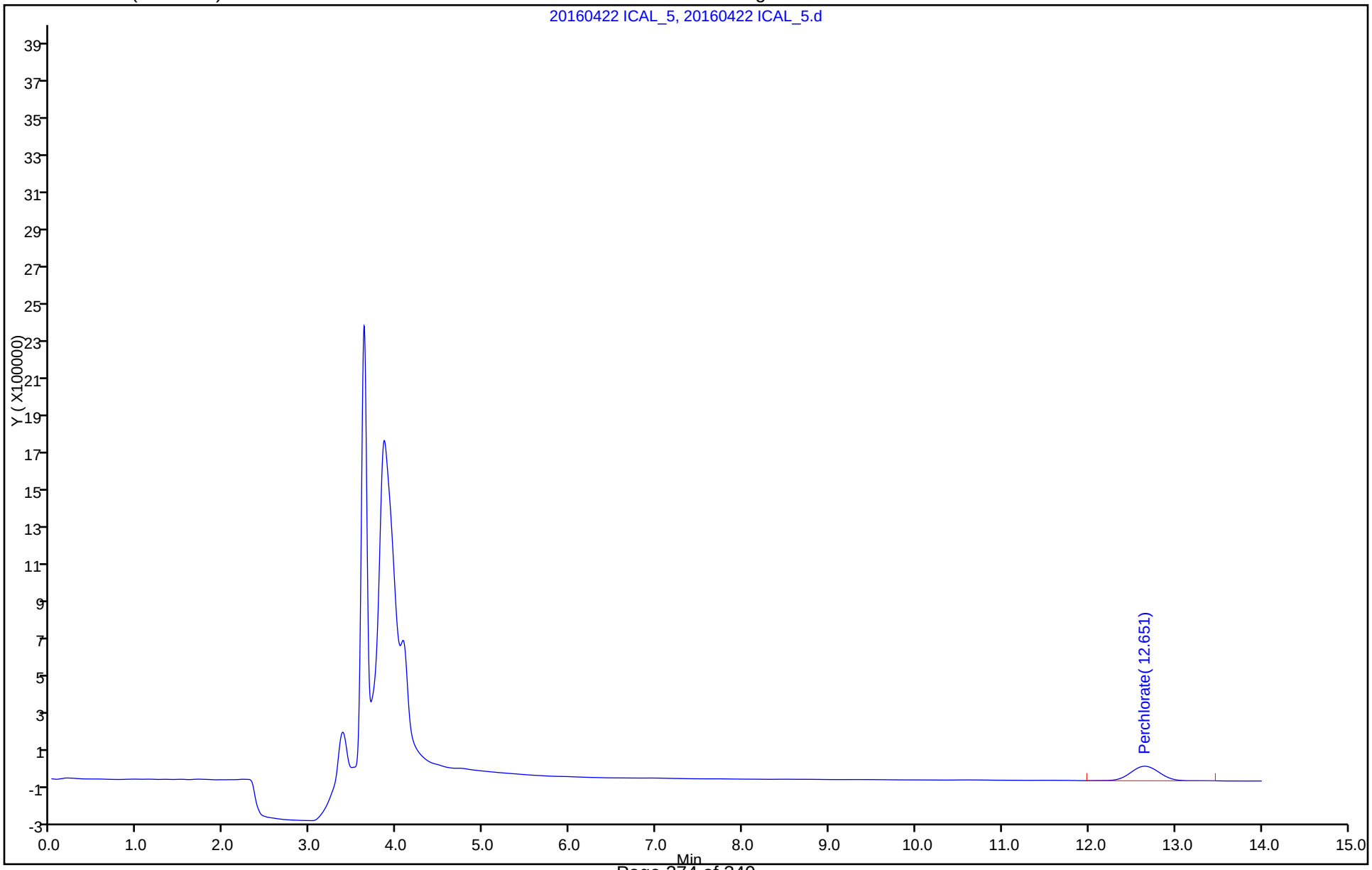
Lims ID: std5 Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	22-Apr-2016 16:24:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-006				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:15		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.621	12.640	-0.019	4421988	25.0	24.8	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

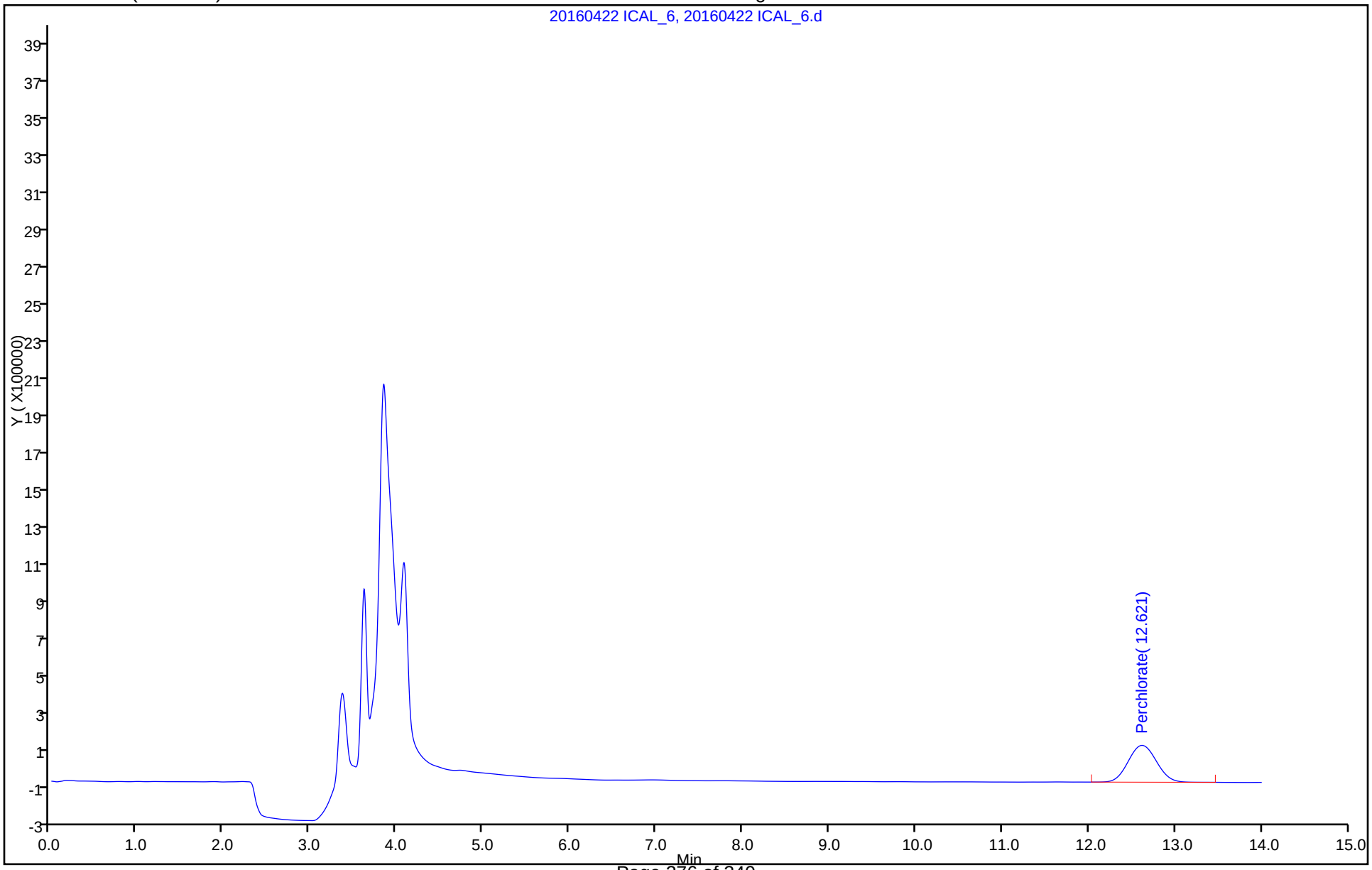
Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d

Injection Date:	22-Apr-2016 16:24:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std6			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	22-Apr-2016 16:41:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-007				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:57	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:26		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.594	12.640	-0.046	9086740	50.0	50.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 500.00 Units: uL

Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d

Injection Date: 22-Apr-2016 16:41:00 Instrument ID: IC-25 Operator ID:

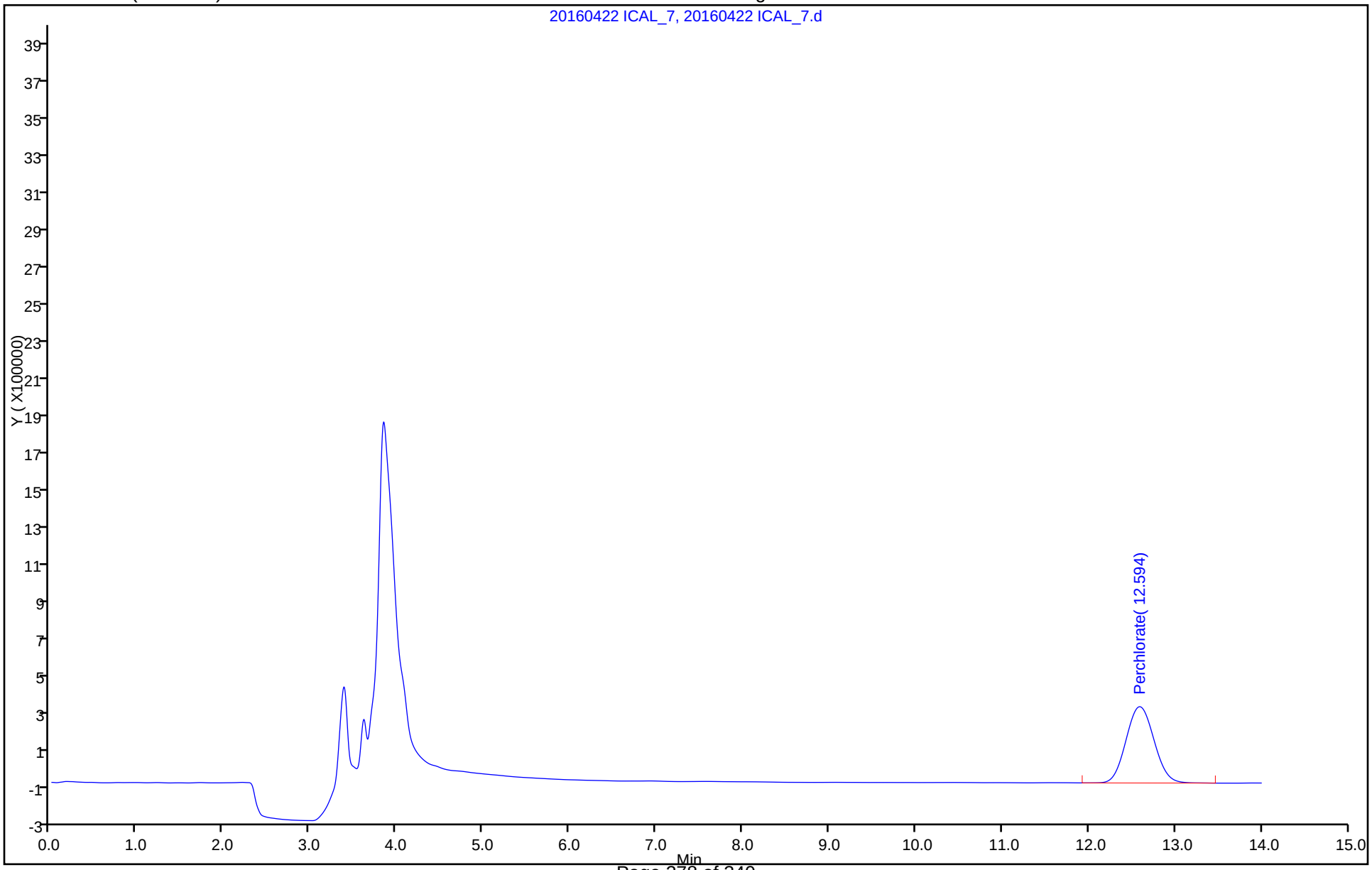
Lims ID: std7 Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	22-Apr-2016 16:58:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-008				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:58	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:38		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.571	12.640	-0.069	18981540	100.0	100.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 1000.00 Units: uL

Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Injection Date: 22-Apr-2016 16:58:00 Instrument ID: IC-25 Operator ID:

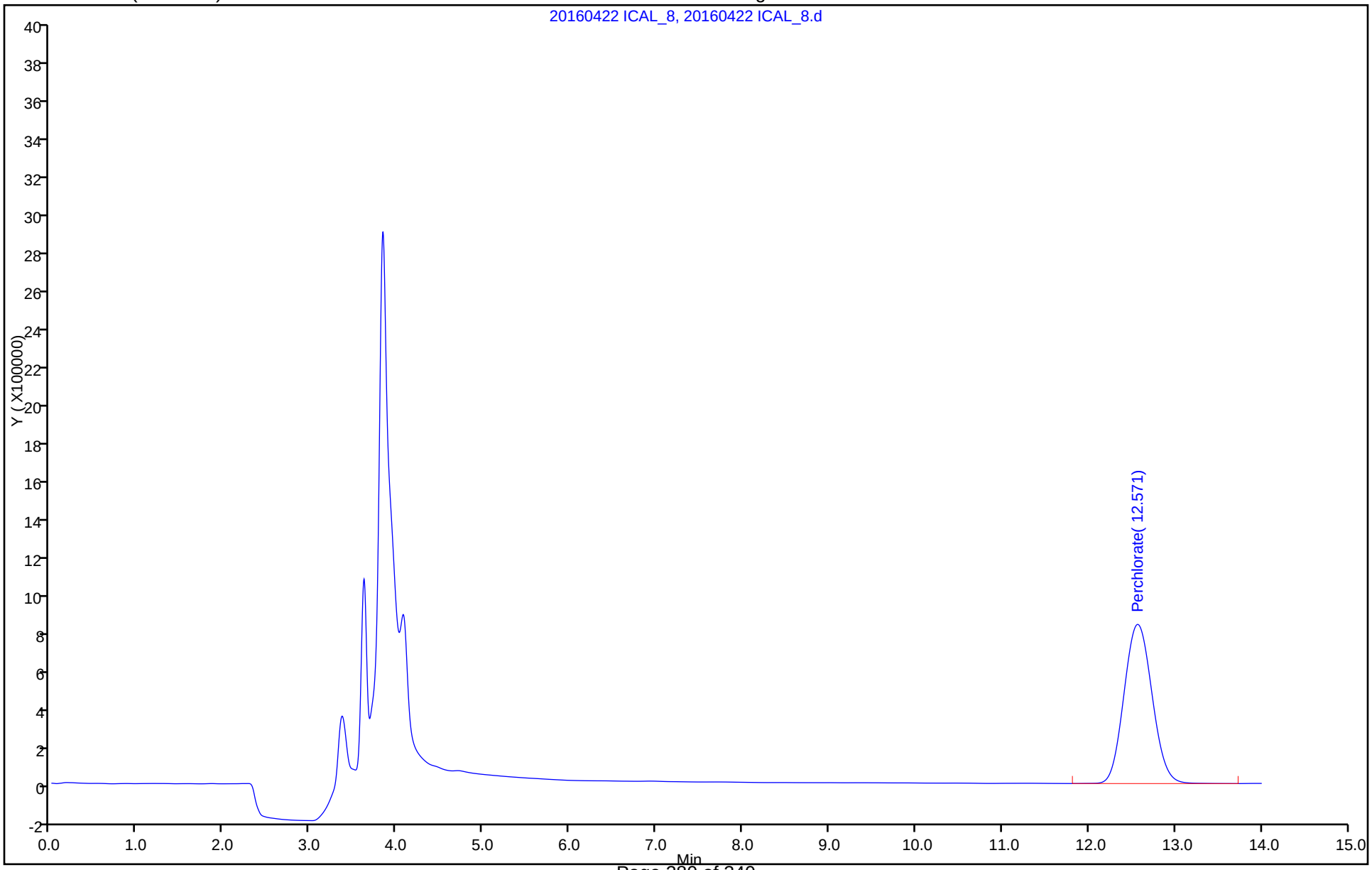
Lims ID: std8 Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				49.8	50.0	100	90-110

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.58	12.01	13.27

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 22-Apr-2016 17:14:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072202-009
Misc. Info.: ch
Operator ID: Instrument ID: IC-25
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m
Limit Group: IC-314
Method Label: PERCHLORATE
Last Update: 25-Apr-2016 05:36:58 Calib Date: 22-Apr-2016 16:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Column 1 : AS16 (4.00 mm) Det: Ch-A-20111003029
Process Host: XAWRK009

First Level Reviewer: hoangch Date: 25-Apr-2016 05:34:50

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.581	12.640	-0.059	9029765	50.0	49.8	

Reagents:

WCCLO4ICV10_00019 Amount Added: 500.00 Units: uL

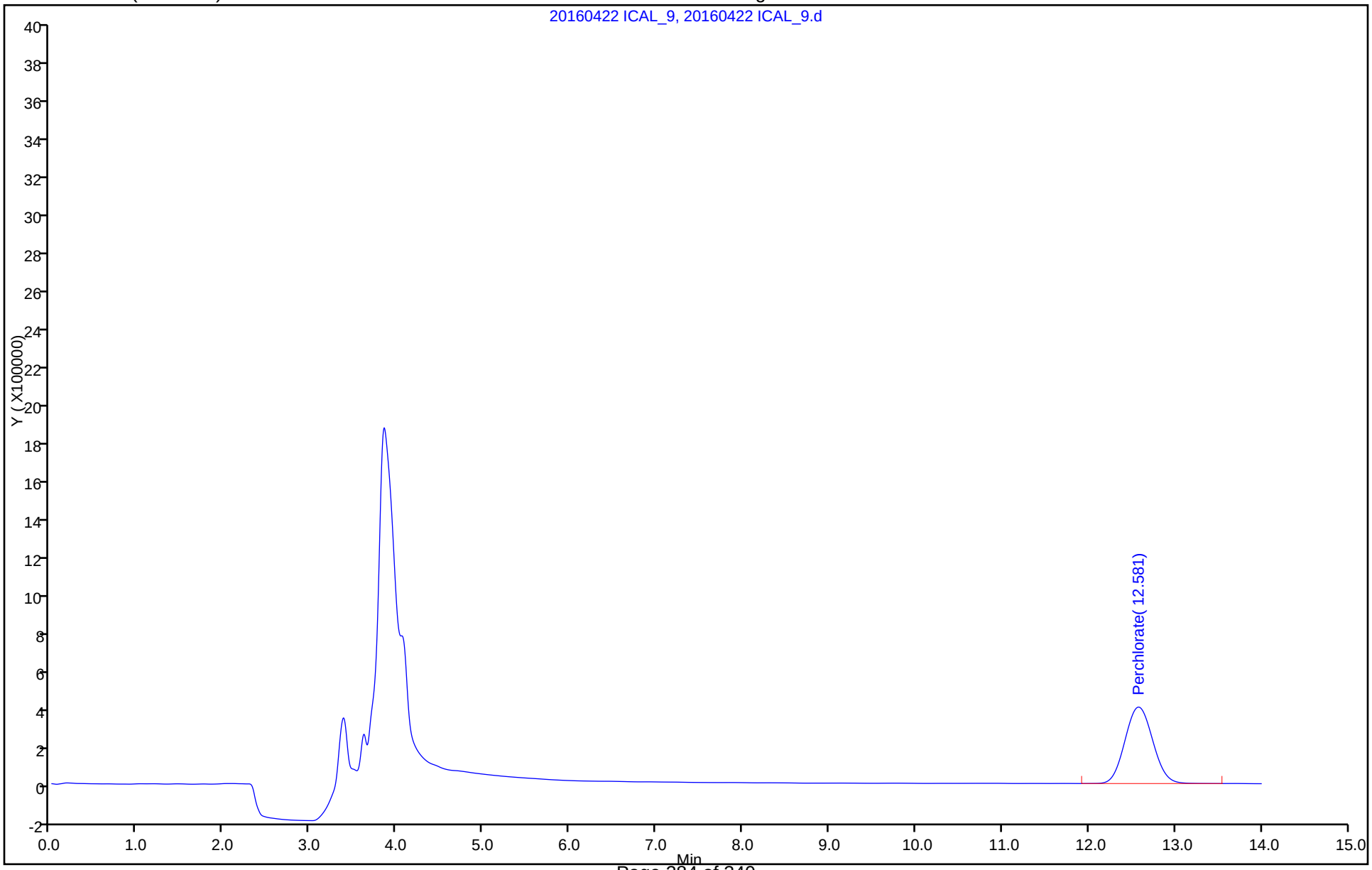
Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d

Injection Date:	22-Apr-2016 17:14:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	icv			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-327049/1002 Calibration Date: 04/28/2016 08:16

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_2-CCV.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.7	25.0	99	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-327049/1002 Calibration Date: 04/28/2016 08:16

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_2-CCV.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.07	11.46	12.66

Form VII 314.0

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 08:16:00	ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 08:51:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.071	12.061	0.010	4391606	25.0	24.7	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d

Injection Date: 28-Apr-2016 08:16:00 Instrument ID: IC-25 Operator ID:

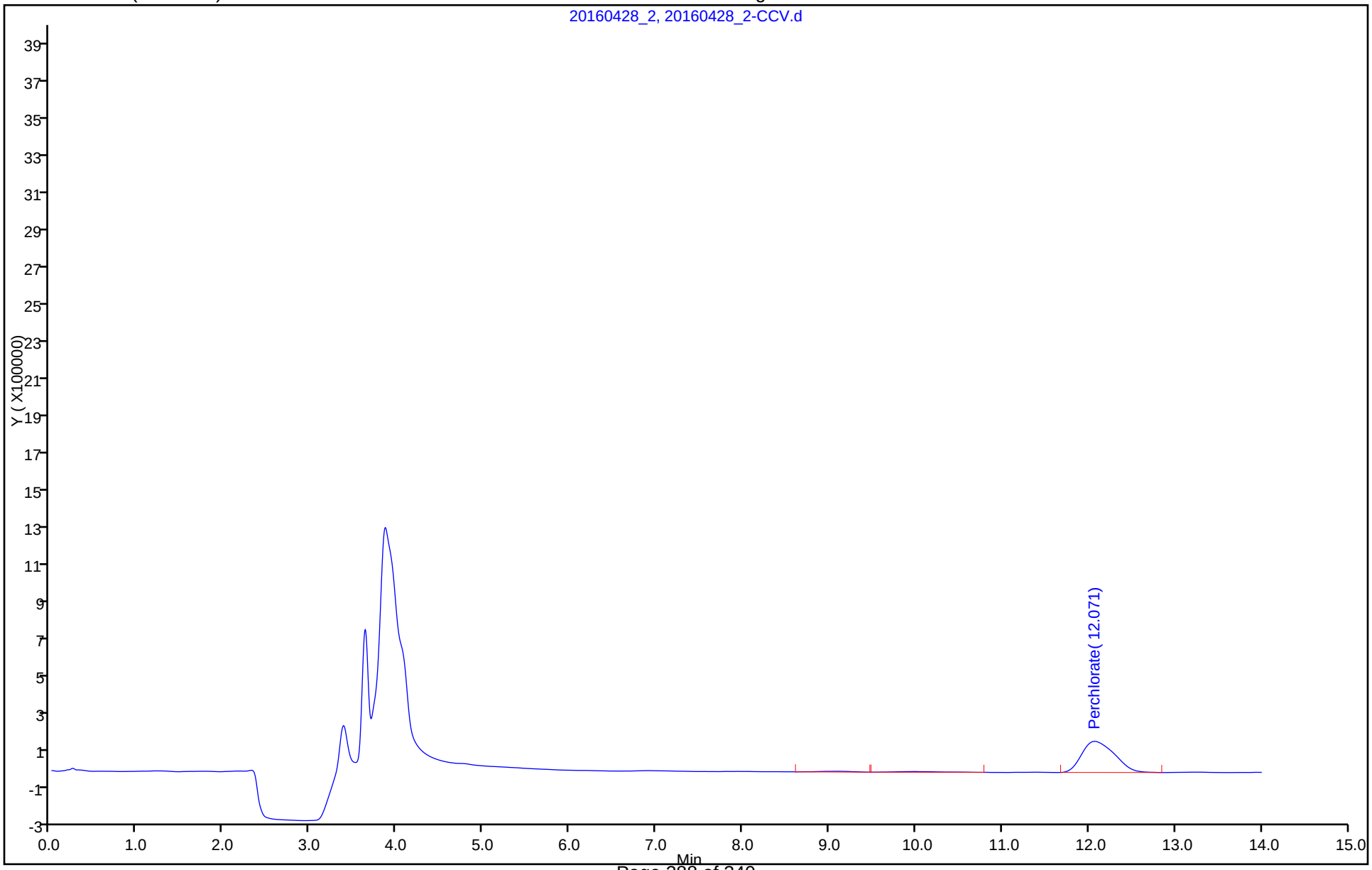
Lims ID: CCV Worklist Smp#: 1002

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Laboratories

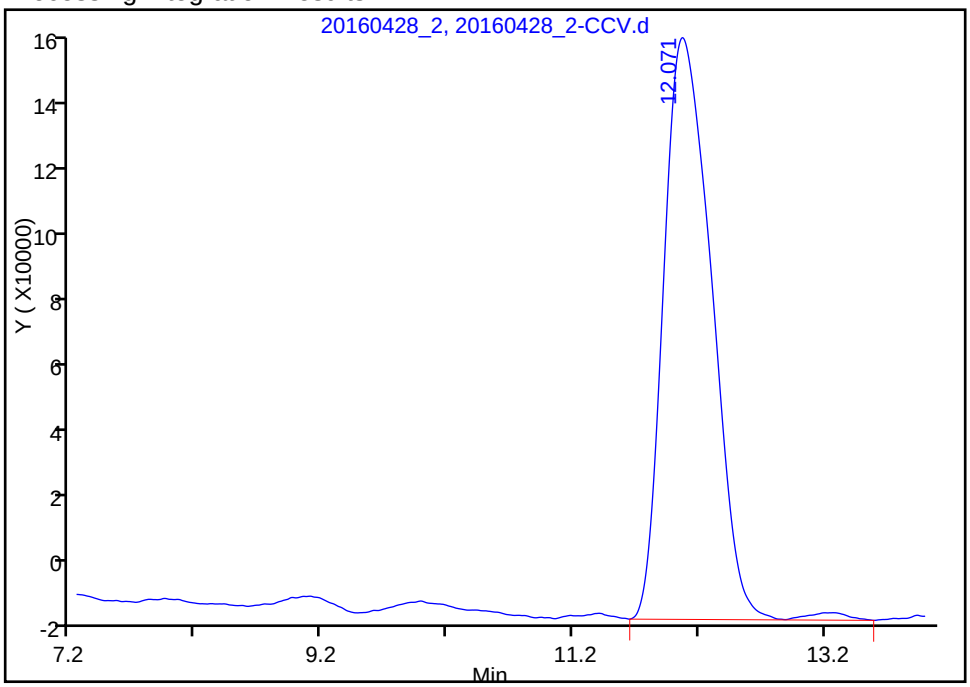
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d				
Injection Date:	28-Apr-2016 08:16:00	Instrument ID:	IC-25		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

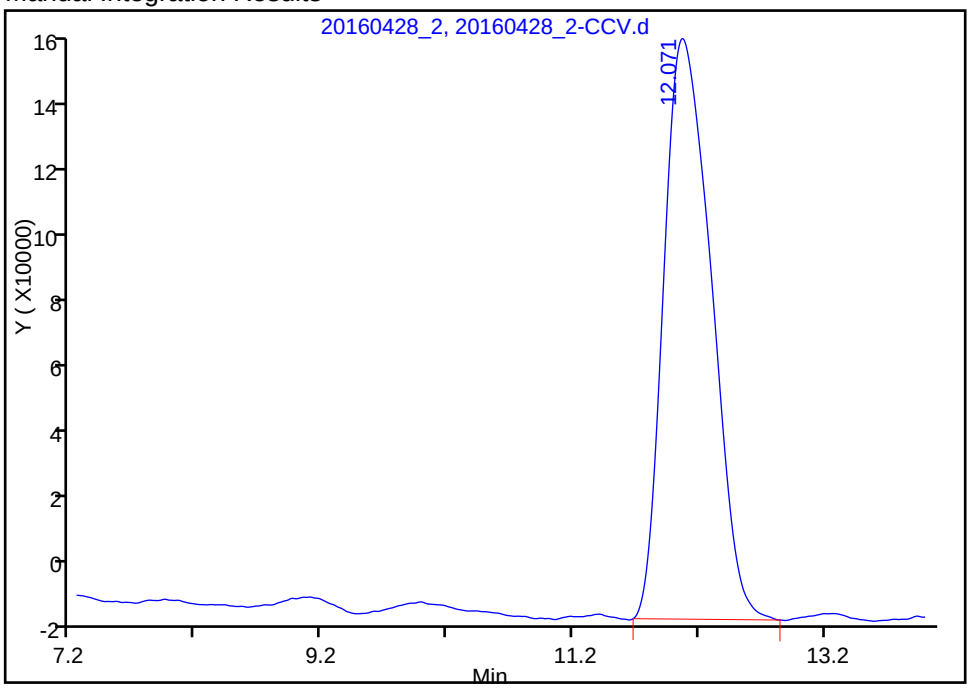
Processing Integration Results

RT: 12.07
Area: 4461649
Amount: 25.063274
Amount Units: ug/l



Manual Integration Results

RT: 12.07
Area: 4391606
Amount: 24.675440
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 08:51:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-327049/16 Calibration Date: 04/28/2016 12:07

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_16.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.7	25.0	103	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Lab Sample ID: CCV 440-327049/16 Calibration Date: 04/28/2016 12:07

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_16.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.07	11.47	12.68

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_16.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 12:07:00	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-016				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:44:27	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.074	12.074	0.000	4575447	25.0	25.7	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 12:44:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_16.d

Injection Date: 28-Apr-2016 12:07:00 Instrument ID: IC-25 Operator ID:

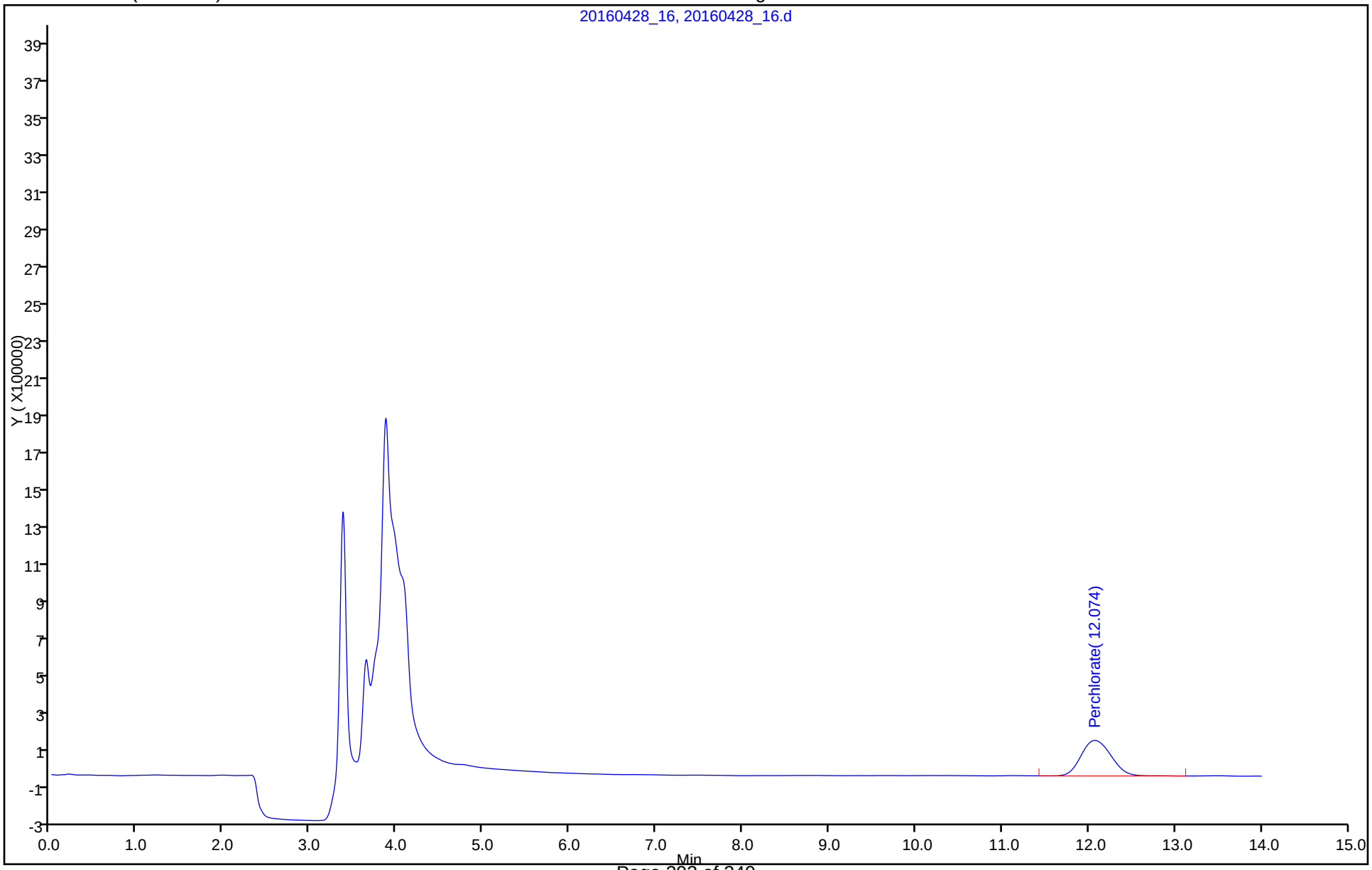
Lims ID: ccv 25 Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327049/3
Matrix: Water
Lab File ID: 20160428_3.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:33
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	28-Apr-2016 08:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 11:58:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3.d

Injection Date: 28-Apr-2016 08:33:00 Instrument ID: IC-25 Operator ID:

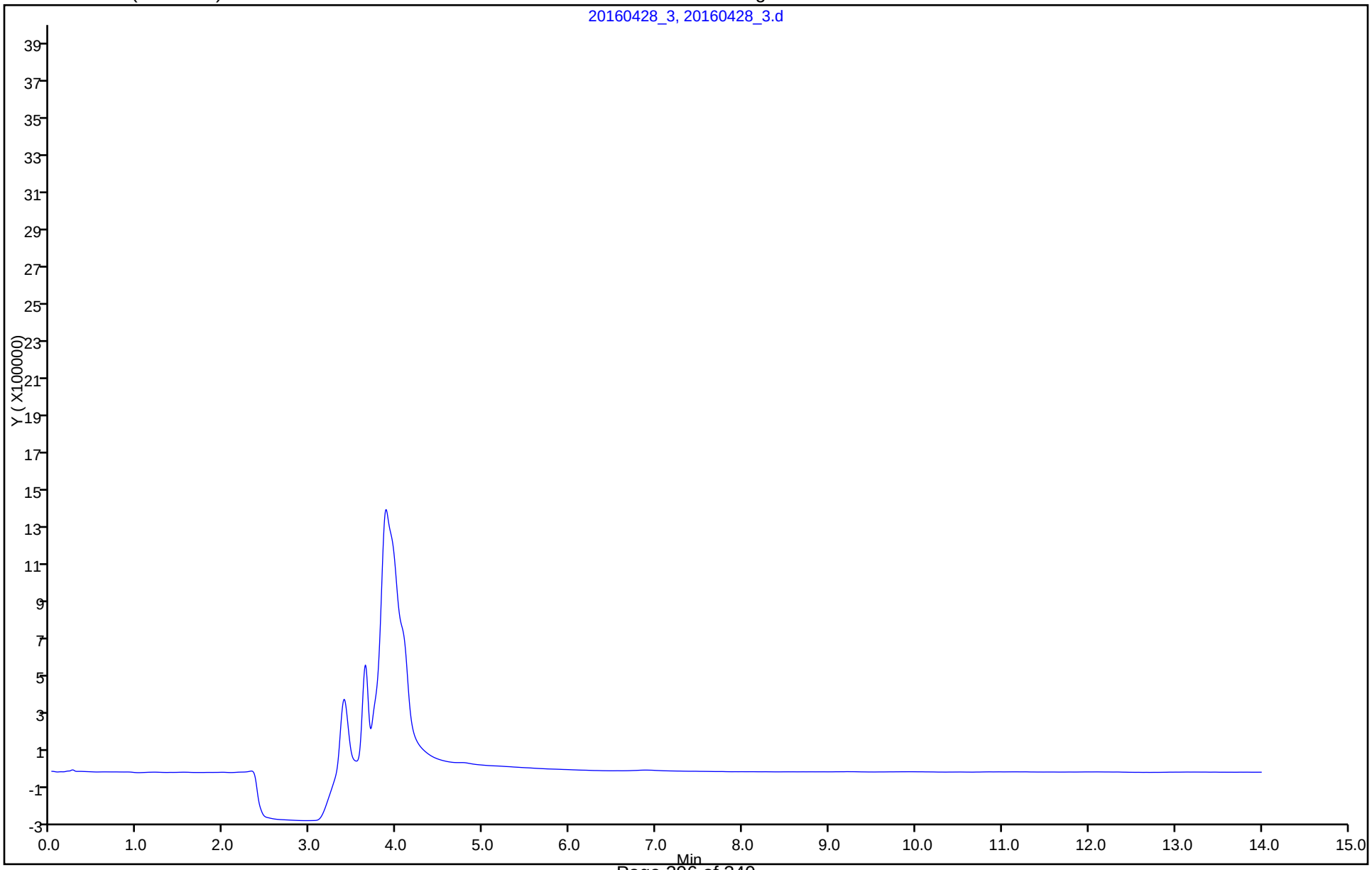
Lims ID: MB Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/17
Matrix: Water
Lab File ID: 20160428_17.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 12:24
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_17.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 12:24:00	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-017				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 12:44:27	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

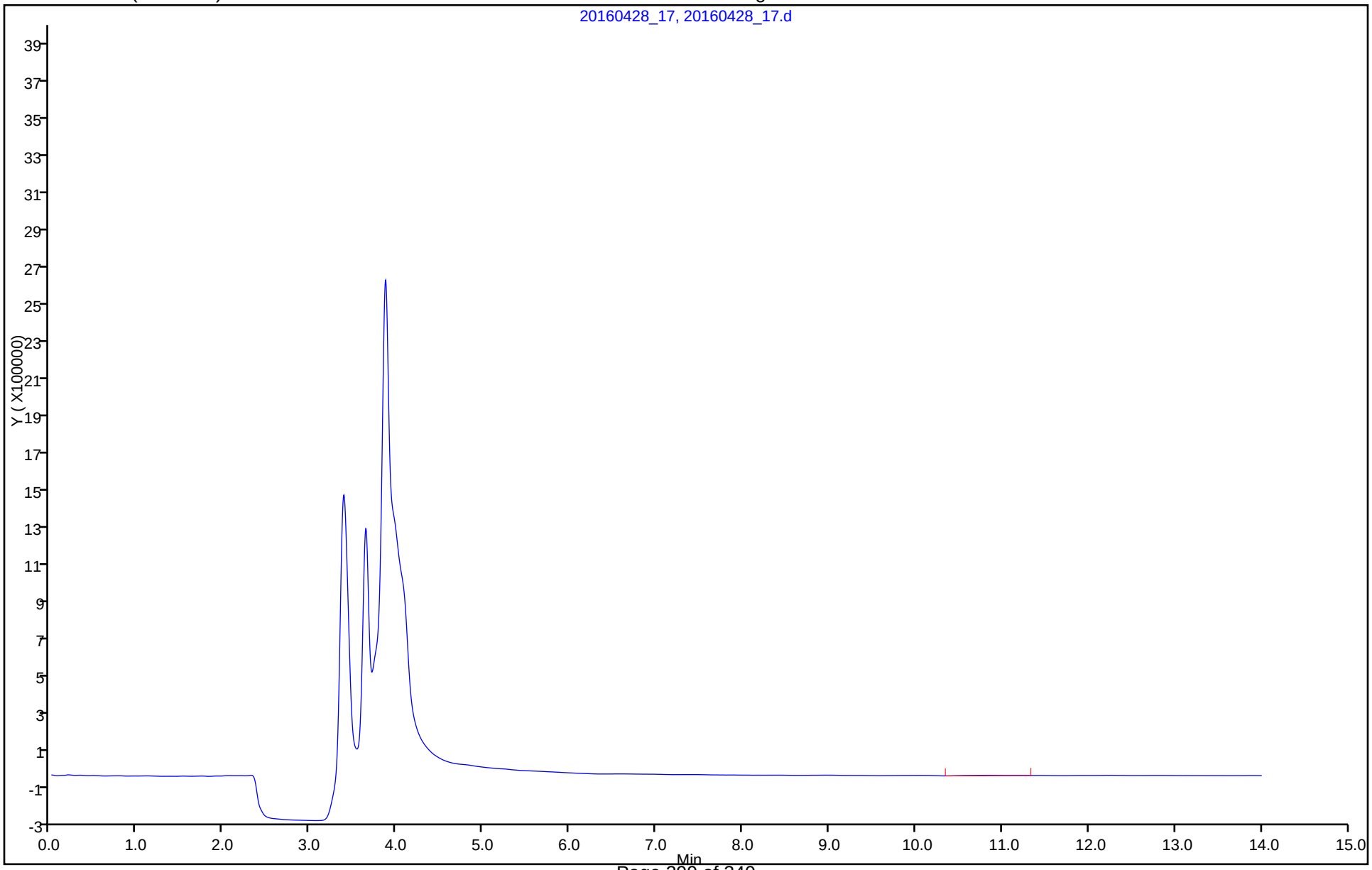
Report Date: 28-Apr-2016 12:44:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_17.d

Injection Date:	28-Apr-2016 12:24:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/1003
Matrix: Water
Lab File ID: 20160428_3-CCB.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:33
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3-CCB.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 08:33:00	ALS Bottle#:	0	Worklist Smp#:	1003
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3-CCB.d

Injection Date: 28-Apr-2016 08:33:00 Instrument ID: IC-25 Operator ID:

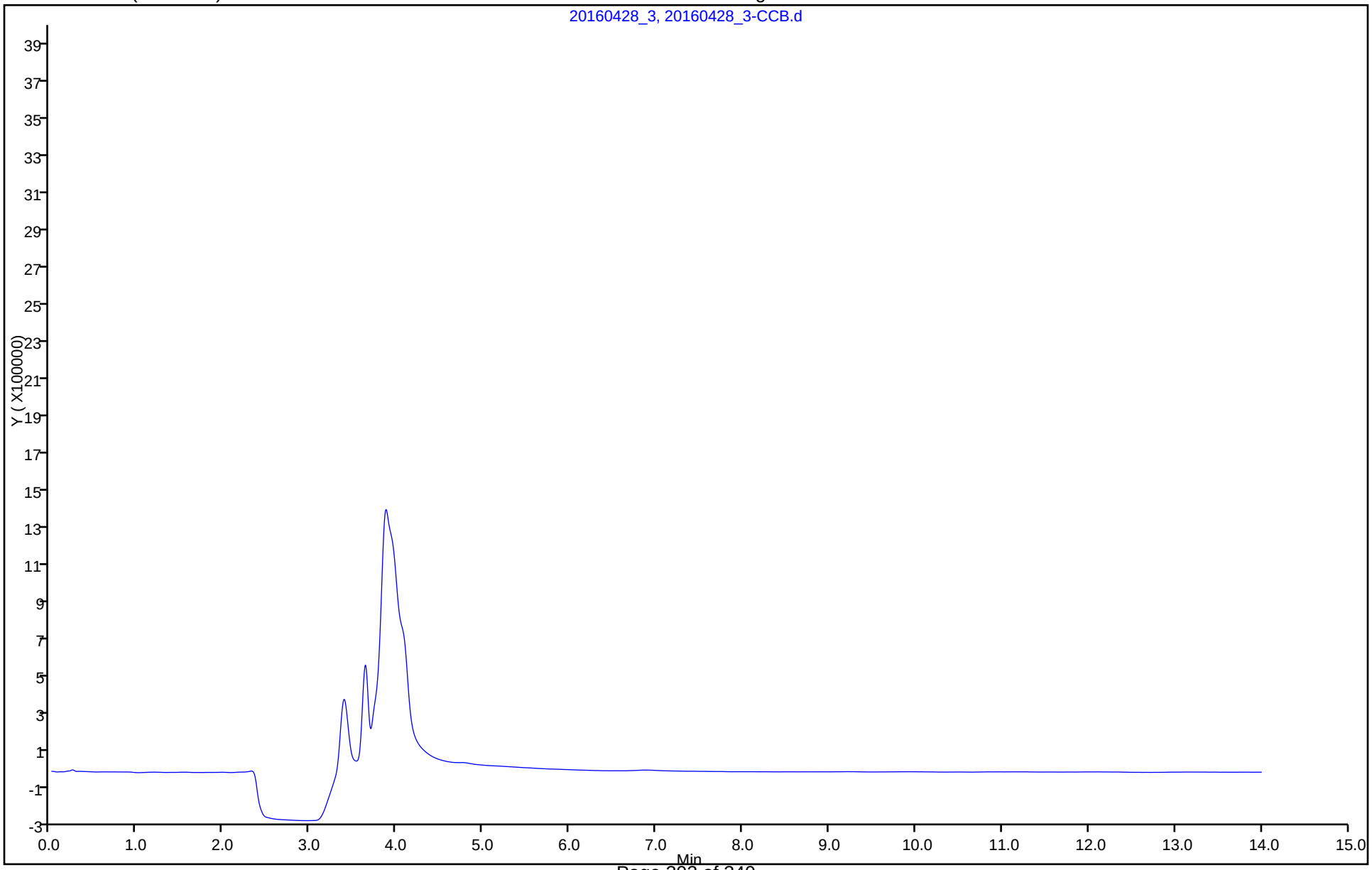
Lims ID: CCB Worklist Smp#: 1003

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327049/2
Matrix: Water
Lab File ID: 20160428_2.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	24.7		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	28-Apr-2016 08:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 08:51:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.071	12.061	0.010	4391606	25.0	24.7	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:29 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d

Injection Date: 28-Apr-2016 08:16:00 Instrument ID: IC-25 Operator ID:

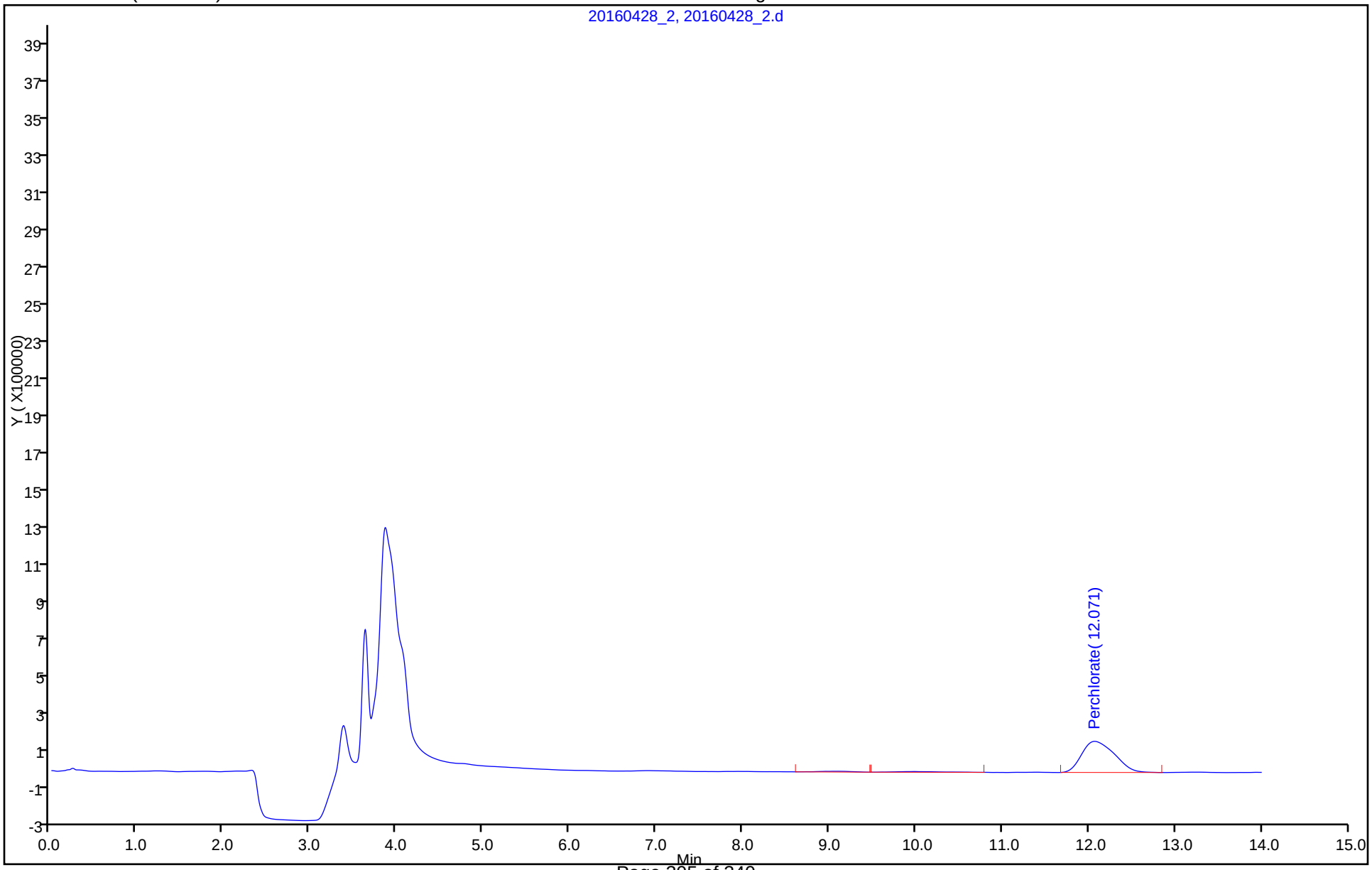
Lims ID: LCS Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

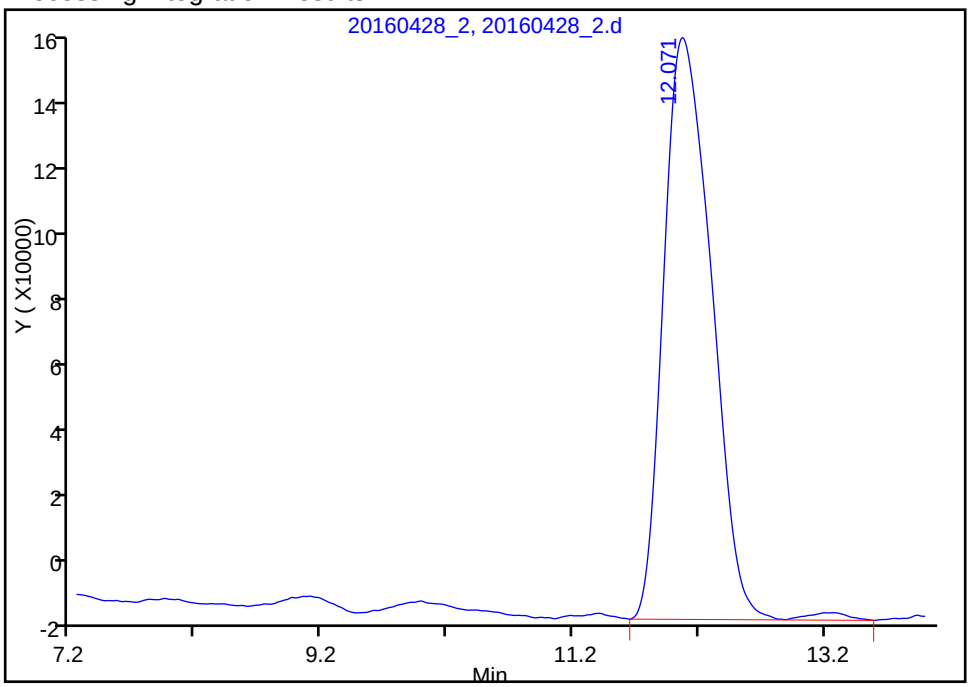
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d				
Injection Date:	28-Apr-2016 08:16:00	Instrument ID:	IC-25		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

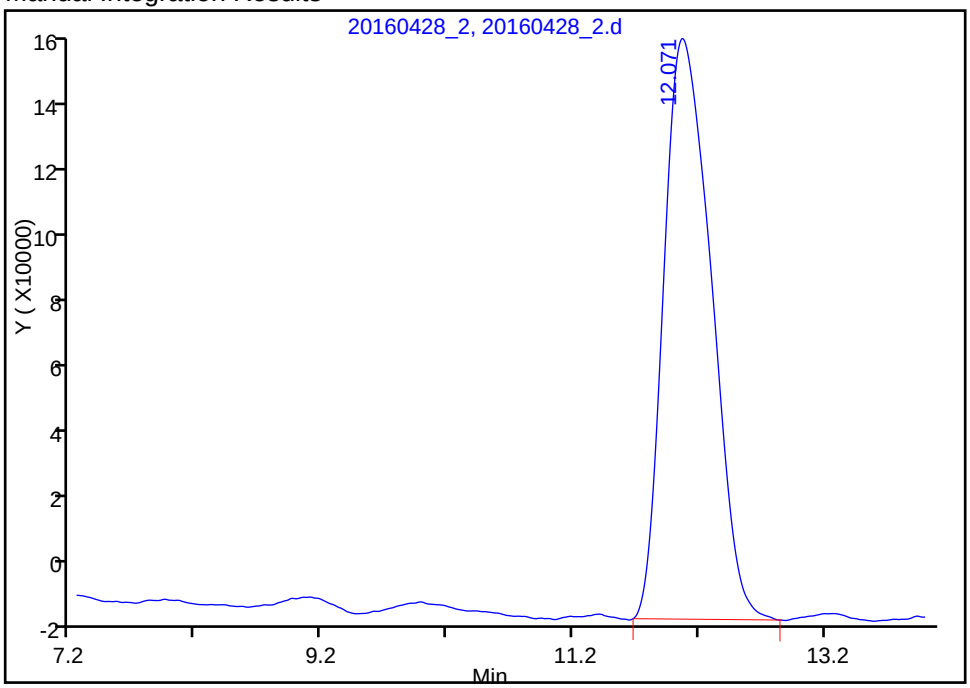
Processing Integration Results

RT: 12.07
Area: 4461649
Amount: 25.063274
Amount Units: ug/l



Manual Integration Results

RT: 12.07
Area: 4391606
Amount: 24.675440
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 08:51:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-327049/5
Matrix: Water
Lab File ID: 20160428_5.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 09:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	3.84	J	4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_5.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	28-Apr-2016 09:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.017	12.061	-0.044	706268	4.00	3.84	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_5.d

Injection Date: 28-Apr-2016 09:07:00 Instrument ID: IC-25 Operator ID:

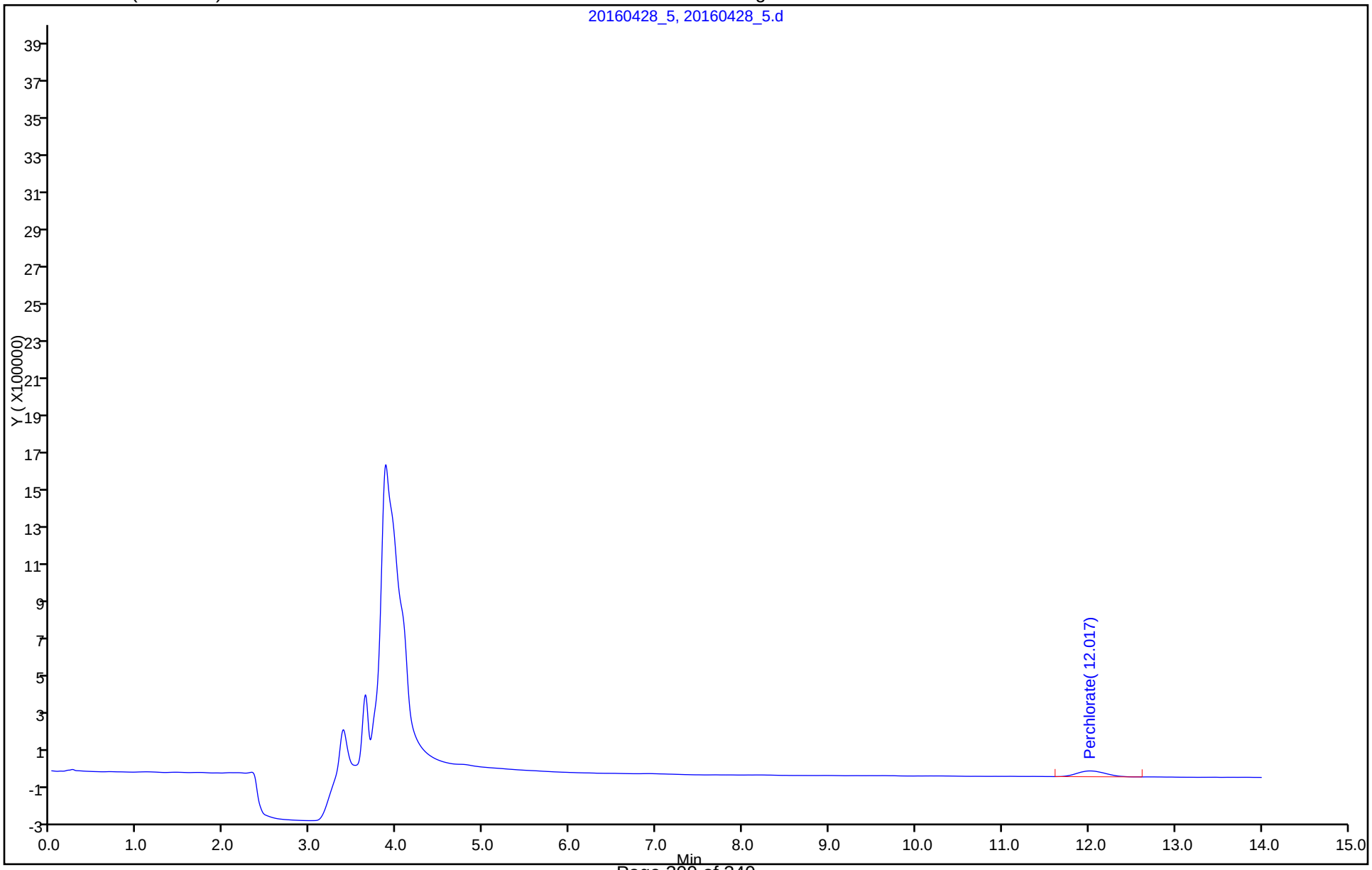
Lims ID: MRL Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID:
Lab Sample ID: INF 440-327049/4
Matrix: Water
Lab File ID: 20160428_4.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:50
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	23.1		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_4.d				
Lims ID:	INF				
Client ID:					
Sample Type:	INF				
Inject. Date:	28-Apr-2016 08:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	11.961	12.061	-0.100	4113123	25.0	23.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_4.d

Injection Date: 28-Apr-2016 08:50:00 Instrument ID: IC-25 Operator ID:

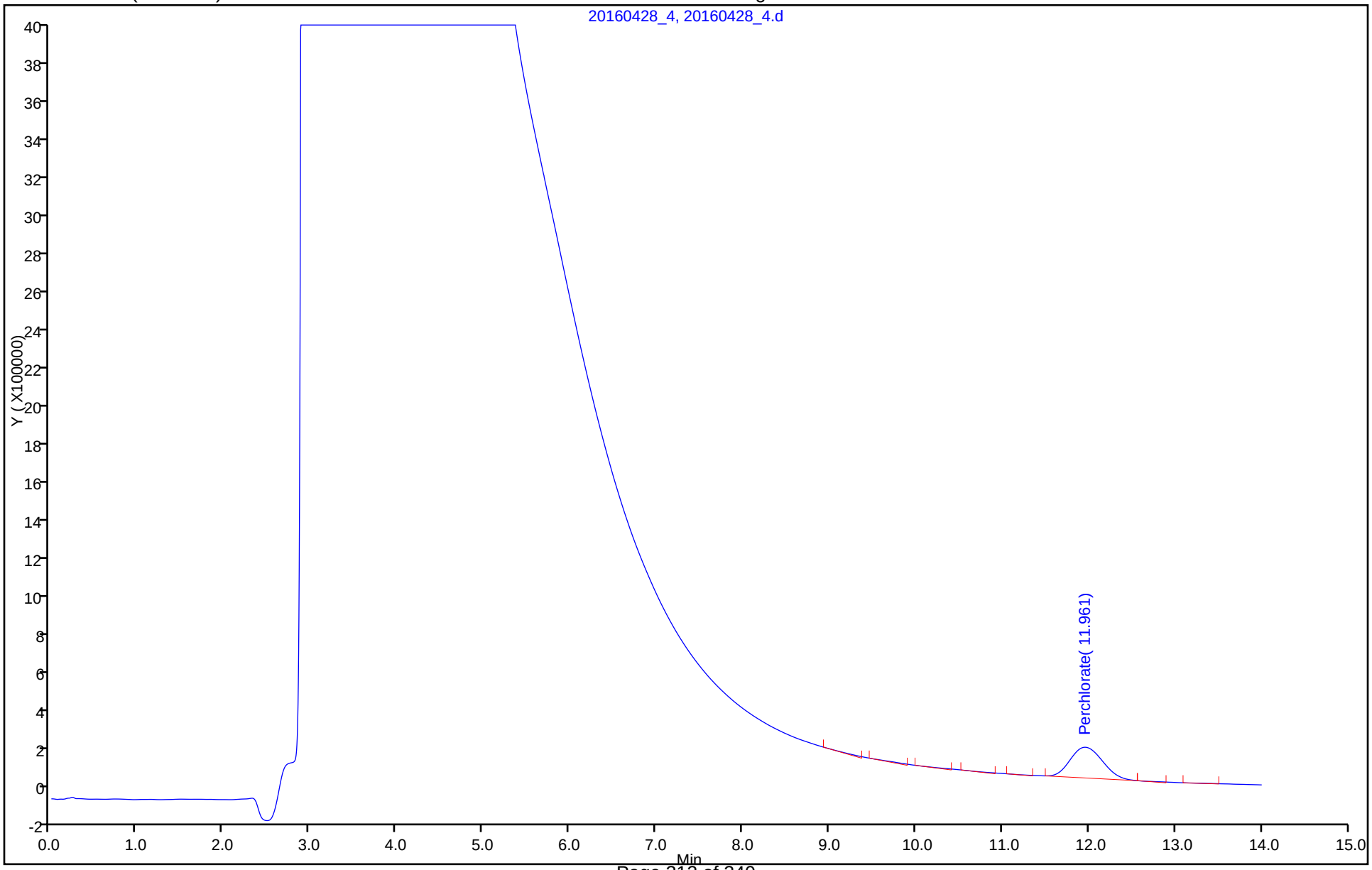
Lims ID: INF Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419 MS
Lab Sample ID: 440-144937-3 MS
Matrix: Water
Lab File ID: 20160428_10.d
Analysis Method: 314.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 10:26
Con. Extract Vol.:
Dilution Factor: 1000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8560		4000	950

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_10.d				
Lims ID:	440-144937-C-3 MS				
Client ID:	DBMW-1-20160419				
Sample Type:	MS				
Inject. Date:	28-Apr-2016 10:26:00	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	440-0072408-010				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 11:59:01	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 10:48:24

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.027	12.061	-0.034	1527386	0.0250	8.56	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

Report Date: 28-Apr-2016 11:59:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_10.d

Injection Date: 28-Apr-2016 10:26:00 Instrument ID: IC-25 Operator ID:

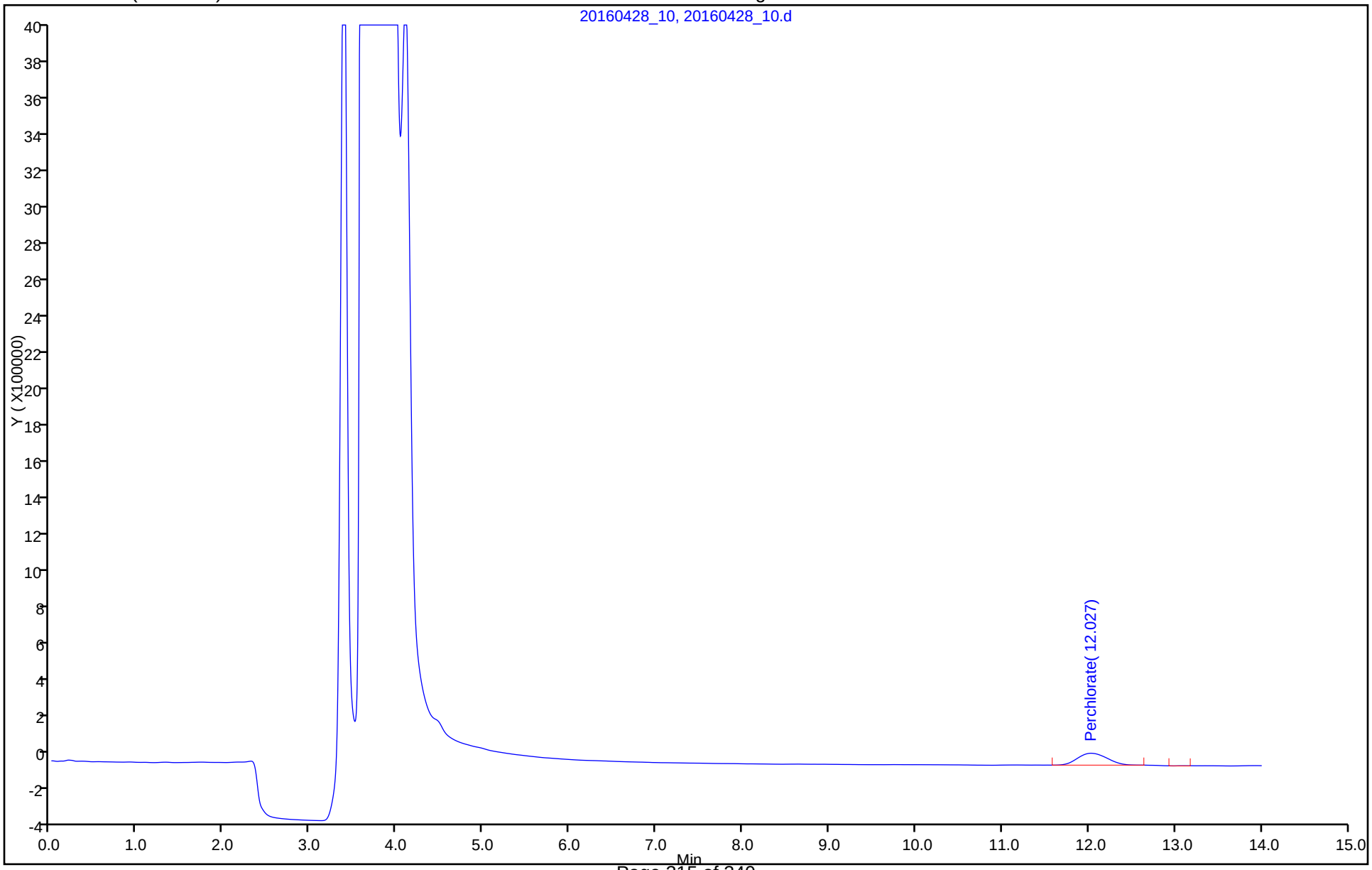
Lims ID: 440-144937-C-3 MS Worklist Smp#: 10

Client ID: DBMW-1-20160419

Injection Vol: 1.0 ul Dil. Factor: 1000.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

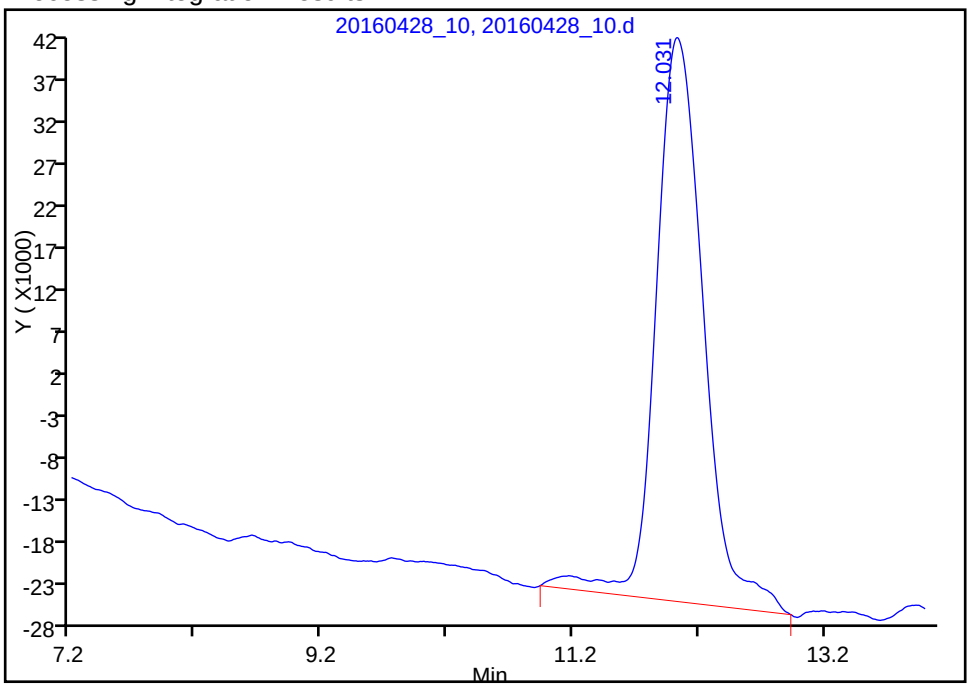
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_10.d				
Injection Date:	28-Apr-2016 10:26:00	Instrument ID:	IC-25		
Lims ID:	440-144937-C-3 MS				
Client ID:	DBMW-1-20160419				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

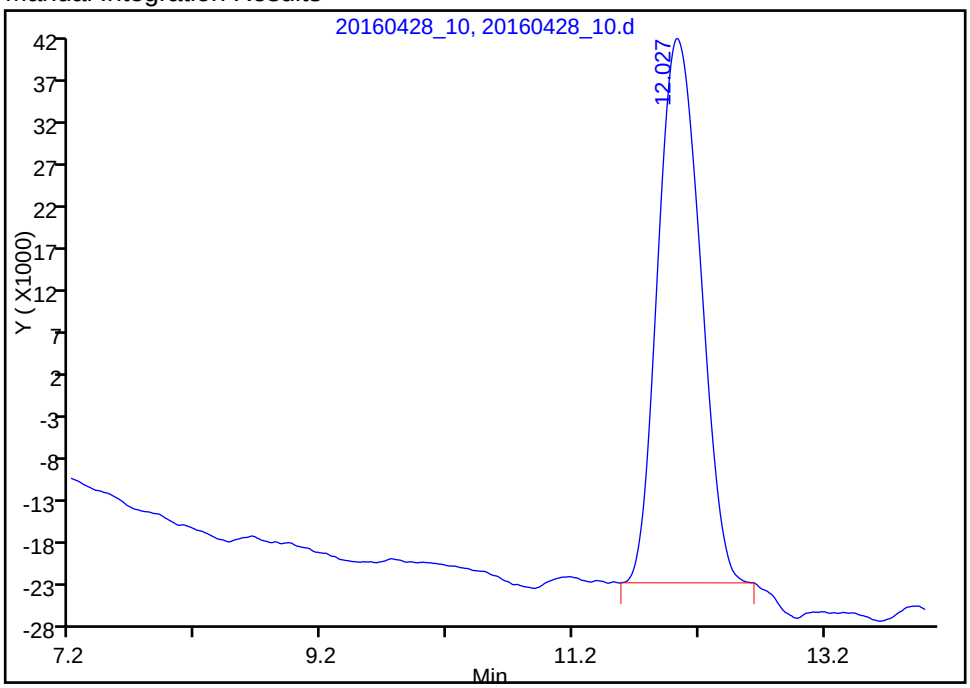
Processing Integration Results

RT: 12.03
Area: 1764215
Amount: 9.910648
Amount Units: ug/l



Manual Integration Results

RT: 12.03
Area: 1527386
Amount: 8.558347
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 10:48:24

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG No.:
Client Sample ID: DBMW-1-20160419 MSD
Lab Sample ID: 440-144937-3 MSD
Matrix: Water
Lab File ID: 20160428_11.d
Analysis Method: 314.0
Date Collected: 04/19/2016 10:50
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 10:43
Con. Extract Vol.:
Dilution Factor: 1000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8640		4000	950

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_11.d				
Lims ID:	440-144937-C-3 MSD				
Client ID:	DBMW-1-20160419				
Sample Type:	MSD				
Inject. Date:	28-Apr-2016 10:43:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	440-0072408-011				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 11:59:01	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 11:07:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.057	12.061	-0.004	1541140	0.0250	8.64	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

Report Date: 28-Apr-2016 11:59:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_11.d

Injection Date: 28-Apr-2016 10:43:00 Instrument ID: IC-25 Operator ID:

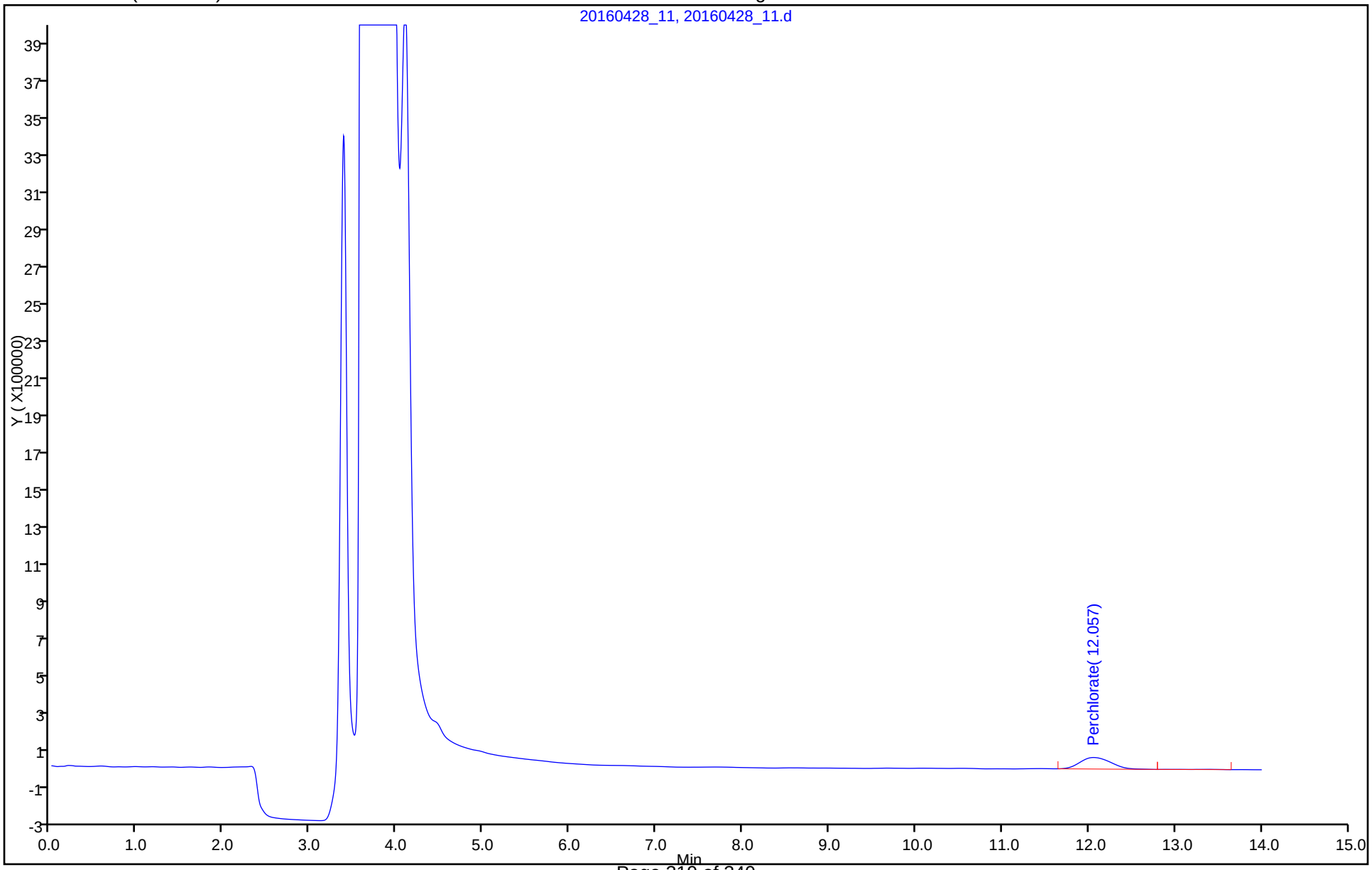
Lims ID: 440-144937-C-3 MSD Worklist Smp#: 11

Client ID: DBMW-1-20160419

Injection Vol: 1.0 ul Dil. Factor: 1000.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

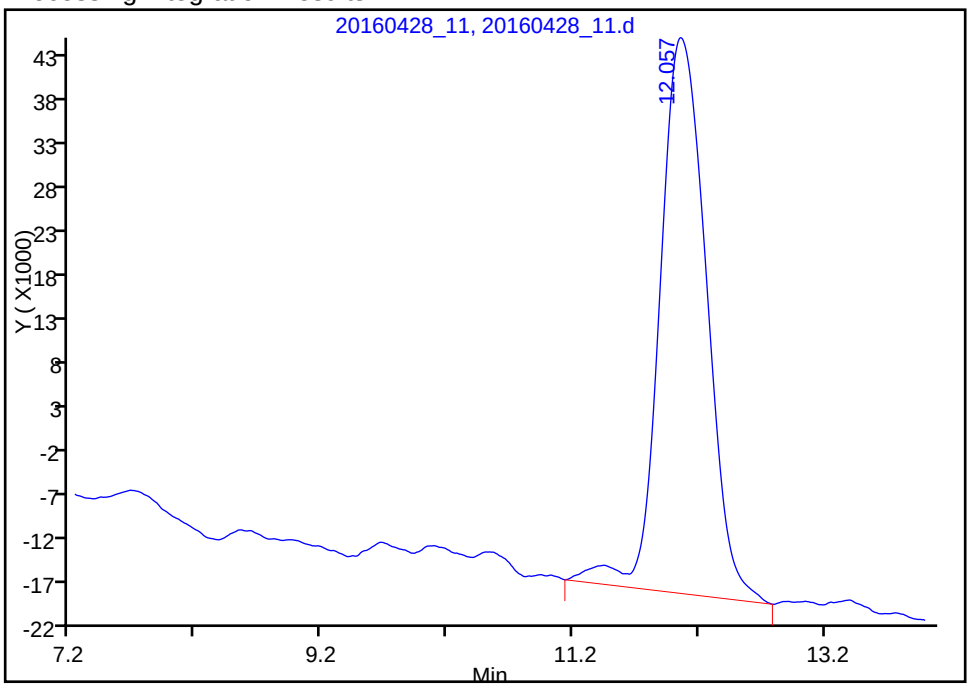
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_11.d				
Injection Date:	28-Apr-2016 10:43:00	Instrument ID:	IC-25		
Lims ID:	440-144937-C-3 MSD				
Client ID:	DBMW-1-20160419				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

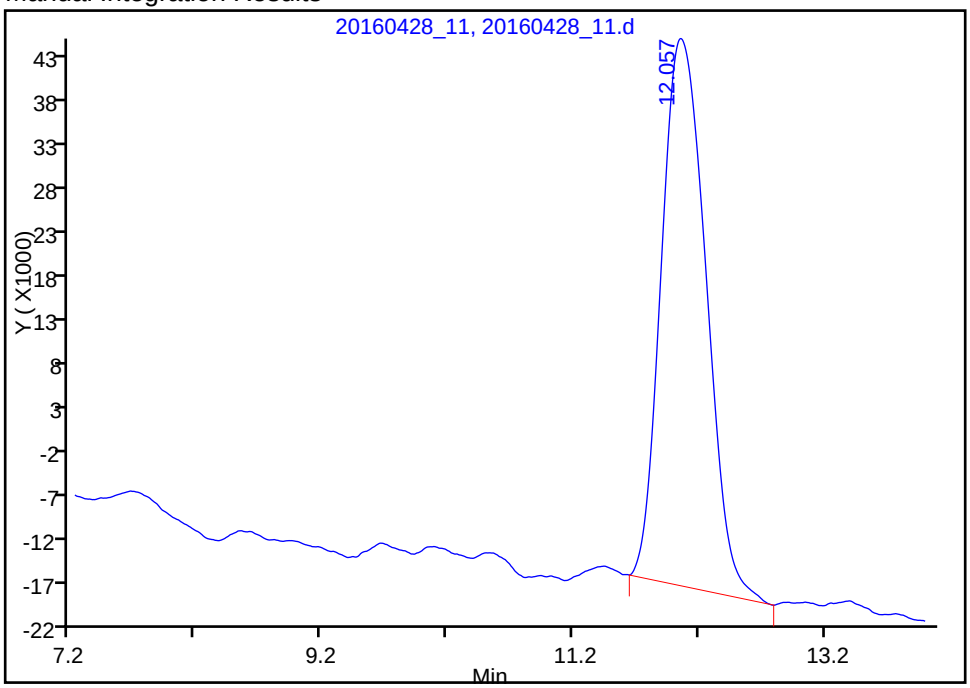
Processing Integration Results

RT: 12.06
Area: 1636773
Amount: 9.183404
Amount Units: ug/l



Manual Integration Results

RT: 12.06
Area: 1541140
Amount: 8.636982
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 11:07:03

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/22/2016 15:00

Analysis Batch Number: 325991 End Date: 04/22/2016 17:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 440-325991/1 IC		04/22/2016 15:00	1		AS7 4(mm)
STD2 440-325991/2 IC		04/22/2016 15:16	1	20160422 ICAL 2.d	AS7 4(mm)
STD3 440-325991/3 IC		04/22/2016 15:33	1	20160422 ICAL 3.d	AS7 4(mm)
STD4 440-325991/4 IC		04/22/2016 15:50	1	20160422 ICAL 4.d	AS7 4(mm)
STD5 440-325991/5 IC		04/22/2016 16:07	1	20160422 ICAL 5.d	AS7 4(mm)
STD6 440-325991/6 IC		04/22/2016 16:24	1	20160422 ICAL 6.d	AS7 4(mm)
STD7 440-325991/7 IC		04/22/2016 16:41	1	20160422 ICAL 7.d	AS7 4(mm)
STD8 440-325991/8 IC		04/22/2016 16:58	1	20160422 ICAL 8.d	AS7 4(mm)
ICV 440-325991/9		04/22/2016 17:14	1	20160422 ICAL 9.d	AS7 4(mm)
ZZZZZ		04/22/2016 17:31	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/28/2016 08:00

Analysis Batch Number: 327049 End Date: 04/29/2016 02:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/28/2016 08:00	1		AS7 4(mm)
LCS 440-327049/2		04/28/2016 08:16	1	20160428_2.d	AS7 4(mm)
CCV 440-327049/1002		04/28/2016 08:16	1	20160428_2-CCV.d	AS7 4(mm)
MB 440-327049/3		04/28/2016 08:33	1	20160428_3.d	AS7 4(mm)
CCB 440-327049/1003		04/28/2016 08:33	1	20160428_3-CCB.d	AS7 4(mm)
INF 440-327049/4		04/28/2016 08:50	1	20160428_4.d	AS7 4(mm)
MRL 440-327049/5		04/28/2016 09:07	1	20160428_5.d	AS7 4(mm)
ZZZZZ		04/28/2016 09:28	1		AS7 4(mm)
440-144937-3		04/28/2016 09:53	1000	20160428_8.d	AS7 4(mm)
ZZZZZ		04/28/2016 10:09	10000		AS7 4(mm)
440-144937-3 MS		04/28/2016 10:26	1000	20160428_10.d	AS7 4(mm)
440-144937-3 MSD		04/28/2016 10:43	1000	20160428_11.d	AS7 4(mm)
ZZZZZ		04/28/2016 11:00	1000		AS7 4(mm)
ZZZZZ		04/28/2016 11:17	1000		AS7 4(mm)
440-144937-2		04/28/2016 11:34	100	20160428_14.d	AS7 4(mm)
440-144937-1		04/28/2016 11:50	100	20160428_15.d	AS7 4(mm)
CCV 440-327049/16		04/28/2016 12:07	1	20160428_16.d	AS7 4(mm)
CCB 440-327049/17		04/28/2016 12:24	1	20160428_17.d	AS7 4(mm)
ZZZZZ		04/28/2016 12:41	50000		AS7 4(mm)
ZZZZZ		04/28/2016 12:57	100		AS7 4(mm)
ZZZZZ		04/28/2016 13:14	100		AS7 4(mm)
ZZZZZ		04/28/2016 13:31	100		AS7 4(mm)
ZZZZZ		04/28/2016 13:48	100		AS7 4(mm)
ZZZZZ		04/28/2016 14:05	50000		AS7 4(mm)
ZZZZZ		04/28/2016 14:22	50000		AS7 4(mm)
ZZZZZ		04/28/2016 14:38	50000		AS7 4(mm)
CCV 440-327049/26		04/28/2016 14:55	1		AS7 4(mm)
CCB 440-327049/27		04/28/2016 15:12	1		AS7 4(mm)
ZZZZZ		04/28/2016 15:29	100		AS7 4(mm)
ZZZZZ		04/28/2016 15:46	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:03	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:20	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:36	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:53	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:10	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:27	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:44	100		AS7 4(mm)
CCV 440-327049/37		04/28/2016 18:01	1		AS7 4(mm)
CCB 440-327049/38		04/28/2016 18:18	1		AS7 4(mm)
ZZZZZ		04/28/2016 18:34	1		AS7 4(mm)
ZZZZZ		04/28/2016 18:51	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:08	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:25	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:42	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/28/2016 08:00

Analysis Batch Number: 327049 End Date: 04/29/2016 02:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/28/2016 19:59	1		AS7 4(mm)
ZZZZZ		04/28/2016 20:16	1		AS7 4(mm)
CCV 440-327049/46		04/28/2016 20:33	1		AS7 4(mm)
CCB 440-327049/47		04/28/2016 20:50	1		AS7 4(mm)
ZZZZZ		04/28/2016 21:06	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:23	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:40	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:57	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:14	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:31	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:48	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:04	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:21	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:38	100		AS7 4(mm)
CCV 440-327049/58		04/28/2016 23:55	1		AS7 4(mm)
CCB 440-327049/59		04/29/2016 00:12	1		AS7 4(mm)
ZZZZZ		04/29/2016 00:29	100		AS7 4(mm)
ZZZZZ		04/29/2016 00:46	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:03	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:20	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:37	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:53	100		AS7 4(mm)
CCV 440-327049/66		04/29/2016 02:10	1		AS7 4(mm)
CCB 440-327049/67		04/29/2016 02:27	1		AS7 4(mm)

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144937-1

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
MCF-06C-20160419	440-144937-1
AA-20-20160419	440-144937-2
DBMW-1-20160419	440-144937-3

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MCF-06C-20160419
Lab Sample ID: 440-144937-1
Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 08:10
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	7400	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: AA-20-20160419
Lab Sample ID: 440-144937-2
Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 09:35
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	5800	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-1-20160419
Lab Sample ID: 440-144937-3
Lab Name: TestAmerica Irvine
Job No.: 440-144937-1
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 10:50
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	6000	100	50	mg/L			1	SM 2540C

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 326343 Date: 04/25/2016 13:01							
SM 2540C	MB 440-326343/1	Total Dissolved Solids	ND		mg/L	10	1

FORM III-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 326343 Date: 04/25/2016 13:01								
SM 2540C	DBMW-1-20160419	440-144937-3	Total Dissolved Solids	6000	mg/L			
SM 2540C	DBMW-1-20160419	440-144937-3 DU	Total Dissolved Solids	6110	mg/L	2	5	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 326343	Date: 04/25/2016 13:01										
						LCS Source: wctdslcs_00060					
SM 2540C	LCS 440-326343/2	Total Dissolved Solids	990		mg/L	1000	99	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144937-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C MDL Date: 10/04/2010 16:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144937-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C XMDL Date: 11/16/2010 10:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Instrument ID: BAL065 Analysis Method: SM 2540C

Start Date: 04/25/2016 13:01 End Date: 04/25/2016 13:01

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 440-326343/1	1	T	13:01	X																							
LCS 440-326343/2	1	T	13:01	X																							
440-144937-3	1	T	13:01	X																							
440-144937-3 DU	1	T	13:01	X																							
440-144937-1	1	T	13:01	X																							
440-144937-2	1	T	13:01	X																							
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
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ZZZZZZ			13:01																								

Prep Types:
T = Total/NA

FORM XIII-IN

Daily Balance Calibration Log

DATE: 04.25.16 Weight Set ID: D-6
INITIALS: MCH Calib Due: 01.11.17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
67	0.4999	1.0000	50.0001	99.9998	OK	0.1000 g OK
65	0.5000	1.0000	50.0003	100.0005	OK	
63	0.49	0.99	50	100	O.K	CDH

DATE: 4-26-16 Weight Set ID: D-6
INITIALS: CDH Calib Due: 1-11-17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
6.3	0.49	0.99	50	100	O.K	

DATE: 4/26/16 Weight Set ID: D-8
INITIALS: BL Calib Due: 1/12/17

ID#	~~0.5g~~ 5mg	~~1g~~ 2mg	~~50g~~ 50mg	~~100g~~ 100mg	OK?	COMMENTS/MAINTENANCE
73	0.0050	0.0020	0.0500	0.1000	OK	
		BL				
		4/26/14				

DATE: 4/26/16 Weight Set ID: D6
INITIALS: CH Calib Due: 1/11/17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
67	0.4999	1.0000	50.0000	99.9998	OK	0.100 1 gOKEK
65	0.5000	1.0000	50.0001	100.0004	OK	
63	0.50	0.99	50	100	OK	
			CH	4/26/16		

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Batch Number: 326343 Batch Start Date: 04/25/16 13:01 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/28/16 08:18

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	InitialAmount	TareWeight	Weight1	Weight2	Weight3
MB 440-326343/1		SM 2540C			100 mL	79.4170 g	79.4173 g	79.4173 g	0 g
LCS 440-326343/2		SM 2540C			50 mL	76.8281 g	76.8776 g	76.8776 g	0 g
440-144937-C-3	DBMW-1-20160419	SM 2540C	T	6400 umhos/cm	10 mL	78.1048 g	78.1650 g	78.1649 g	0 g
440-144937-C-3 DU	DBMW-1-20160419	SM 2540C	T	6420 umhos/cm	10 mL	77.8772 g	77.9383 g	77.9383 g	0 g
440-144937-C-1	MCF-06C-20160419	SM 2540C	T	7760 umhos/cm	10 mL	74.7251 g	74.7994 g	74.7994 g	0 g
440-144937-C-2	AA-20-20160419	SM 2540C	T	6400 umhos/cm	10 mL	77.2359 g	77.2942 g	77.2942 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 440-326343/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0003 g	0.0003 g	N/A g
LCS 440-326343/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0495 g	0.0495 g	N/A g
440-144937-C-3	DBMW-1-20160419	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0602 g	0.0601 g	N/A g
440-144937-C-3 DU	DBMW-1-20160419	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0611 g	0.0611 g	N/A g
440-144937-C-1	MCF-06C-20160419	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0743 g	0.0743 g	N/A g
440-144937-C-2	AA-20-20160419	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0583 g	0.0583 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	wctdslcs 00060	AnalysisComment	
MB 440-326343/1		SM 2540C		N/A g	100 mL	OK		pH6, 12880, 12920, 0.87, 1087	
LCS 440-326343/2		SM 2540C		N/A g	100 mL	OK	50 mL	pH6	
440-144937-C-3	DBMW-1-20160419	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-144937-C-3 DU	DBMW-1-20160419	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-144937-C-1	MCF-06C-20160419	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-144937-C-2	AA-20-20160419	SM 2540C	T	N/A g	100 mL	OK		pH7	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144937-1

SDG No.:

Batch Number: 326343 Batch Start Date: 04/25/16 13:01 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/28/16 08:18

Batch Notes	
Balance ID	65
Conductivity Meter ID	Cond04
Constant Weight (WT2) Date/Time In	04.26.16@12:00
Constant Weight (WT2) Date/Time Out	04.26.16@12:30
Constant Weight (WT2) Temp In	180 Degrees C
Constant Weight (WT2) Temp Out	180 Degrees C
Uncorrected CW (Wt2) Temp In	0.00 Degrees C
Uncorrected CW (Wt2) Temp Out	0.00 Degrees C
Corrected Temperature in Oven	100 Degrees C
Corrected Temperature out of Oven	100 Degrees C
Date/Time Samples placed in Oven	04.25.16@15:30
Date/Time Samples Removed from Oven	04.26.16@7:00
Filter Paper ID	9704995
Nominal Amount Used	100 mL
Oven ID	08
Pipette ID	135, 105
Thermometer ID	D-015
Uncorrected In Temperature	0.00 Degrees C
Uncorrected Out Temperature	0.00 Degrees C
Weight(WT1) Start Date/Time	04.26.16@8:00
Weight(WT1) Date/Time Out	04.26.16@10:00
Weight(WT1) Start Temp	180 Degrees C
Weight(WT1) Temp Out	180 Degrees C
Uncorrected Weight(WT1) Start Temp	0.00 Degrees C
Uncorrected Weight(WT1) Temp Out	0.00 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: ~~Zoe Diermier~~ Jeremy Stockley	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate									Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	E										
MCF-06C-20160419	4/19/16	0810	G	W	Y	N	X	X	X										
AA-20-20160419	4/19/16	0935	G	W	Y	N	X	X	X										
DBMW-1-20160419	4/19/16	1050	G	W	Y	Y	X	X	X										MS/MSD
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															

440-144937 Chain of Custody

4/20/16

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed: 6589 2840 6903			
Relinquished by:	Date/Time: 4/19/16 1420	Company GES	Received by:	Date/Time: 4-19-16 1420	Company Aecom	
Relinquished by:	Date/Time: 4/19/16 1430	Company Aecom	Received by:	Date/Time: 4/19/16 1430	Company TA	
Relinquished by:	Date/Time: 4-19-16 1600	Company TA	Received by:	Date/Time: 4/20/16 9:50	Company TAI	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: (5) 4.3/4.1 3.8/3.6 3.5/3.3 3.9/3.7			

4.1 TALIAS

IR 78

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-144937-1

Login Number: 144937
List Number: 1
Creator: Avila, Stephanie 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-144937-2

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/11/2016 2:07 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/11/2016

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-144937-2

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/20/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.3º C, 3.6º C, 3.7º C and 4.1º C.

The following sample was received with discrepancies between the container label(s) and the Chain-of-Custody. The sample ID was listed as MCF-06C-20160419 on the COC and MCF-06C-20160418 on the container label(s). The sample was logged in per the COC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

METALS (ICPMS)

Samples MCF-06C-20160419 (440-144937-1), AA-20-20160419 (440-144937-2) and DBMW-1-20160419 (440-144937-3) were analyzed for metals (ICPMS) in accordance with 200.8. The samples were prepared on 04/22/2016 and analyzed on 04/25/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Client Sample ID: MCF-06C-20160419 — Lab Sample ID: 440-144937-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	64		4.0	1.0	ug/L	2		200.8	Dissolved

Client Sample ID: AA-20-20160419 — Lab Sample ID: 440-144937-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	34		4.0	1.0	ug/L	2		200.8	Dissolved

Client Sample ID: DBMW-1-20160419 — Lab Sample ID: 440-144937-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	55		2.0	0.50	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Client Sample ID: MCF-06C-20160419

Lab Sample ID: 440-144937-1
Date Collected: 04/19/16 08:10
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	64		4.0	1.0	ug/L		04/22/16 17:22	04/25/16 15:13	2

Client Sample ID: AA-20-20160419

Lab Sample ID: 440-144937-2
Date Collected: 04/19/16 09:35
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	34		4.0	1.0	ug/L		04/22/16 17:22	04/25/16 15:15	2

Client Sample ID: DBMW-1-20160419

Lab Sample ID: 440-144937-3
Date Collected: 04/19/16 10:50
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	55		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:05	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units	Method
Chromium	2.0	0.50	ug/L	200.8

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-326042/1-A
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 326042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:00	1

Lab Sample ID: LCS 440-326042/2-A
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 326042

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			80.0	72.9		ug/L		91	85 - 115		

Lab Sample ID: 440-144937-3 MS
Matrix: Water
Analysis Batch: 326501

Client Sample ID: DBMW-1-20160419
Prep Type: Dissolved
Prep Batch: 326042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium	55		80.0	121		ug/L		82	70 - 130		

Lab Sample ID: 440-144937-3 MSD
Matrix: Water
Analysis Batch: 326501

Client Sample ID: DBMW-1-20160419
Prep Type: Dissolved
Prep Batch: 326042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	55		80.0	122		ug/L		84	70 - 130	1	20

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Metals

Prep Batch: 326042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-1	MCF-06C-20160419	Dissolved	Water	200.2	
440-144937-2	AA-20-20160419	Dissolved	Water	200.2	
440-144937-3	DBMW-1-20160419	Dissolved	Water	200.2	
440-144937-3 MS	DBMW-1-20160419	Dissolved	Water	200.2	
440-144937-3 MSD	DBMW-1-20160419	Dissolved	Water	200.2	
LCS 440-326042/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-326042/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 326501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-1	MCF-06C-20160419	Dissolved	Water	200.8	326042
440-144937-2	AA-20-20160419	Dissolved	Water	200.8	326042
440-144937-3	DBMW-1-20160419	Dissolved	Water	200.8	326042
440-144937-3 MS	DBMW-1-20160419	Dissolved	Water	200.8	326042
440-144937-3 MSD	DBMW-1-20160419	Dissolved	Water	200.8	326042
CRI 440-326501/10	DL		Water	200.8	
CRI 440-326501/11	DL		Water	200.8	
ICSA 440-326501/12	ICS		Water	200.8	
ICSAB 440-326501/13	ICS		Water	200.8	
LCS 440-326042/2-A	Lab Control Sample	Total Recoverable	Water	200.8	326042
MB 440-326042/1-A	Method Blank	Total Recoverable	Water	200.8	326042

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Client Sample ID: MCF-06C-20160419 — Lab Sample ID: 440-144937-1

Date Collected: 04/19/16 08:10
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		2	326501	04/25/16 15:13	RC	TAL IRV

Client Sample ID: AA-20-20160419 — Lab Sample ID: 440-144937-2

Date Collected: 04/19/16 09:35
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		2	326501	04/25/16 15:15	RC	TAL IRV

Client Sample ID: DBMW-1-20160419 — Lab Sample ID: 440-144937-3

Date Collected: 04/19/16 10:50
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		1	326501	04/25/16 15:05	RC	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144937-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-144937-1	MCF-06C-20160419	Water	04/19/16 08:10	04/20/16 09:50
440-144937-2	AA-20-20160419	Water	04/19/16 09:35	04/20/16 09:50
440-144937-3	DBMW-1-20160419	Water	04/19/16 10:50	04/20/16 09:50

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME HCl_00317	04/06/17	Fisher Chemical, Lot 4115100			(Purchased Reagent)		Stock Chemical	100 %
ME HNO3_00327	04/11/17	Macron Fine Chemicals, Lot 0000129810			(Purchased Reagent)		Stock Chemical	1 %
ME ICPMS CAL_00027	07/09/16	02si, Lot 1084886			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
MEICPMS4 CCV_00993	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME_CALSTD#1_00004	1.25 mL	Chromium	50 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 ICSA_00993	01/01/18	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100000 ug/L
							Ca	100000 ug/L
							Fe	100000 ug/L
							K	100000 ug/L
							Mg	100000 ug/L
							Mo	2000 ug/L
							Na	100000 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MEICPMS4 ICSB_00991	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100020 ug/L
							Ca	101000 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mo	2020 ug/L
							Na	100500 ug/L
					ME_CALSTD#1_00004	0.2 mL	Ag	20 ug/L
							Al	100020 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Ca	101000 ug/L
							Cd	20 ug/L
							Ce	20 ug/L
							Chromium	20 ug/L
							Co	20 ug/L
							Cu	20 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mn	20 ug/L
							Na	100500 ug/L
							Ni	20 ug/L
							Pb	20 ug/L
							Se	20 ug/L
							Sr	20 ug/L
							Tl	20 ug/L
							U	20 ug/L
							V	20 ug/L
							Zn	20 ug/L
					ME_CALSTD#2_00006	0.2 mL	Mo	2020 ug/L
							Sb	20 ug/L
							Sn	20 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Se	10 mg/L
							Sr	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
.ME_CALSTD#2_00006	11/01/16	Inorganic Ventures, Lot J2-MEB598153			(Purchased Reagent)		Mo	10 mg/L
							Sb	10 mg/L
							Sn	10 mg/L
MEICPMS4 ICV_00997	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_ICPMSICV#1_00002	250 uL	Chromium	25 ug/L
.ME_ICPMSICV#1_00002	08/01/16	Inorganic Ventures, Lot J2-MEB591026			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD1_01155	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01012	2 mL	Chromium	0.2 ug/L
.MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD2_00997	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01012	10 mL	Chromium	1 ug/L
.MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
.MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
..ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4_CRI_01004	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00005	1 mL	Chromium	1 ug/L
.ME_CRI_30_00005	02/01/17	O2si, Lot 1084922			(Purchased Reagent)		Chromium	100 ug/L
MEICPMS4_CRI_01005	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00004	2 mL	Chromium	2 ug/L
.ME_CRI_30_00004	11/01/16	O2si, Lot 1081670			(Purchased Reagent)		Chromium	100 ug/L

Reagent

ME_CALSTD#1_00004

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

ID: 3053619
Open: 12/12/15
CAL STD #1

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-83
Lot Number:	J2-MEB598151
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 mg/L ea:
	Ca,
	250 mg/L ea:
	K, Mg, Na,
	100 mg/L ea:
	Fe,
	10 mg/L ea:
	Ag, Al, As,
	B, Ba, Be,
	Cd, Ce, Co,
	Cr3, Cu, Mn,
	Ni, Pb, Se,
	Sr, Tl, U,
	V, Zn

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	9.99 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.09 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	9.99 ± 0.07 mg/L
Boron, B	10.00 ± 0.07 mg/L	Cadmium, Cd	9.99 ± 0.06 mg/L
Calcium, Ca	500.2 ± 2.3 mg/L	Cerium, Ce	10.00 ± 0.06 mg/L
Chromium+3, Cr3	10.00 ± 0.06 mg/L	Cobalt, Co	10.00 ± 0.06 mg/L
Copper, Cu	10.00 ± 0.06 mg/L	Iron, Fe	100.0 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.2 mg/L
Manganese, Mn	10.00 ± 0.06 mg/L	Nickel, Ni	10.00 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.00 ± 0.06 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	249.9 ± 1.1 mg/L
Strontium, Sr	10.00 ± 0.06 mg/L	Thallium, Tl	10.00 ± 0.08 mg/L
Uranium, U	10.00 ± 0.06 mg/L	Vanadium, V	10.00 ± 0.06 mg/L
Zinc, Zn	10.00 ± 0.07 mg/L		

Certified Density: 1.029 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	Calculated		See Sec. 4.2
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Gravimetric		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) \approx 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean

x_i = individual results

n = number of measurements

2 = the coverage factor.

$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01 N 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_CALSTD#2_00006

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-82
Lot Number:	J2-MEB598153
Matrix:	5% (v/v) HNO_3 tr. HF
Value / Analyte(s):	10 mg/L ea: Mo, Sb, Sn, Ti, 2.5 mg/L ea: Zr

CAL STD #2
ID: 3053620
open: 12/12/15

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**10.00 ± 0.09 mg/L**	**Molybdenum, Mo**	**10.00 ± 0.07 mg/L**
Tin, Sn	**10.00 ± 0.06 mg/L**	**Titanium, Ti**	**10.00 ± 0.08 mg/L**
Zirconium, Zr	**2.501 ± 0.016 mg/L**		

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Sb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102A	061229
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Ti	ICP Assay	3162a	060808
Zr	Calculated		See Sec. 4.2
Zr	ICP Assay	3169	071226

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ — $(\bar{x})$ = mean; x_i = individual results; n = number of measurements

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$ — 2 = the coverage factor. $[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

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10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01/2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_ICPMSICV#1_00002

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2P 9/1/16

ACCREDITED Testing Laboratory Certificate 853 01
ACCREDITED Reference Material Producer Certificate 853 02

2818801

2818801
ID: ME_ICPMSICV#1_00002
Exp:08/01/16 Prpd:RC Opn:09/01/15
INORGANIC ICV #1

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-83QC
Lot Number:	J2-MEB591026
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 mg/L ea:

Ca,

250 mg/L ea:

K,	Mg,	Na,

100 mg/L ea:

Fe,

10 mg/L ea:

Ag,	Al,	As,
B,	Ba,	Be,
Cd,	Ce,	Co,
Cr3,	Cu,	Mn,
Ni,	Pb,	Se,
Sr,	Tl,	U,
V,	Zn	

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.07 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	10.01 ± 0.07 mg/L
Boron, B	9.99 ± 0.09 mg/L	Cadmium, Cd	10.00 ± 0.06 mg/L
Calcium, Ca	500.1 ± 2.3 mg/L	Cerium, Ce	10.01 ± 0.06 mg/L
Chromium+3, Cr^{3+}	9.99 ± 0.06 mg/L	Cobalt, Co	9.99 ± 0.06 mg/L
Copper, Cu	9.99 ± 0.06 mg/L	Iron, Fe	100.1 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.1 mg/L
Manganese, Mn	9.99 ± 0.06 mg/L	Nickel, Ni	10.01 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.01 ± 0.07 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	250.0 ± 1.1 mg/L
Strontium, Sr	10.02 ± 0.06 mg/L	Thallium, Tl	9.99 ± 0.07 mg/L
Uranium, U	10.02 ± 0.07 mg/L	Vanadium, V	10.02 ± 0.06 mg/L
Zinc, Zn	10.01 ± 0.06 mg/L		

Certified Density: 1.030 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	060502
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3181	000630
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 08, 2015

11.2 Expiration Date

EXPIRES
1 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Irvine Job Number: 440-144937-2

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
MCF-06C-20160419	440-144937-1
AA-20-20160419	440-144937-2
DBMW-1-20160419	440-144937-3

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MCF-06C-20160419
Lab Sample ID: 440-144937-1
Lab Name: TestAmerica Irvine
Job No.: 440-144937-2
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 08:10
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	64	4.0	1.0	ug/L			2	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: AA-20-20160419
Lab Sample ID: 440-144937-2
Lab Name: TestAmerica Irvine
Job No.: 440-144937-2
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 09:35
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	34	4.0	1.0	ug/L			2	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-1-20160419
Lab Sample ID: 440-144937-3
Lab Name: TestAmerica Irvine
Job No.: 440-144937-2
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 10:50
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	55	2.0	0.50	ug/L			1	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

ICV Source: MEICPMS4 ICV_00997 Concentration Units: ug/L

CCV Source: MEICPMS4 CCV_00993

Analyte	ICV 440-326501/7 04/25/2016 13:46				CCV 440-326501/25 04/25/2016 15:25							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	24.5		25.0	98	48.6		50.0	97				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Method: 200.8 Instrument ID: ICPMS5

Lab Sample ID: CRI 440-326501/10 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01004

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	1.00	1.06	J	106	50-150

Lab Sample ID: CRI 440-326501/11 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	2.00	1.92	J	96	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-326501/8 04/25/2016 14:43		CCB 440-326501/26 04/25/2016 15:28					
		Found	C	Found	C	Found	C	Found	C
Chromium	2.0	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-326042/1-A

Instrument Code: ICPMS5 Batch No.: 326501

CAS No.	Analyte	Concentration	C	Q	Method
7440-47-3	Chromium	ND			200.8

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Lab Sample ID: ICSA 440-326501/12 Instrument ID: ICPMS5

Lab File ID: 012ICSA.d ICS Source: MEICPMS4 ICSA_00993

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Chromium		**1.32**	
Aluminum	*100000*	*100479*	*100*
Antimony		*0.0820*	
Arsenic		*0.106*	
Barium		*0.111*	
Beryllium		*-0.0600*	
Ca	*100000*	*95662*	*96*
Cadmium		*0.856*	
Cerium		*0.0240*	
Cobalt		*0.0370*	
Copper		*0.295*	
Iron	*100000*	*97598*	*98*
K	*100000*	*101402*	*101*
Lead		*0.233*	
Manganese		*0.346*	
Mg	*100000*	*101840*	*102*
Molybdenum	*2000*	*2168*	*108*
Na	*100000*	*104378*	*104*
Nickel		*0.702*	
Selenium		*0.0510*	
Silver		*0.0270*	
Sn		*0.0730*	
Sr		*0.473*	
Thallium		*0.0020*	
Uranium		*0.0000*	
Vanadium		*0.0240*	
Zinc		*1.77*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Lab Sample ID: ICSAB 440-326501/13 Instrument ID: ICPMS5

Lab File ID: 013ICSB.d ICS Source: MEICPMS4 ICSB_00991

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Chromium	**20.0**	**20.8**	**104**
Aluminum	*100000*	*102173*	*102*
Antimony	*20.0*	*21.4*	*107*
Arsenic	*20.0*	*20.4*	*102*
Barium	*20.0*	*21.1*	*106*
Beryllium	*20.0*	*20.1*	*101*
Ca	*101000*	*99722*	*99*
Cadmium	*20.0*	*20.6*	*103*
Cerium	*20.0*	*20.8*	*104*
Cobalt	*20.0*	*19.1*	*95*
Copper	*20.0*	*18.9*	*95*
Iron	*100000*	*99552*	*99*
K	*101000*	*103777*	*103*
Lead	*20.0*	*21.3*	*106*
Manganese	*20.0*	*20.3*	*101*
Mg	*101000*	*103514*	*103*
Molybdenum	*2020*	*2182*	*108*
Na	*101000*	*106430*	*106*
Nickel	*20.0*	*19.6*	*98*
Selenium	*20.0*	*19.7*	*99*
Silver	*20.0*	*19.6*	*98*
Sn	*20.0*	*21.1*	*106*
Sr	*20.0*	*20.6*	*103*
Thallium	*20.0*	*18.9*	*94*
Uranium	*20.0*	*20.5*	*102*
Vanadium	*20.0*	*20.3*	*101*
Zinc	*20.0*	*19.7*	*99*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: DBMW-1-20160419 MS

Lab ID: 440-144937-3 MS

Lab Name: TestAmerica Irvine

Job No.: 440-144937-2

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	121		55		80.0	82	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: DBMW-1-20160419 MSD

Lab ID: 440-144937-3 MSD

Lab Name: TestAmerica Irvine

Job No.: 440-144937-2

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Chromium	122		80.0	84	70-130	1	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-326042/2-A

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

Sample Matrix: Water LCS Source: ME ICPMS CAL_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Chromium	80.0	72.9		91	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-144937-2

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 200.8 MDL Date: 08/15/2014 16:02

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-144937-2

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 200.8 XMDL Date: 08/15/2014 16:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Irvine Job No: 440-144937-2

SDG No.:

Instrument ID: ICPMS5 Date: 12/06/2012 11:03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Chromium		4500	200.8

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-326042/1-A	04/22/2016 17:22	326042		25	25
LCS 440-326042/2-A	04/22/2016 17:22	326042		25	25
440-144937-3	04/22/2016 17:22	326042		25	25
440-144937-3 MS	04/22/2016 17:22	326042		25	25
440-144937-3 MSD	04/22/2016 17:22	326042		25	25
440-144937-1	04/22/2016 17:22	326042		25	25
440-144937-2	04/22/2016 17:22	326042		25	25

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Instrument ID: ICPMS5 Analysis Method: 200.8

Start Date: 04/25/2016 13:30 End Date: 04/25/2016 15:40

Lab Sample Id	D/F	Type	Time	Analytes																							
				Cr																							
ZZZZZZ			13:30																								
STD0 440-326501/2 IC	1		13:33	X																							
STD1 440-326501/3 IC	1		13:35	X																							
STD2 440-326501/4 IC	1		13:38	X																							
STD3 440-326501/5 IC	1		13:41	X																							
STD4 440-326501/6 IC	1		13:44	X																							
ICV 440-326501/7	1		13:46	X																							
ICB 440-326501/8	1		14:43	X																							
ZZZZZZ			14:45																								
CRI 440-326501/10	1		14:48	X																							
CRI 440-326501/11	1		14:50	X																							
ICSA 440-326501/12	1		14:53	X																							
ICSAB 440-326501/13	1		14:55	X																							
RINSE 440-326501/14			14:58																								
MB 440-326042/1-A	1	R	15:00	X																							
LCS 440-326042/2-A	1	R	15:03	X																							
440-144937-3	1	D	15:05	X																							
440-144937-3 MS	1	D	15:08	X																							
440-144937-3 MSD	1	D	15:10	X																							
440-144937-1	2	D	15:13	X																							
440-144937-2	2	D	15:15	X																							
ZZZZZZ			15:18																								
ZZZZZZ			15:20																								
ZZZZZZ			15:23																								
CCV 440-326501/25	1		15:25	X																							
CCB 440-326501/26	1		15:28	X																							
ZZZZZZ			15:30																								
ZZZZZZ			15:33																								
ZZZZZZ			15:35																								
CCV 440-326501/30			15:38																								
CCB 440-326501/31			15:40																								

Prep Types:
D = Dissolved
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

ICP-MS Instrument ID: ICPMS5 Start Date: 04/25/2016 End Date: 04/25/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
STD0 440-326501/2 I	13:33	100		100		100		100		100	
STD1 440-326501/3 I	13:35	102		102		103		102		103	
STD2 440-326501/4 I	13:38	101		103		103		104		104	
STD3 440-326501/5 I	13:41	102		102		102		103		104	
STD4 440-326501/6 I	13:44	101		101		101		102		103	
ICV 440-326501/7	13:46	100		101		102		103		103	
ICB 440-326501/8	14:43	97		97		98		96		97	
CRI 440-326501/10	14:48	98		98		97		98		99	
CRI 440-326501/11	14:50	97		96		96		96		96	
ICSA 440-326501/12	14:53	90		88		84		88		81	
ICSAB 440-326501/13	14:55	93		92		87		91		83	
MB 440-326042/1-A	15:00	100		101		99		99		99	
LCS 440-326042/2-A	15:03	100		101		98		99		98	
440-144937-3	15:05	96		87		82		85		74	
440-144937-3 MS	15:08	99		89		85		86		75	
440-144937-3 MSD	15:10	104		93		88		90		79	
440-144937-1	15:13	99		90		86		86		76	
440-144937-2	15:15	106		98		92		94		84	
CCV 440-326501/25	15:25	111		109		106		101		100	
CCB 440-326501/26	15:28	109		108		104		101		99	

FORM XV - IN

Agilent 1ppb Tuning Solution: 3276953

ICPMS P/A Tuning Solution: 32769556

ICPMS EPA Tuning Solution: 3276958

ICPMS Internal Standard Solution: 3264770

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Data File	Acq. Date-Time	Type	Vial Number	Sample Name	Comment
001SMPL.d	4/25/2016 1:30 PM	Sample	1	Blank	
002CALB.d	4/25/2016 1:33 PM	CalBlk	1	STD0-3321393	BLANK
003CALS.d	4/25/2016 1:35 PM	CalStd	2	STD1-3321392	0.2 PPB
004CALS.d	4/25/2016 1:38 PM	CalStd	3	STD2-3321391	1.0 PPB
005CALS.d	4/25/2016 1:41 PM	CalStd	4	STD3-3321390	10.0 PPB
006CALS.d	4/25/2016 1:44 PM	CalStd	5	STD4-3321389	100 PPB
007_ICV.d	4/25/2016 1:46 PM	ICV	2101	ICV-3321388	25 PPB
008_ICB.d	4/25/2016 2:43 PM	ICB	1	ICB-3321393	
009RL_2.d	4/25/2016 2:45 PM	RL0_2	2	XCRI-3321396	+/- 50% 0.2PPB RL CHK
010_RL1.d	4/25/2016 2:48 PM	RL1_0	2102	CRI-3321397	+/- 50% 1xRL CHK
011_RL2.d	4/25/2016 2:50 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL CHK
012ICSA.d	4/25/2016 2:53 PM	ICSA	2104	ICSA-3321399	
013ICSB.d	4/25/2016 2:55 PM	ICSB	2105	ICSAB-3321400	
014SMPL.d	4/25/2016 2:58 PM	Sample	2107	RINSE	
015_MB.d	4/25/2016 3:00 PM	MB	3111	mb 440-326042/1-a	CR 200.8D 440-326042 EN/TK
016_LCS.d	4/25/2016 3:03 PM	LCS	3112	lcs 440-326042/2-a	CR 200.8D 440-326042 EN/TK
017SMPL.d	4/25/2016 3:05 PM	Sample	3201	440-144937-b-3-a	CR 200.8D 440-326042 EN/TK
018SMPL.d	4/25/2016 3:08 PM	Sample	3202	440-144937-b-3-b ms	CR 200.8D 440-326042 EN/TK
019SMPL.d	4/25/2016 3:10 PM	Sample	3203	440-144937-b-3-c msd	CR 200.8D 440-326042 EN/TK
020SMPL.d	4/25/2016 3:13 PM	Sample	3204	440-144937-b-1-a@2	CR 200.8D 440-326042 EN/TK
021SMPL.d	4/25/2016 3:15 PM	Sample	3205	440-144937-b-2-a@2	CR 200.8D 440-326042 EN/TK
022SMPL.d	4/25/2016 3:18 PM	Sample	3206	440-144933-b-1-a@2	CR 200.8D 440-326042 EN/TK
023SMPL.d	4/25/2016 3:20 PM	Sample	3207	440-144933-b-2-a@2	CR 200.8D 440-326042 EN/TK
024SMPL.d	4/25/2016 3:23 PM	Sample	3208	440-144933-b-3-a@2	CR 200.8D 440-326042 EN/TK
025_CCV.d	4/25/2016 3:25 PM	CCV	2201	CCV-3321395	
026_CCB.d	4/25/2016 3:28 PM	CCB	2301	CCB-3321393	
027SMPL.d	4/25/2016 3:30 PM	Sample	3209	440-144933-b-4-a	CR 200.8D 440-326042 EN/TK
028SMPL.d	4/25/2016 3:33 PM	Sample	3210	440-144940-c-1-a	CR 200.8D 440-326042 EN/TK
029SMPL.d	4/25/2016 3:35 PM	Sample	3211	440-144940-c-2-a	CR 200.8D 440-326042 EN/TK
030_CCV.d	4/25/2016 3:38 PM	CCV	2201	CCV-3321395	
031_CCB.d	4/25/2016 3:40 PM	CCB	2301	CCB-3321393	
032_MB.d	4/25/2016 4:29 PM	MB	3212	mb 440-325535/1-a@20	AG SOIL BP 440-325535 TKRD
033SMPL.d	4/25/2016 4:32 PM	Sample	3301	lcs 440-325535/2-a@20	AG SOIL BP 440-325535 TKRD
034SMPL.d	4/25/2016 4:34 PM	Sample	3302	440-143720-a-20-d@20	AG SOIL BP 440-325535 TKRD
035SMPL.d	4/25/2016 4:36 PM	Sample	3303	440-143720-a-20-e ms@20	AG SOIL BP 440-325535 TKRD
036SMPL.d	4/25/2016 4:39 PM	Sample	3304	440-143720-a-20-f msd@20	AG SOIL BP 440-325535 TKRD
037SMPL.d	4/25/2016 4:41 PM	Sample	3305	440-143720-a-20-d pds@20	AG SOIL BP 440-325535 TKRD
038SMPL.d	4/25/2016 4:43 PM	Sample	3306	440-143720-a-1-h@20	AG SOIL BP 440-325535 TKRD
039SMPL.d	4/25/2016 4:46 PM	Sample	3307	440-143720-a-1-h SD@100	AG SOIL BP 440-325535 TKRD
040_CCV.d	4/25/2016 4:48 PM	CCV	2201	CCV-3321395	
041_CCB.d	4/25/2016 4:51 PM	CCB	2301	CCB-3321393	
042SMPL.d	4/25/2016 4:53 PM	Sample	3308	440-143720-a-2-d@20	AG SOIL BP 440-325535 TKRD
043SMPL.d	4/25/2016 4:56 PM	Sample	3309	440-143720-a-3-d@20	AG SOIL BP 440-325535 TKRD
044SMPL.d	4/25/2016 4:58 PM	Sample	3310	440-143720-a-4-e@20	AG SOIL BP 440-325535 TKRD
045SMPL.d	4/25/2016 5:01 PM	Sample	3311	440-143720-a-5-d@20	AG SOIL BP 440-325535 TKRD
046SMPL.d	4/25/2016 5:03 PM	Sample	3312	440-143720-a-6-d@20	AG SOIL BP 440-325535 TKRD
047SMPL.d	4/25/2016 5:05 PM	Sample	3401	440-143720-a-7-d@20	AG SOIL BP 440-325535 TKRD
048SMPL.d	4/25/2016 5:08 PM	Sample	3402	440-143720-a-8-d@20	AG SOIL BP 440-325535 TKRD
049SMPL.d	4/25/2016 5:10 PM	Sample	3403	440-143720-a-9-d@20	AG SOIL BP 440-325535 TKRD
050SMPL.d	4/25/2016 5:13 PM	Sample	3404	440-143720-a-10-e@20	AG SOIL BP 440-325535 TKRD
051_CCV.d	4/25/2016 5:15 PM	CCV	2201	CCV-3321395	
052_CCB.d	4/25/2016 5:17 PM	CCB	2301	CCB-3321393	

053SMPL.d	4/25/2016 5:20 PM	Sample	3405	440-143720-a-11-f@20	AG SOIL BP 440-325535 TKRD
054SMPL.d	4/25/2016 5:22 PM	Sample	3406	440-143720-a-12-d@20	AG SOIL BP 440-325535 TKRD
055SMPL.d	4/25/2016 5:25 PM	Sample	3407	440-143720-a-13-d@20	AG SOIL BP 440-325535 TKRD
056SMPL.d	4/25/2016 5:27 PM	Sample	3408	440-143720-a-14-d@20	AG SOIL BP 440-325535 TKRD
057SMPL.d	4/25/2016 5:30 PM	Sample	3409	440-143720-a-15-d@20	AG SOIL BP 440-325535 TKRD
058SMPL.d	4/25/2016 5:32 PM	Sample	3410	440-143720-a-16-d@20	AG SOIL BP 440-325535 TKRD
059SMPL.d	4/25/2016 5:35 PM	Sample	3411	440-143720-a-17-d@20	AG SOIL BP 440-325535 TKRD
060SMPL.d	4/25/2016 5:37 PM	Sample	3412	440-143720-a-18-d@20	AG SOIL BP 440-325535 TKRD
061SMPL.d	4/25/2016 5:39 PM	Sample	3501	440-143720-a-19-e@20	AG SOIL BP 440-325535 TKRD
062_CCV.d	4/25/2016 5:44 PM	CCV	2201	CCV-3321395	
063_CCB.d	4/25/2016 5:46 PM	CCB	2301	CCB-3321393	
064_RL2.d	4/25/2016 5:49 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL BP CHK
065ICSA.d	4/25/2016 5:51 PM	ICSA	2104	ICSA-3321399	BP CHK A
066ICSB.d	4/25/2016 5:54 PM	ICSB	2105	ICSAB-3321400	BP CHK B
067SMPL.d	4/25/2016 5:56 PM	Sample	2107	RINSE	
068SMPL.d	4/25/2016 5:59 PM	Sample	2107	RINSE	
069_CCV.d	4/25/2016 6:01 PM	CCV	2201	CCV-3321395	
070_CCB.d	4/25/2016 6:04 PM	CCB	2301	CCB-3321393	
071_MB.d	4/25/2016 6:27 PM	MB	3101	mb 440-325847/1-a@20	BP CAM SOIL 440-325847 TK
072SMPL.d	4/25/2016 6:30 PM	Sample	3102	lcs 440-325847/2-a@20	BP CAM SOIL 440-325847 TK
073SMPL.d	4/25/2016 6:32 PM	Sample	3103	440-145123-a-1-a@20	BP CAM SOIL 440-325847 TK
074SMPL.d	4/25/2016 6:35 PM	Sample	3104	440-145123-a-1-b ms@20	BP CAM SOIL 440-325847 TK
075SMPL.d	4/25/2016 6:37 PM	Sample	3105	440-145123-a-1-c msd@20	BP CAM SOIL 440-325847 TK
076SMPL.d	4/25/2016 6:39 PM	Sample	3106	440-145123-a-1-a@20	BP CAM SOIL 440-325847 TK
077SMPL.d	4/25/2016 6:42 PM	Sample	3107	440-145123-a-2-a PDS@20	BP CAM SOIL 440-325847 TK
078SMPL.d	4/25/2016 6:44 PM	Sample	2107	RINSE	
079SMPL.d	4/25/2016 6:47 PM	Sample	2107	RINSE	
080_CCV.d	4/25/2016 6:49 PM	CCV	2201	CCV-3321395	
081_CCB.d	4/25/2016 6:52 PM	CCB	2301	CCB-3321393	
082SMPL.d	4/25/2016 6:54 PM	Sample	3108	440-145123-a-2-a@20	BP CAM SOIL 440-325847 TK
083SMPL.d	4/25/2016 6:57 PM	Sample	3109	440-145123-a-3-a SD@100	BP CAM SOIL 440-325847 TK
084SMPL.d	4/25/2016 6:59 PM	Sample	3110	440-145123-a-4-a@20	BP CAM SOIL 440-325847 TK
085SMPL.d	4/25/2016 7:01 PM	Sample	3111	440-145123-a-5-a@20	BP CAM SOIL 440-325847 TK
086SMPL.d	4/25/2016 7:04 PM	Sample	3112	440-145123-a-6-a@20	BP CAM SOIL 440-325847 TK
087SMPL.d	4/25/2016 7:06 PM	Sample	3201	440-145123-a-7-a@20	BP CAM SOIL 440-325847 TK
088SMPL.d	4/25/2016 7:09 PM	Sample	2107	RINSE	
089SMPL.d	4/25/2016 7:11 PM	Sample	2107	RINSE	
090_CCV.d	4/25/2016 7:14 PM	CCV	2201	CCV-3321395	
091_CCB.d	4/25/2016 7:16 PM	CCB	2301	CCB-3321393	
092SMPL.d	4/25/2016 7:19 PM	Sample	3202	440-145123-a-8-a@20	BP CAM SOIL 440-325847 TK
093SMPL.d	4/25/2016 7:21 PM	Sample	3203	440-145123-a-9-a@20	BP CAM SOIL 440-325847 TK
094SMPL.d	4/25/2016 7:24 PM	Sample	3204	440-145123-a-10-a@20	BP CAM SOIL 440-325847 TK
095SMPL.d	4/25/2016 7:26 PM	Sample	3205	440-145123-a-11-a@20	BP CAM SOIL 440-325847 TK
096SMPL.d	4/25/2016 7:29 PM	Sample	3206	440-145123-a-12-a@20	BP CAM SOIL 440-325847 TK
097SMPL.d	4/25/2016 7:31 PM	Sample	3207	440-144969-a-1-a@20	BP CAM SOIL 440-325847 TK
098SMPL.d	4/25/2016 7:33 PM	Sample	3208	440-145041-a-1-b@20	BP CAM SOIL 440-325847 TK
099SMPL.d	4/25/2016 7:36 PM	Sample	2107	RINSE	
100SMPL.d	4/25/2016 7:38 PM	Sample	2107	RINSE	
101_CCV.d	4/25/2016 7:41 PM	CCV	2201	CCV-3321395	
102_CCB.d	4/25/2016 7:43 PM	CCB	2301	CCB-3321393	
103_RL2.d	4/25/2016 7:46 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL BP CHK
104ICSA.d	4/25/2016 7:49 PM	ICSA	2104	ICSA-3321399	BP CHK A
105ICSB.d	4/25/2016 7:51 PM	ICSB	2105	ICSAB-3321400	BP CHK B
106SMPL.d	4/25/2016 7:53 PM	Sample	2107	RINSE	
107SMPL.d	4/25/2016 7:56 PM	Sample	2107	RINSE	

108_CCV.d	4/25/2016 7:59 PM	CCV	2201	CCV-3321395	
109_CCB.d	4/25/2016 8:01 PM	CCB	2301	XCCB-3321393	
110_CCB.d	4/25/2016 8:04 PM	CCB	2301	CCB-3321393	
111_MB.d	4/25/2016 8:06 PM	MB	4505	mb 440-326257/1-a	SBTL 6020LL 440-326257 RD
112_LCS.d	4/25/2016 8:09 PM	LCS	4506	lcs 440-326257/2-a	SBTL 6020LL 440-326257 RD
113SMPL.d	4/25/2016 8:11 PM	Sample	4507	440-144935-h-2-c	SBTL 6020LL 440-326257 RD
114SMPL.d	4/25/2016 8:14 PM	Sample	4508	440-144935-h-2-d ms	SBTL 6020LL 440-326257 RD
115SMPL.d	4/25/2016 8:16 PM	Sample	4509	440-144935-h-2-e msd	SBTL 6020LL 440-326257 RD
116SMPL.d	4/25/2016 8:18 PM	Sample	4510	440-144935-h-2-f pds	SBTL 6020LL 440-326257 RD
117SMPL.d	4/25/2016 8:21 PM	Sample	4511	440-144935-h-3-c	SBTL 6020LL 440-326257 RD
118SMPL.d	4/25/2016 8:23 PM	Sample	4512	440-144935-h-3-c sd@5	SBTL 6020LL 440-326257 RD
119_CCV.d	4/25/2016 8:26 PM	CCV	2201	CCV-3321395	
120_CCB.d	4/25/2016 8:28 PM	CCB	2301	XCCB-3321393	
121_CCB.d	4/25/2016 8:31 PM	CCB	2301	CCB-3321393	

Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	9	Be	0.999982581	0.000316096	2.27E-05	0.113130585	0.071696337	ug/l
1	23	Na	0.99998706	0.005693411	0.912821268	6.080644339	160.3294206	ug/l
1	24	Mg	0.99999935	0.003163315	0.062810728	1.325453972	19.85598251	ug/l
1	27	Al	0.999997051	0.001547827	0.000621306	0.086716576	0.401405219	ug/l
1	39	K	0.999999203	0.002836264	0.263266228	4.663442475	92.82146759	ug/l
1	44	Ca	0.999998481	0.000148387	0.006601382	12.67691247	44.48759681	ug/l
1	51	V	0.999999936	0.024689397	0.003497473	0.032544951	0.141658907	ug/l
1	52	Cr	0.999999908	0.029159292	0.003975248	0.019113745	0.13632867	ug/l
1	53	[V]						ug/l
1	55	Mn	0.999997832	0.019083568	0.00083105	0.012470612	0.043547931	ug/l
1	56	Fe	0.999987048	0.025994944	0.019520408	0.095974907	0.75093096	ug/l
1	59	Co	0.999999913	0.044270128	0.000473152	0.007365793	0.010687838	ug/l
1	60	Ni	0.999998275	0.011258025	0.001359051	0.064720442	0.120718424	ug/l
1	63	[Cu]	0.999999613	0.030369651	0.04970983	0.046704245	1.636825841	ug/l
1	65	Cu	0.999997313	0.014598561	0.022787073	0.038722269	1.560912247	ug/l
1	66	Zn	0.999993762	0.009672982	0.009974584	0.13544584	1.031179884	ug/l
1	75	As	0.999999967	0.006218905	0.00027976	0.017149626	0.04498547	ug/l
1	76	[Se]						ug/l
1	77	[As]						ug/l
1	78	Se	0.999996258	0.000558773	0.00046595	0.172182051	0.833880113	ug/l
1	83	[Se]						ug/l
1	88	Sr	0.999979926	0.004743147	0.003625918	0.167329335	0.764454045	ug/l
1	90	Zr						ug/l
1	95	Mo	0.999999866	0.002692793	0.000145519	0.027499888	0.054040081	ug/l
1	98	[Mo]						ug/l
1	99	[Mo]						ug/l
1	107	Ag	0.999999965	0.008148794	9.94E-05	0.00477849	0.012201514	ug/l
1	108	[Cd]						ug/l
1	111	Cd	0.99999938	0.001391639	7.08E-06	0.003110633	0.005085195	ug/l
1	114	[Cd]						ug/l
1	118	Sn	0.999999622	0.003246606	0.000320449	0.063175715	0.098702876	ug/l
1	123	Sb	0.999999632	0.003282053	0.000165946	0.02422179	0.050561736	ug/l
1	137	Ba	0.999999622	0.001447437	3.72E-05	0.004286866	0.025712772	ug/l
1	140	Ce	0.999999925	0.018818172	0.000107915	0.000425077	0.005734599	ug/l
1	205	Tl	0.999998486	0.007197089	5.64E-05	0.002194708	0.007831593	ug/l
1	206	[Pb]						ug/l
1	207	[Pb]						ug/l
1	208	Pb	0.999999907	0.013429779	0.000164122	0.002324413	0.01222075	ug/l
1	238	U	0.999999395	0.009587966	0.000116755	0.008400892	0.012177232	ug/l
1	45	Sc-45 (IS)						ug/l
1	72	Ge (IS)						ug/l
1	115	In-115 (IS)						ug/l
1	159	Tb-159 (IS)						ug/l
1	209	Bi-209 (IS)						ug/l

Sample Report

Sample Table

Sample Name	Blank
Data File Name	001SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:30:42-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	1
Instrument	ICPMS05

Calibration Blank Report

Sample Table

Sample Name	STD0-3321393
Data File Name	002CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:33:19-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	BLANK

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	16	53.90
Na	23	1	He	624094	1.01
Mg	24	1	He	42948	2.73
Al	27	1	He	424	5.23
K	39	1	He	180000	1.74
Ca	44	1	He	4518	11.20
V	51	1	He	2392	8.57
Cr	52	1	He	2718	4.76
Mn	55	1	He	568	8.25
Fe	56	1	He	13353	5.75
Co	59	1	He	324	25.05
Ni	60	1	He	931	19.33
Cu	65	1	He	15583	2.76
Zn	66	1	He	3894	2.59
As	75	1	He	109	13.33
Se	78	1	He	182	7.18
Sr	88	1	He	13106	8.22
Mo	95	1	He	526	16.54
Ag	107	1	He	359	12.08
Cd	111	1	He	26	19.92
Sn	118	1	He	1160	22.85
Sb	123	1	He	600	16.73
Ba	137	1	He	134	5.16
Ce	140	1	He	390	3.92
Tl	205	1	He	478	9.90
Pb	208	1	He	991	5.09
U	238	1	He	990	23.57

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc-45 (IS)	45	1	He	683823	2.22
Ge (IS)	72	1	He	390615	2.42
In-115 (IS)	115	1	He	3613234	1.65
Tb-159 (IS)	159	1	He	8473761	1.01
Bi-209 (IS)	209	1	He	6042462	1.40

Calibration Standard Report

Sample Table

Sample Name	STD1-3321392
Data File Name	003CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:35:53-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	0.2 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	21	55.45
Na	23	1	He	624495	1.58
Mg	24	1	He	49401	1.11
Al	27	1	He	714	7.70
K	39	1	He	194363	0.36
Ca	44	1	He	5147	1.63
V	51	1	He	5718	1.35
Cr	52	1	He	6981	2.19
Mn	55	1	He	3401	3.84
Fe	56	1	He	53587	1.22
Co	59	1	He	6529	1.13
Ni	60	1	He	3076	1.36
Cu	65	1	He	18850	1.03
Zn	66	1	He	5902	2.29
As	75	1	He	617	11.88
Se	78	1	He	224	4.57
Sr	88	1	He	14318	0.21
Mo	95	1	He	2435	0.57
Ag	107	1	He	6002	2.70
Cd	111	1	He	1074	4.98
Sn	118	1	He	3447	3.64
Sb	123	1	He	2867	4.66
Ba	137	1	He	1186	1.17
Ce	140	1	He	14027	3.57
Tl	205	1	He	12645	2.72
Pb	208	1	He	17767	1.53
U	238	1	He	16985	0.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	699614	0.65	683823	102.31	80	120	
Ge (IS)	72	1	He	399706	1.06	390615	102.33	80	120	
In-115 (IS)	115	1	He	3709267	0.74	3613234	102.66	80	120	
Tb-159 (IS)	159	1	He	8635434	0.61	8473761	101.91	80	120	
Bi-209 (IS)	209	1	He	6229047	0.89	6042462	103.09	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD2-3321391
Data File Name	004CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:38:37-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	1.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	199	10.10
Na	23	1	He	670357	0.58
Mg	24	1	He	91039	1.10
Al	27	1	He	1570	2.61
K	39	1	He	232250	0.16
Ca	44	1	He	8678	3.99
V	51	1	He	19656	0.64
Cr	52	1	He	23220	1.11
Mn	55	1	He	14767	1.67
Fe	56	1	He	198895	0.45
Co	59	1	He	31572	2.05
Ni	60	1	He	9598	3.17
Cu	65	1	He	26431	0.96
Zn	66	1	He	8411	1.79
As	75	1	He	2650	4.84
Se	78	1	He	370	9.17
Sr	88	1	He	27006	1.84
Mo	95	1	He	10482	1.42
Ag	107	1	He	30866	0.81
Cd	111	1	He	5334	1.17
Sn	118	1	He	13146	1.89
Sb	123	1	He	12753	4.84
Ba	137	1	He	5748	1.00
Ce	140	1	He	69931	1.98
Tl	205	1	He	62956	1.21
Pb	208	1	He	85483	0.59
U	238	1	He	84026	1.33

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693359	0.61	683823	101.39	80	120	
Ge (IS)	72	1	He	400755	1.05	390615	102.60	80	120	
In-115 (IS)	115	1	He	3711609	1.97	3613234	102.72	80	120	
Tb-159 (IS)	159	1	He	8797463	0.75	8473761	103.82	80	120	
Bi-209 (IS)	209	1	He	6280397	1.79	6042462	103.94	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD3-3321390
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:41:20-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	10.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	2309	2.19
Na	23	1	He	1586533	1.31
Mg	24	1	He	589109	0.78
Al	27	1	He	11459	1.66
K	39	1	He	681080	0.54
Ca	44	1	He	55896	0.59
V	51	1	He	173195	0.79
Cr	52	1	He	204399	1.55
Mn	55	1	He	135912	0.81
Fe	56	1	He	1909831	0.82
Co	59	1	He	306569	0.24
Ni	60	1	He	80728	1.73
Cu	65	1	He	119723	0.99
Zn	66	1	He	44138	1.52
As	75	1	He	25040	0.54
Se	78	1	He	2456	2.59
Sr	88	1	He	176097	0.41
Mo	95	1	He	99401	0.98
Ag	107	1	He	300558	0.06
Cd	111	1	He	51988	1.81
Sn	118	1	He	119946	0.64
Sb	123	1	He	120695	0.86
Ba	137	1	He	54020	0.72
Ce	140	1	He	692223	0.76
Tl	205	1	He	617998	0.86
Pb	208	1	He	840453	0.24
U	238	1	He	828857	1.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693990	0.43	683823	101.49	80	120	
Ge (IS)	72	1	He	399793	0.32	390615	102.35	80	120	
In-115 (IS)	115	1	He	3691546	0.81	3613234	102.17	80	120	
Tb-159 (IS)	159	1	He	8733794	1.34	8473761	103.07	80	120	
Bi-209 (IS)	209	1	He	6278303	1.90	6042462	103.90	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD4-3321389
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:44:03-07:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	100 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	21824	1.66
Na	23	1	He	10457970	0.43
Mg	24	1	He	5501685	1.62
Al	27	1	He	107228	0.28
K	39	1	He	5074849	0.48
Ca	44	1	He	516643	0.96
V	51	1	He	1706562	1.54
Cr	52	1	He	2015381	1.80
Mn	55	1	He	1317395	0.68
Fe	56	1	He	17945462	0.15
Co	59	1	He	3055832	1.00
Ni	60	1	He	777774	0.37
Cu	65	1	He	1023020	0.10
Zn	66	1	He	384198	1.32
As	75	1	He	244678	0.64
Se	78	1	He	22155	0.67
Sr	88	1	He	1750794	2.48
Mo	95	1	He	986210	0.35
Ag	107	1	He	2983064	0.55
Cd	111	1	He	509342	0.58
Sn	118	1	He	1189593	0.10
Sb	123	1	He	1202038	0.73
Ba	137	1	He	529870	0.88
Ce	140	1	He	6888423	0.90
Tl	205	1	He	6215902	0.84
Pb	208	1	He	8324045	1.30
U	238	1	He	8280955	1.21

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	690191	0.52	683823	100.93	80	120	
Ge (IS)	72	1	He	393279	0.74	390615	100.68	80	120	
In-115 (IS)	115	1	He	3660276	0.64	3613234	101.30	80	120	
Tb-159 (IS)	159	1	He	8634575	0.57	8473761	101.90	80	120	
Bi-209 (IS)	209	1	He	6197263	0.34	6042462	102.56	80	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-3321388
Data File Name	007_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:46:47-07:00
Sample Type	ICV
Dilution	1
Comment	25 PPB
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	25.177	1.841	5470	1.67	25	100.7	89.5	110.49	
Na	23	1	He	599.921	0.123	2966558	0.67	625	96.0	89.5	110.49	
Mg	24	1	He	637.028	0.603	1424110	0.06	625	101.9	89.5	110.49	
Al	27	1	He	25.826	0.851	27824	1.27	25	103.3	89.5	110.49	
K	39	1	He	642.103	0.711	1428641	1.22	625	102.7	89.5	110.49	
Ca	44	1	He	1216.325	0.669	128222	0.53	1250	97.3	89.5	110.49	
V	51	1	He	24.711	0.952	420530	0.32	25	98.8	89.5	110.49	
Cr	52	1	He	24.479	0.706	491920	0.72	25	97.9	89.5	110.49	
Mn	55	1	He	25.273	1.108	331115	0.95	25	101.1	89.5	110.49	
Fe	56	1	He	252.557	1.013	4512824	0.73	250	101.0	89.5	110.49	
Co	59	1	He	24.907	0.360	756027	0.60	25	99.6	89.5	110.49	
Ni	60	1	He	25.283	0.571	196012	0.98	25	101.1	89.5	110.49	
Cu	65	1	He	25.089	0.669	266652	1.22	25	100.4	89.5	110.49	
Zn	66	1	He	25.542	1.556	101724	1.64	25	102.2	89.5	110.49	
As	75	1	He	24.714	1.531	60931	0.52	25	98.9	89.5	110.49	
Se	78	1	He	24.792	2.390	5666	1.57	25	99.2	89.5	110.49	
Sr	88	1	He	23.252	0.929	417632	0.06	25	93.0	89.5	110.49	
Mo	95	1	He	25.057	1.425	247890	0.50	25	100.2	89.5	110.49	
Ag	107	1	He	25.931	0.525	775075	0.55	25	103.7	89.5	110.49	
Cd	111	1	He	24.864	1.479	126879	0.86	25	99.5	89.5	110.49	
Sn	118	1	He	24.900	0.775	297554	0.23	25	99.6	89.5	110.49	
Sb	123	1	He	26.144	0.842	315195	0.16	25	104.6	89.5	110.49	
Ba	137	1	He	24.786	1.483	131659	0.57	25	99.1	89.5	110.49	
Ce	140	1	He	25.241	1.730	1741706	0.80	25	101.0	89.5	110.49	
Tl	205	1	He	24.124	0.877	1519275	0.33	25	96.5	89.5	110.49	
Pb	208	1	He	24.646	0.873	2055294	0.48	25	98.6	89.5	110.49	
U	238	1	He	25.394	1.519	2130815	1.10	25	101.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	685367	0.63	683823	100.23	80	120	
Ge (IS)	72	1	He	395759	1.03	390615	101.32	80	120	
In-115 (IS)	115	1	He	3666378	0.95	3613234	101.47	80	120	
Tb-159 (IS)	159	1	He	8747820	0.55	8473761	103.23	80	120	
Bi-209 (IS)	209	1	He	6206926	1.36	6042462	102.72	80	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-3321393
Data File Name	008_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:43:10-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-107.3	9	78.1	0.5	
Na	23	1	He	-88.826	-1.3	270749	1.0	110	
Mg	24	1	He	-15.642	-1.2	8873	6.6	110	
Al	27	1	He	-0.020	-189.8	393	10.6	10	
K	39	1	He	-9.151	-13.9	157827	0.7	110	
Ca	44	1	He	-34.130	-0.4	1022	1.8	110	
V	51	1	He	-0.017	-39.6	2051	3.2	2	
Cr	52	1	He	0.003	293.9	2710	7.0	2	
Mn	55	1	He	0.003	6.4	588	2.6	1	
Fe	56	1	He	0.440	28.6	20627	12.7	20	
Co	59	1	He	-0.004	-2.6	207	2.8	1	
Ni	60	1	He	0.002	328.0	921	5.1	2	
Cu	65	1	He	-0.762	-6.1	7755	3.7	1	
Zn	66	1	He	-0.053	-7.0	3575	0.9	20	
As	75	1	He	0.007	18.1	122	1.3	1	
Se	78	1	He	-0.078	-187.0	159	18.2	2	
Sr	88	1	He	-0.658	-1.4	1786	9.3	2	
Mo	95	1	He	0.118	30.7	1646	23.9	2	
Ag	107	1	He	-0.006	-16.4	181	13.9	1	
Cd	111	1	He	-0.001	-224.9	19	66.8	1	
Sn	118	1	He	0.221	38.0	3689	28.8	2	
Sb	123	1	He	0.082	37.2	1540	25.8	1	
Ba	137	1	He	-0.004	-37.6	111	8.7	1	
Ce	140	1	He	-0.002	-16.1	220	9.9	1	
Tl	205	1	He	-0.001	-61.9	374	15.7	1	
Pb	208	1	He	-0.003	-23.6	718	6.2	1	
U	238	1	He	0.011	21.8	1840	12.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665206	2.18	683823	97.28	80	120	
Ge (IS)	72	1	He	377666	1.20	390615	96.69	80	120	
In-115 (IS)	115	1	He	3532231	3.23	3613234	97.76	80	120	
Tb-159 (IS)	159	1	He	8136530	1.96	8473761	96.02	80	120	
Bi-209 (IS)	209	1	He	5873459	2.20	6042462	97.20	80	120	

Reporting Limit 0.2ppb (RL) Report

Sample Table

Sample Name	CRI-3321396
Data File Name	009RL_2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:45:45-07:00
Sample Type	RL0_2
Dilution	1
Comment	+/- 50% 0.2PPB RL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.192	83.871	56	60.40	0.2	95.9	50	150	
V	51	1	He	0.185	7.164	5394	3.59	0.2	92.5	50	150	
Co	59	1	He	0.197	2.385	6138	1.35	0.2	98.3	50	150	
Ni	60	1	He	0.291	2.274	3101	2.17	0.2	145.6	50	150	
As	75	1	He	0.191	10.412	565	8.84	0.2	95.3	50	150	
Mo	95	1	He	0.187	6.869	2275	5.53	0.2	93.4	50	150	
Ag	107	1	He	0.181	4.708	5522	4.74	0.2	90.5	50	150	
Cd	111	1	He	0.206	7.694	1031	7.87	0.2	103.1	50	150	
Sb	123	1	He	0.180	7.410	2656	6.09	0.2	90.1	50	150	
Ba	137	1	He	0.185	2.700	1069	1.91	0.2	92.4	50	150	
Tl	205	1	He	0.184	1.632	11517	0.08	0.2	92.1	50	150	
Pb	208	1	He	0.195	1.604	16548	1.33	0.2	97.7	50	150	
U	238	1	He	0.187	0.436	15945	2.03	0.2	93.7	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	668822	0.93	683823	97.81	80	120	
Ge (IS)	72	1	He	385642	0.71	390615	98.73	80	120	
In-115 (IS)	115	1	He	3507423	0.50	3613234	97.07	80	120	
Tb-159 (IS)	159	1	He	8331272	1.63	8473761	98.32	80	120	
Bi-209 (IS)	209	1	He	5935004	0.58	6042462	98.22	80	120	

Reporting Limit 1.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321397
Data File Name	010_RL1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:48:22-07:00
Sample Type	RL1_0
Dilution	1
Comment	+/- 50% 1xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.460	40.659	112	34.17	0.5	92.1	50	150	
Al	27	1	He	11.411	1.471	12233	2.20	10	114.1	50	150	
V	51	1	He	1.088	2.965	20310	2.71	1	108.8	50	150	
Cr	52	1	He	1.061	0.687	23357	0.65	1	106.1	50	150	
Mn	55	1	He	1.132	1.498	15014	1.24	1	113.2	50	150	
Fe	56	1	He	21.691	1.063	390291	1.22	20	108.5	50	150	
Co	59	1	He	1.064	1.059	31821	0.80	1	106.4	50	150	
Ni	60	1	He	1.293	0.747	10646	1.60	1	129.3	50	150	
Cu	65	1	He	0.398	10.308	19128	1.17	1	39.8	50	150	>+/-50%
Zn	66	1	He	12.368	0.551	49362	0.41	10	123.7	50	150	
As	75	1	He	1.156	1.988	2844	1.35	1	115.6	50	150	
Se	78	1	He	1.071	8.148	405	4.25	1	107.1	50	150	
Sr	88	1	He	0.437	5.241	19947	1.52	1	43.7	50	150	>+/-50%
Mo	95	1	He	1.086	3.783	10742	2.35	1	108.6	50	150	
Ag	107	1	He	1.084	3.185	31259	2.25	1	108.4	50	150	
Cd	111	1	He	1.081	5.542	5288	4.15	1	108.1	50	150	
Sn	118	1	He	11.005	1.713	126147	1.64	10	110.0	50	150	
Sb	123	1	He	1.065	1.325	12815	1.79	1	106.5	50	150	
Ba	137	1	He	1.096	3.957	5681	2.75	1	109.6	50	150	
Ce	140	1	He	1.071	1.035	70876	0.93	1	107.1	50	150	
Tl	205	1	He	1.038	1.258	62574	0.37	1	103.8	50	150	
Pb	208	1	He	1.121	1.514	90556	0.87	1	112.1	50	150	
U	238	1	He	1.021	1.225	82318	1.06	1	102.1	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	669042	1.23	683823	97.84	80	120	
Ge (IS)	72	1	He	380856	0.83	390615	97.50	80	120	
In-115 (IS)	115	1	He	3499612	1.49	3613234	96.86	80	120	
Tb-159 (IS)	159	1	He	8313586	1.61	8473761	98.11	80	120	
Bi-209 (IS)	209	1	He	5949261	2.36	6042462	98.46	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	011_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:50:56-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.784	7.006	179	6.54	1	78.4	50	150	
Na	23	1	He	114.452	0.682	1034077	0.55	200	57.2	50	150	
Mg	24	1	He	190.266	0.774	439353	1.07	200	95.1	50	150	
Al	27	1	He	21.012	1.817	21907	1.53	20	105.1	50	150	
K	39	1	He	194.576	1.107	538791	0.79	200	97.3	50	150	
Ca	44	1	He	939.841	0.471	96546	0.83	1000	94.0	50	150	
V	51	1	He	1.952	1.960	34172	1.50	2	97.6	50	150	
Cr	52	1	He	1.923	2.626	39685	2.19	2	96.1	50	150	
Mn	55	1	He	2.054	1.560	26454	1.27	2	102.7	50	150	
Fe	56	1	He	39.460	0.526	690916	0.73	40	98.6	50	150	
Co	59	1	He	1.972	0.752	58023	1.05	2	98.6	50	150	
Ni	60	1	He	2.117	3.170	16651	3.33	2	105.8	50	150	
Cu	65	1	He	1.268	4.033	27295	2.11	2	63.4	50	150	
Zn	66	1	He	21.004	1.288	80190	0.90	20	105.0	50	150	
As	75	1	He	2.114	1.862	5051	2.46	2	105.7	50	150	
Se	78	1	He	1.938	3.088	583	2.00	2	96.9	50	150	
Sr	88	1	He	1.265	2.169	33491	0.93	2	63.3	50	150	
Mo	95	1	He	1.979	3.508	19038	2.69	2	98.9	50	150	
Ag	107	1	He	1.895	1.431	54068	0.22	2	94.8	50	150	
Cd	111	1	He	1.961	2.263	9518	0.69	2	98.1	50	150	
Sn	118	1	He	20.068	1.227	227746	0.85	20	100.3	50	150	
Sb	123	1	He	1.864	3.369	21856	1.82	2	93.2	50	150	
Ba	137	1	He	2.005	2.432	10224	1.45	2	100.3	50	150	
Ce	140	1	He	1.940	2.064	127344	1.33	2	97.0	50	150	
Tl	205	1	He	1.918	0.246	112685	1.92	2	95.9	50	150	
Pb	208	1	He	2.093	0.588	163414	0.95	2	104.6	50	150	
U	238	1	He	1.907	2.373	149588	1.16	2	95.3	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660986	0.39	683823	96.66	80	120	
Ge (IS)	72	1	He	376239	0.66	390615	96.32	80	120	
In-115 (IS)	115	1	He	3478893	1.56	3613234	96.28	80	120	
Tb-159 (IS)	159	1	He	8131586	1.85	8473761	95.96	80	120	
Bi-209 (IS)	209	1	He	5780711	1.49	6042462	95.67	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	012ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:53:29-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.060	-32.878	2	173.21	-1	1	
Na	23	1	He	104378.173	1.699	366950981	1.33	100000	100000	
Mg	24	1	He	101839.555	0.876	198660885	0.55	100000	100000	
Al	27	1	He	100479.018	0.678	95889485	0.43	100000	100000	
K	39	1	He	101402.153	0.960	177484709	0.72	100000	100000	
Ca	44	1	He	95661.602	1.023	8755957	0.74	100000	100000	
V	51	1	He	0.024	19.710	2527	2.86	-4	4	
Cr	52	1	He	1.317	1.849	26127	1.72	-4	4	
Mn	55	1	He	0.346	5.191	4586	4.37	-2	2	
Co	59	1	He	0.037	7.052	1315	5.87	-2	2	
Ni	60	1	He	0.702	3.197	5713	2.50	-4	4	
Cu	65	1	He	0.295	20.098	16707	2.85	-4	4	
Zn	66	1	He	1.773	1.316	9344	0.41	-40	40	
As	75	1	He	0.106	17.276	323	12.25	-2	2	
Se	78	1	He	0.051	112.848	170	6.88	-4	4	
Sr	88	1	He	0.473	28.797	17716	11.03	-2	2	
Mo	95	1	He	2167.853	2.087	17617252	1.58	2000	2000	
Ag	107	1	He	0.027	19.223	952	13.33	-2	2	
Cd	111	1	He	0.856	2.507	3617	3.05	-2	2	
Sn	118	1	He	0.073	10.218	1682	3.93	-20	20	
Sb	123	1	He	0.082	6.040	1316	4.06	-4	4	
Ba	137	1	He	0.111	2.363	599	1.79	-2	2	
Ce	140	1	He	0.024	5.524	1688	5.02	-2	2	
Tl	205	1	He	0.002	48.319	547	11.78	-2	2	
Pb	208	1	He	0.233	2.192	16171	1.39	-2	2	
U	238	1	He	0.000	591.374	874	3.42	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	616563	0.38	683823	90.16	80	120	
Ge (IS)	72	1	He	344426	0.48	390615	88.18	80	120	
In-115 (IS)	115	1	He	3018048	0.56	3613234	83.53	80	120	
Tb-159 (IS)	159	1	He	7434735	1.30	8473761	87.74	80	120	
Bi-209 (IS)	209	1	He	4912370	0.71	6042462	81.30	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	013ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:55:56-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	20.139	6.277	4075	5.20	20	100.7	79.5	120.49	
Na	23	1	He	106430.090	0.993	387268571	1.43	101000	105.4	79.5	120.49	
Mg	24	1	He	103514.415	1.274	208987787	0.89	101000	102.5	79.5	120.49	
Al	27	1	He	102173.268	1.384	100931529	2.46	101000	101.2	79.5	120.49	
K	39	1	He	103777.497	0.741	188009015	1.71	101000	102.7	79.5	120.49	
Ca	44	1	He	99722.120	1.261	9447595	1.99	101000	98.7	79.5	120.49	
V	51	1	He	20.281	0.554	321770	1.36	20	101.4	79.5	120.49	
Cr	52	1	He	20.776	0.618	389136	1.08	20	103.9	79.5	120.49	
Mn	55	1	He	20.297	0.488	247714	1.47	20	101.5	79.5	120.49	
Fe	56	1	He	99551.568	0.576	1651433570	1.16	101000	98.6	79.5	120.49	
Co	59	1	He	19.097	0.202	539817	0.92	20	95.5	79.5	120.49	
Ni	60	1	He	19.602	0.540	141700	1.60	20	98.0	79.5	120.49	
Cu	65	1	He	18.926	0.557	190855	1.16	20	94.6	79.5	120.49	
Zn	66	1	He	19.703	2.830	72241	2.77	20	98.5	79.5	120.49	
As	75	1	He	20.439	2.060	45882	1.80	20	102.2	79.5	120.49	
Se	78	1	He	19.739	1.134	4142	3.21	20	98.7	79.5	120.49	
Sr	88	1	He	20.626	1.885	317375	2.11	20	103.1	79.5	120.49	
Mo	95	1	He	2181.932	0.596	18379770	1.46	2020	108.0	79.5	120.49	
Ag	107	1	He	19.602	1.126	499962	1.52	20	98.0	79.5	120.49	
Cd	111	1	He	20.620	1.793	89785	2.11	20	103.1	79.5	120.49	
Sn	118	1	He	21.119	1.394	215479	1.82	20	105.6	79.5	120.49	
Sb	123	1	He	21.446	1.810	220696	2.27	20	107.2	79.5	120.49	
Ba	137	1	He	21.142	1.355	95840	1.66	20	105.7	79.5	120.49	
Ce	140	1	He	20.814	1.092	1225541	1.36	20	104.1	79.5	120.49	
Tl	205	1	He	18.860	0.479	1045159	1.73	20	94.3	79.5	120.49	
Pb	208	1	He	21.273	0.799	1431745	1.23	20	106.4	79.5	120.49	
U	238	1	He	20.454	0.436	1510372	1.95	20	102.3	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	638152	1.11	683823	93.32	80	120	
Ge (IS)	72	1	He	360251	2.15	390615	92.23	80	120	
In-115 (IS)	115	1	He	3128036	0.92	3613234	86.57	80	120	
Tb-159 (IS)	159	1	He	7697396	2.22	8473761	90.84	80	120	
Bi-209 (IS)	209	1	He	5008758	1.22	6042462	82.89	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	014SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:58:24-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.040	-0.040	-38.53	7	50.03	100	
Na	23	1	He	-53.115	-53.115	-22.04	409430	10.89	75000	
Mg	24	1	He	28.420	28.420	39.35	102428	23.19	125000	
Al	27	1	He	43.590	43.590	24.10	45671	23.93	4000	
K	39	1	He	35.601	35.601	28.36	244308	7.79	100000	
Ca	44	1	He	10.772	10.772	95.54	5500	18.63	250000	
V	51	1	He	-0.010	-0.010	-59.56	2179	5.11	4000	
Cr	52	1	He	-0.001	-0.001	-531.54	2642	4.41	4000	
Mn	55	1	He	0.034	0.034	19.65	988	8.91	4000	
Fe	56	1	He	50.428	50.428	17.96	892345	17.71	40000	
Co	59	1	He	0.003	0.003	61.38	401	12.88	4000	
Ni	60	1	He	0.040	0.040	12.05	1211	2.48	4000	
[Cu]	63	1	He	-0.489	-0.489	-6.58	23380	2.94	4000	
Cu	65	1	He	-0.453	-0.453	-7.40	10846	2.50	4000	
Zn	66	1	He	0.435	0.435	7.96	5484	3.15	4000	
As	75	1	He	-0.004	-0.004	-160.75	98	15.71	4000	
Se	78	1	He	-0.003	-0.003	-3087.99	179	11.99	4000	
Sr	88	1	He	-0.676	-0.676	-1.06	1469	7.21	4000	
Mo	95	1	He	2.129	2.129	3.87	20639	2.40	4000	
Ag	107	1	He	0.018	0.018	23.23	853	13.69	100	
Cd	111	1	He	0.009	0.009	70.69	67	43.59	3500	
Sn	118	1	He	-0.028	-0.028	-31.90	807	12.58	4000	
Sb	123	1	He	-0.019	-0.019	-13.55	367	7.44	4000	
Ba	137	1	He	0.004	0.004	35.84	150	4.44	4000	
Ce	140	1	He	0.006	0.006	43.09	757	22.43	4000	
Tl	205	1	He	0.020	0.020	12.97	1622	9.81	3500	
Pb	208	1	He	0.006	0.006	52.21	1473	16.75	4000	
U	238	1	He	0.002	0.002	18.79	1106	2.05	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	670775	0.69	683823	98.09	80	120	
Ge (IS)	72	1	He	386722	0.84	390615	99.00	80	120	
In-115 (IS)	115	1	He	3511758	1.41	3613234	97.19	80	120	
Tb-159 (IS)	159	1	He	8226589	1.34	8473761	97.08	80	120	
Bi-209 (IS)	209	1	He	5935584	1.10	6042462	98.23	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326042/1-a
Data File Name	015_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:00:58-07:00
Sample Type	MB
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-77.2	9	57.3	0.5	
Na	23	1	He	-83.080	-1.2	299174	0.3	110	
Mg	24	1	He	5.153	15.0	53804	1.6	110	
Al	27	1	He	22.726	1.6	24349	0.2	10	OUT OF RANGE
K	39	1	He	10.623	5.2	199591	0.9	110	
Ca	44	1	He	-16.162	-6.5	2859	3.5	110	
V	51	1	He	-0.005	-125.7	2292	6.0	2	
Cr	52	1	He	0.000	-3749.8	2704	3.0	2	
Mn	55	1	He	0.021	4.1	832	1.7	1	
Fe	56	1	He	24.673	2.9	449507	1.6	20	OUT OF RANGE
Co	59	1	He	-0.003	-18.0	238	4.9	1	
Ni	60	1	He	-0.057	-9.9	486	9.6	2	
Cu	65	1	He	-0.519	-5.7	10343	1.4	1	
Zn	66	1	He	-0.234	-10.7	3036	3.6	20	
As	75	1	He	-0.006	-56.9	95	7.4	1	
Se	78	1	He	-0.013	-265.6	181	4.8	2	
Sr	88	1	He	-0.677	-0.5	1481	4.0	2	
Mo	95	1	He	0.698	10.4	7220	9.9	2	
Ag	107	1	He	-0.002	-30.9	301	5.7	1	
Cd	111	1	He	-0.002	-48.6	13	43.3	1	
Sn	118	1	He	-0.042	-19.5	651	14.9	2	
Sb	123	1	He	-0.026	-5.2	290	5.3	1	
Ba	137	1	He	-0.011	-24.4	76	17.8	1	
Ce	140	1	He	-0.002	-27.8	249	15.4	1	
Tl	205	1	He	0.000	-798.6	463	14.6	1	
Pb	208	1	He	0.004	34.4	1302	7.4	1	
U	238	1	He	-0.008	-8.8	329	16.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	680316	1.46	683823	99.49	80	120	
Ge (IS)	72	1	He	393887	1.82	390615	100.84	80	120	
In-115 (IS)	115	1	He	3565098	0.57	3613234	98.67	80	120	
Tb-159 (IS)	159	1	He	8352192	1.28	8473761	98.57	80	120	
Bi-209 (IS)	209	1	He	5994413	1.71	6042462	99.20	80	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326042/2-a
Data File Name	016_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:03:31-07:00
Sample Type	LCS
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	70.742	70.742	1.510	15344	1.75	80	88.4	85	115	
Na	23	1	He	1832.255	1832.255	1.013	7776286	0.64	2000	91.6	85	115	
Mg	24	1	He	1839.430	1839.430	0.778	4031600	0.73	2000	92.0	85	115	
Al	27	1	He	87.080	87.080	0.713	92817	0.80	80	108.8	85	115	
K	39	1	He	1870.116	1870.116	0.019	3816314	0.31	2000	93.5	85	115	
Ca	44	1	He	3713.731	3713.731	0.200	382269	0.36	4000	92.8	85	115	
V	51	1	He	71.927	71.927	0.699	1219677	0.45	80	89.9	85	115	
Cr	52	1	He	72.854	72.854	1.367	1458938	1.52	80	91.1	85	115	
Mn	55	1	He	72.683	72.683	0.588	951341	0.34	80	90.9	85	115	
Fe	56	1	He	743.414	743.414	1.960	13259656	1.66	800	92.9	85	115	
Co	59	1	He	72.191	72.191	1.494	2190966	1.20	80	90.2	85	115	
Ni	60	1	He	71.469	71.469	0.559	552473	0.84	80	89.3	85	115	
Cu	65	1	He	70.858	70.858	0.840	724692	0.80	80	88.6	85	115	
Zn	66	1	He	71.309	71.309	0.436	275071	0.23	80	89.1	85	115	
As	75	1	He	72.545	72.545	0.502	177456	0.36	80	90.7	85	115	
Se	78	1	He	69.994	69.994	1.115	15558	1.54	80	87.5	85	115	
Sr	88	1	He	70.228	70.228	1.511	1196438	0.27	80	87.8	85	115	
Mo	95	1	He	72.487	72.487	1.350	694073	0.20	80	90.6	85	115	
Ag	107	1	He	76.013	76.013	1.246	2201297	0.50	80	95.0	85	115	
Cd	111	1	He	72.865	72.865	0.975	360340	0.56	80	91.1	85	115	
Sn	118	1	He	72.860	72.860	1.304	841653	0.62	80	91.1	85	115	
Sb	123	1	He	74.550	74.550	1.508	869969	0.36	80	93.2	85	115	
Ba	137	1	He	72.072	72.072	0.850	370817	0.40	80	90.1	85	115	
Ce	140	1	He	73.046	73.046	1.739	4884445	0.68	80	91.3	85	115	
Tl	205	1	He	70.497	70.497	1.006	4241293	1.33	80	88.1	85	115	
Pb	208	1	He	72.441	72.441	0.862	5735651	0.33	80	90.6	85	115	
U	238	1	He	71.387	71.387	0.421	5721806	0.05	80	89.2	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	685474	0.29	683823	100.24	80	120	
Ge (IS)	72	1	He	393107	0.64	390615	100.64	80	120	
In-115 (IS)	115	1	He	3553586	1.24	3613234	98.35	80	120	
Tb-159 (IS)	159	1	He	8358267	0.38	8473761	98.64	80	120	
Bi-209 (IS)	209	1	He	5894801	0.59	6042462	97.56	80	120	

Sample Report

Sample Table

Sample Name	440-144937-b-3-a
Data File Name	017SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:05:54-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3201
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.003	0.003	2134.02	16	81.11	100	
Na	23	1	He	758949.670	758949.670	3.43	2833256990	1.13	75000	>LDR
Mg	24	1	He	284620.733	284620.733	4.43	590176190	2.10	125000	>LDR
Al	27	1	He	112.989	112.989	25.92	115545	27.63	4000	
K	39	1	He	61655.034	61655.034	4.27	114794604	1.93	100000	
Ca	44	1	He	608117.522	608117.522	6.13	59135113	3.77	250000	>LDR
V	51	1	He	29.575	29.575	4.34	480905	1.98	4000	
Cr	52	1	He	54.793	54.793	4.40	1049841	2.05	4000	
Mn	55	1	He	0.175	0.175	16.96	2730	13.50	4000	
Fe	56	1	He	110.724	110.724	24.40	1907442	26.07	40000	
Co	59	1	He	0.213	0.213	6.47	6489	6.98	4000	
Ni	60	1	He	0.303	0.303	7.21	3127	3.44	4000	
[Cu]	63	1	He	-0.048	-0.048	-366.39	31588	8.91	4000	
Cu	65	1	He	0.218	0.218	71.88	17009	6.76	4000	
Zn	66	1	He	2.503	2.503	3.64	11608	3.48	4000	
As	75	1	He	89.261	89.261	2.62	188598	3.20	4000	
Se	78	1	He	129.723	129.723	1.96	24773	2.68	4000	
Sr	88	1	He	18370.316	18370.316	4.77	257083679	2.95	4000	>LDR
Mo	95	1	He	749.022	749.022	5.12	5950882	3.28	4000	
Ag	107	1	He	0.069	0.069	32.77	1958	29.58	100	
Cd	111	1	He	0.360	0.360	6.93	1500	5.02	3500	
Sn	118	1	He	0.149	0.149	9.32	2377	4.96	4000	
Sb	123	1	He	0.298	0.298	5.67	3379	6.30	4000	
Ba	137	1	He	10.104	10.104	2.88	43267	1.12	4000	
Ce	140	1	He	0.027	0.027	57.09	1853	49.06	4000	
Tl	205	1	He	0.155	0.155	8.30	8482	8.02	3500	
Pb	208	1	He	0.050	0.050	37.45	3756	30.36	4000	
U	238	1	He	7.534	7.534	3.95	522918	2.85	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655896	2.28	683823	95.92	80	120	
Ge (IS)	72	1	He	339554	0.93	390615	86.93	80	120	
In-115 (IS)	115	1	He	2952064	1.84	3613234	81.70	80	120	
Tb-159 (IS)	159	1	He	7229369	1.08	8473761	85.31	80	120	
Bi-209 (IS)	209	1	He	4484114	1.26	6042462	74.21	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-3-b ms
Data File Name	018SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:08:26-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3202
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	64.065	64.065	1.59	13756	1.07	100	
Na	23	1	He	736034.206	736034.206	0.58	2844590536	2.21	75000	>LDR
Mg	24	1	He	274170.489	274170.489	1.01	588703248	2.96	125000	>LDR
Al	27	1	He	83.770	83.770	1.27	88410	1.84	4000	
K	39	1	He	61846.420	61846.420	0.87	119218173	1.89	100000	
Ca	44	1	He	590036.717	590036.717	1.55	59413453	1.24	250000	>LDR
V	51	1	He	101.288	101.288	2.08	1699092	1.01	4000	
Cr	52	1	He	120.551	120.551	1.43	2387920	1.25	4000	
Mn	55	1	He	66.884	66.884	0.98	866759	1.99	4000	
Fe	56	1	He	668.108	668.108	1.46	11799546	2.40	40000	
Co	59	1	He	63.392	63.392	1.43	1904582	1.21	4000	
Ni	60	1	He	58.836	58.836	1.09	450430	2.06	4000	
[Cu]	63	1	He	57.644	57.644	1.26	1221747	1.98	4000	
Cu	65	1	He	58.523	58.523	1.24	595238	1.89	4000	
Zn	66	1	He	64.050	64.050	1.75	219718	1.32	4000	
As	75	1	He	163.342	163.342	1.16	354713	2.62	4000	
Se	78	1	He	203.585	203.585	2.07	39884	4.08	4000	
Sr	88	1	He	17794.854	17794.854	0.91	257638968	2.71	4000	>LDR
Mo	95	1	He	793.949	793.949	0.33	6525617	2.03	4000	
Ag	107	1	He	67.517	67.517	0.83	1679617	2.63	100	
Cd	111	1	He	65.237	65.237	0.77	277128	2.54	3500	
Sn	118	1	He	73.252	73.252	0.08	726817	1.88	4000	
Sb	123	1	He	74.831	74.831	0.74	750136	2.46	4000	
Ba	137	1	He	82.730	82.730	1.03	365598	2.38	4000	
Ce	140	1	He	72.662	72.662	0.98	4174033	2.78	4000	
Tl	205	1	He	60.136	60.136	0.97	3160055	2.11	3500	
Pb	208	1	He	74.365	74.365	1.19	4542132	1.83	4000	
U	238	1	He	77.607	77.607	1.22	5432536	1.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	678720	2.65	683823	99.25	80	120	
Ge (IS)	72	1	He	349097	2.34	390615	89.37	80	120	
In-115 (IS)	115	1	He	3052006	1.80	3613234	84.47	80	120	
Tb-159 (IS)	159	1	He	7301141	2.54	8473761	86.16	80	120	
Bi-209 (IS)	209	1	He	4548357	3.03	6042462	75.27	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-3-c msd
Data File Name	019SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:10:49-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3203
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	64.069	64.069	2.35	14438	3.41	100	
Na	23	1	He	732595.343	732595.343	0.94	2970171118	0.51	75000	>LDR
Mg	24	1	He	279454.416	279454.416	0.51	629429131	0.72	125000	>LDR
Al	27	1	He	78.381	78.381	1.37	86816	1.00	4000	
K	39	1	He	61625.136	61625.136	0.91	124629448	1.04	100000	
Ca	44	1	He	589890.725	589890.725	1.53	62326702	1.85	250000	>LDR
V	51	1	He	102.339	102.339	1.86	1801260	0.99	4000	
Cr	52	1	He	122.054	122.054	0.31	2536825	1.14	4000	
Mn	55	1	He	67.768	67.768	0.58	921350	0.58	4000	
Fe	56	1	He	680.476	680.476	0.40	12607963	0.75	40000	
Co	59	1	He	63.360	63.360	1.36	1997245	0.37	4000	
Ni	60	1	He	59.690	59.690	0.61	479414	1.07	4000	
[Cu]	63	1	He	58.996	58.996	0.88	1310985	0.38	4000	
Cu	65	1	He	59.871	59.871	1.12	638490	0.61	4000	
Zn	66	1	He	66.247	66.247	0.95	235123	0.13	4000	
As	75	1	He	168.065	168.065	0.45	377735	0.80	4000	
Se	78	1	He	210.916	210.916	1.49	42747	0.57	4000	
Sr	88	1	He	17986.781	17986.781	1.47	270288860	0.40	4000	>LDR
Mo	95	1	He	805.780	805.780	0.88	6875115	1.28	4000	
Ag	107	1	He	70.567	70.567	1.77	1822016	0.66	100	
Cd	111	1	He	67.649	67.649	1.76	298261	0.06	3500	
Sn	118	1	He	74.718	74.718	1.12	769554	0.86	4000	
Sb	123	1	He	76.174	76.174	1.89	792522	0.40	4000	
Ba	137	1	He	84.517	84.517	0.93	387695	0.83	4000	
Ce	140	1	He	74.589	74.589	1.56	4447106	0.60	4000	
Tl	205	1	He	65.626	65.626	1.54	3615019	0.54	3500	
Pb	208	1	He	75.580	75.580	1.25	4816674	0.12	4000	
U	238	1	He	78.257	78.257	1.38	5743196	0.70	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	711996	1.14	683823	104.12	80	120	
Ge (IS)	72	1	He	361317	1.06	390615	92.50	80	120	
In-115 (IS)	115	1	He	3168549	1.70	3613234	87.69	80	120	
Tb-159 (IS)	159	1	He	7653924	1.42	8473761	90.32	80	120	
Bi-209 (IS)	209	1	He	4745111	1.31	6042462	78.53	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-1-a@2
Data File Name	020SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:13:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3204
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.017	0.017	106.27	19	20.36	100	
Na	23	1	He	371310.098	371310.098	1.18	1424380210	0.41	75000	>LDR
Mg	24	1	He	197778.523	197778.523	0.51	421419370	0.65	125000	>LDR
Al	27	1	He	6.341	6.341	6.55	7030	6.60	4000	
K	39	1	He	140449.430	140449.430	1.18	268462603	0.49	100000	>LDR
Ca	44	1	He	320808.909	320808.909	0.29	32066637	0.60	250000	>LDR
V	51	1	He	4.761	4.761	0.50	81532	1.10	4000	
Cr	52	1	He	31.845	31.845	0.57	628092	0.68	4000	
Mn	55	1	He	0.979	0.979	1.48	13150	2.22	4000	
Fe	56	1	He	8.091	8.091	1.19	154804	0.71	40000	
Co	59	1	He	0.161	0.161	3.25	5110	3.88	4000	
Ni	60	1	He	1.684	1.684	1.94	13686	2.65	4000	
[Cu]	63	1	He	0.692	0.692	0.80	47641	1.09	4000	
Cu	65	1	He	0.781	0.781	6.34	23030	2.90	4000	
Zn	66	1	He	3.950	3.950	3.49	17005	2.18	4000	
As	75	1	He	26.333	26.333	0.35	57903	0.99	4000	
Se	78	1	He	22.121	22.121	0.68	4528	1.33	4000	
Sr	88	1	He	6661.100	6661.100	0.79	97692856	0.64	4000	>LDR
Mo	95	1	He	158.955	158.955	1.10	1323794	0.83	4000	
Ag	107	1	He	0.070	0.070	12.66	2060	10.50	100	
Cd	111	1	He	0.125	0.125	5.59	560	5.09	3500	
Sn	118	1	He	0.736	0.736	5.18	8383	4.70	4000	
Sb	123	1	He	0.122	0.122	9.42	1750	6.95	4000	
Ba	137	1	He	6.036	6.036	1.64	27126	1.48	4000	
Ce	140	1	He	0.050	0.050	1.20	3216	1.37	4000	
Tl	205	1	He	0.368	0.368	2.06	19662	2.85	3500	
Pb	208	1	He	0.065	0.065	9.28	4743	8.19	4000	
U	238	1	He	9.813	9.813	1.14	684049	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	673531	0.85	683823	98.49	80	120	
Ge (IS)	72	1	He	352975	0.67	390615	90.36	80	120	
In-115 (IS)	115	1	He	3091752	0.29	3613234	85.57	80	120	
Tb-159 (IS)	159	1	He	7261534	0.84	8473761	85.69	80	120	
Bi-209 (IS)	209	1	He	4590093	0.90	6042462	75.96	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-2-a@2
Data File Name	021SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:15:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3205
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.052	-0.052	-42.56	4	114.60	100	
Na	23	1	He	378622.216	378622.216	0.39	1556546889	0.69	75000	>LDR
Mg	24	1	He	126724.479	126724.479	0.44	289381189	0.70	125000	>LDR
Al	27	1	He	11.659	11.659	19.61	13481	19.32	4000	
K	39	1	He	18268.249	18268.249	0.77	37587877	1.07	100000	
Ca	44	1	He	297654.259	297654.259	1.39	31884209	1.57	250000	>LDR
V	51	1	He	20.301	20.301	0.78	364299	1.03	4000	
Cr	52	1	He	16.970	16.970	0.58	360019	0.64	4000	
Mn	55	1	He	1.274	1.274	1.71	18150	1.20	4000	
Fe	56	1	He	14.352	14.352	3.15	283385	3.43	40000	
Co	59	1	He	0.281	0.281	2.25	9327	2.12	4000	
Ni	60	1	He	0.759	0.759	3.05	7146	3.03	4000	
[Cu]	63	1	He	0.594	0.594	5.76	48908	1.15	4000	
Cu	65	1	He	0.732	0.732	5.68	24156	2.24	4000	
Zn	66	1	He	16.397	16.397	1.14	64543	0.44	4000	
As	75	1	He	53.274	53.274	0.42	126950	0.64	4000	
Se	78	1	He	44.008	44.008	1.58	9593	0.83	4000	
Sr	88	1	He	6012.367	6012.367	0.75	95161978	1.55	4000	>LDR
Mo	95	1	He	343.295	343.295	1.11	3084556	0.29	4000	
Ag	107	1	He	0.014	0.014	27.22	708	15.65	100	
Cd	111	1	He	0.188	0.188	12.57	897	10.95	3500	
Sn	118	1	He	0.118	0.118	9.58	2350	5.85	4000	
Sb	123	1	He	0.169	0.169	17.78	2402	13.77	4000	
Ba	137	1	He	5.604	5.604	2.58	27183	1.87	4000	
Ce	140	1	He	0.049	0.049	10.23	3453	10.42	4000	
Tl	205	1	He	0.119	0.119	0.53	7254	0.41	3500	
Pb	208	1	He	0.030	0.030	9.43	2853	7.15	4000	
U	238	1	He	7.985	7.985	0.97	609193	0.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	721768	0.44	683823	105.55	80	120	
Ge (IS)	72	1	He	382864	0.71	390615	98.02	80	120	
In-115 (IS)	115	1	He	3336536	1.34	3613234	92.34	80	120	
Tb-159 (IS)	159	1	He	7945094	0.85	8473761	93.76	80	120	
Bi-209 (IS)	209	1	He	5056620	0.76	6042462	83.68	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-1-a@2
Data File Name	022SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:18:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3206
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.001	-0.001	-14880.16	16	121.85	100	
Na	23	1	He	276915.197	276915.197	1.96	1091929059	1.01	75000	>LDR
Mg	24	1	He	116912.818	116912.818	0.98	256052274	0.05	125000	>LDR
Al	27	1	He	12.321	12.321	145.68	13658	141.22	4000	
K	39	1	He	94533.679	94533.679	0.99	185793042	1.17	100000	>LDR
Ca	44	1	He	311611.194	311611.194	1.22	32012145	0.27	250000	>LDR
V	51	1	He	6.458	6.458	0.72	112799	0.82	4000	
Cr	52	1	He	13.384	13.384	0.76	272907	0.46	4000	
Mn	55	1	He	0.224	0.224	18.27	3532	15.42	4000	
Fe	56	1	He	12.491	12.491	141.13	238720	133.27	40000	
Co	59	1	He	0.399	0.399	5.06	12557	5.32	4000	
Ni	60	1	He	1.664	1.664	3.18	13910	2.38	4000	
[Cu]	63	1	He	0.845	0.845	5.40	52180	1.61	4000	
Cu	65	1	He	0.934	0.934	3.63	25208	1.20	4000	
Zn	66	1	He	0.764	0.764	10.59	6303	4.14	4000	
As	75	1	He	25.666	25.666	1.49	58048	0.93	4000	
Se	78	1	He	14.421	14.421	2.48	3095	3.22	4000	
Sr	88	1	He	6523.860	6523.860	1.18	98763114	0.58	4000	>LDR
Mo	95	1	He	47.061	47.061	1.86	404883	1.51	4000	
Ag	107	1	He	0.047	0.047	73.93	1539	59.18	100	
Cd	111	1	He	0.050	0.050	76.83	243	70.16	3500	
Sn	118	1	He	1.588	1.588	4.83	17474	4.71	4000	
Sb	123	1	He	0.106	0.106	40.53	1639	27.70	4000	
Ba	137	1	He	9.280	9.280	2.37	42978	0.88	4000	
Ce	140	1	He	0.026	0.026	148.54	1911	122.10	4000	
Tl	205	1	He	0.300	0.300	11.12	16801	11.15	3500	
Pb	208	1	He	0.035	0.035	99.81	3083	75.37	4000	
U	238	1	He	5.009	5.009	0.86	365074	0.77	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	692272	0.94	683823	101.24	80	120	
Ge (IS)	72	1	He	363071	0.88	390615	92.95	80	120	
In-115 (IS)	115	1	He	3191696	1.51	3613234	88.33	80	120	
Tb-159 (IS)	159	1	He	7582829	0.64	8473761	89.49	80	120	
Bi-209 (IS)	209	1	He	4826556	1.43	6042462	79.88	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-2-a@2
Data File Name	023SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:20:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3207
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.033	-0.033	-64.40	9	57.30	100	
Na	23	1	He	313092.035	313092.035	0.74	1298402971	1.89	75000	>LDR
Mg	24	1	He	145803.410	145803.410	0.36	335838156	2.10	125000	>LDR
Al	27	1	He	2.021	2.021	1.84	2729	2.36	4000	
K	39	1	He	37684.755	37684.755	0.66	78009666	2.28	100000	
Ca	44	1	He	351219.711	351219.711	0.79	37943997	1.27	250000	>LDR
V	51	1	He	3.937	3.937	0.76	73306	1.28	4000	
Cr	52	1	He	31.870	31.870	0.96	679543	2.91	4000	
Mn	55	1	He	0.256	0.256	2.78	4164	0.84	4000	
Fe	56	1	He	2.354	2.354	8.02	58801	8.02	40000	
Co	59	1	He	0.125	0.125	2.09	4379	2.51	4000	
Ni	60	1	He	1.484	1.484	2.95	13157	4.60	4000	
[Cu]	63	1	He	0.676	0.676	7.91	51111	0.30	4000	
Cu	65	1	He	0.824	0.824	4.59	25342	2.13	4000	
Zn	66	1	He	3.353	3.353	3.87	16094	1.15	4000	
As	75	1	He	19.348	19.348	0.92	45789	2.18	4000	
Se	78	1	He	6.220	6.220	5.95	1496	5.26	4000	
Sr	88	1	He	7162.332	7162.332	1.55	112708709	2.91	4000	>LDR
Mo	95	1	He	43.609	43.609	1.41	389973	1.84	4000	
Ag	107	1	He	0.036	0.036	6.97	1315	5.82	100	
Cd	111	1	He	0.026	0.026	30.80	142	27.96	3500	
Sn	118	1	He	0.101	0.101	6.26	2156	5.03	4000	
Sb	123	1	He	0.080	0.080	9.26	1418	4.67	4000	
Ba	137	1	He	3.888	3.888	0.88	18789	2.31	4000	
Ce	140	1	He	0.003	0.003	57.70	577	23.89	4000	
Tl	205	1	He	0.078	0.078	6.75	4851	8.07	3500	
Pb	208	1	He	0.010	0.010	19.86	1434	7.21	4000	
U	238	1	He	9.882	9.882	0.86	741075	2.33	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	728044	2.01	683823	106.47	80	120	
Ge (IS)	72	1	He	379676	2.05	390615	97.20	80	120	
In-115 (IS)	115	1	He	3317167	2.14	3613234	91.81	80	120	
Tb-159 (IS)	159	1	He	7812568	2.49	8473761	92.20	80	120	
Bi-209 (IS)	209	1	He	4897087	1.93	6042462	81.04	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-3-a@2
Data File Name	024SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:23:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3208
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.048	-0.048	-45.71	6	91.64	100	
Na	23	1	He	327735.723	327735.723	0.19	1368676319	1.11	75000	>LDR
Mg	24	1	He	150825.167	150825.167	0.47	349843168	1.40	125000	>LDR
Al	27	1	He	1.828	1.828	7.55	2530	6.68	4000	
K	39	1	He	35125.653	35125.653	1.19	73238846	2.20	100000	
Ca	44	1	He	360381.977	360381.977	0.79	39212511	1.79	250000	>LDR
V	51	1	He	3.474	3.474	0.53	65446	0.95	4000	
Cr	52	1	He	32.857	32.857	0.64	705325	0.89	4000	
Mn	55	1	He	0.160	0.160	3.05	2854	3.31	4000	
Fe	56	1	He	2.032	2.032	9.53	53048	7.24	40000	
Co	59	1	He	0.130	0.130	7.31	4565	7.71	4000	
Ni	60	1	He	0.774	0.774	4.03	7383	4.47	4000	
[Cu]	63	1	He	1.312	1.312	1.36	65662	0.74	4000	
Cu	65	1	He	1.435	1.435	1.62	32063	1.52	4000	
Zn	66	1	He	3.661	3.661	3.13	17510	2.42	4000	
As	75	1	He	9.332	9.332	1.61	22497	1.49	4000	
Se	78	1	He	4.474	4.474	6.29	1144	5.91	4000	
Sr	88	1	He	7481.435	7481.435	1.40	118715133	2.54	4000	>LDR
Mo	95	1	He	47.810	47.810	2.62	430986	0.73	4000	
Ag	107	1	He	0.033	0.033	11.72	1217	5.47	100	
Cd	111	1	He	0.033	0.033	22.05	177	16.12	3500	
Sn	118	1	He	0.055	0.055	27.61	1662	8.46	4000	
Sb	123	1	He	0.053	0.053	2.83	1136	4.59	4000	
Ba	137	1	He	4.568	4.568	2.99	22230	0.35	4000	
Ce	140	1	He	0.004	0.004	19.27	610	9.53	4000	
Tl	205	1	He	0.053	0.053	8.72	3467	8.99	3500	
Pb	208	1	He	0.035	0.035	5.63	3097	2.70	4000	
U	238	1	He	10.588	10.588	0.64	802357	1.13	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	733144	1.01	683823	107.21	80	120	
Ge (IS)	72	1	He	385814	1.60	390615	98.77	80	120	
In-115 (IS)	115	1	He	3345822	3.28	3613234	92.60	80	120	
Tb-159 (IS)	159	1	He	7894749	1.68	8473761	93.17	80	120	
Bi-209 (IS)	209	1	He	4888897	1.84	6042462	80.91	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	025_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:25:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	47.710	1.713	11479	2.42	50	95.4	89.5	110.49	
Na	23	1	He	1591.796	4.627	7579624	3.55	1250	127.3	89.5	110.49	>+\-10%
Mg	24	1	He	1362.247	1.831	3322318	1.28	1250	109.0	89.5	110.49	
Al	27	1	He	52.050	1.299	61695	0.93	50	104.1	89.5	110.49	
K	39	1	He	1370.937	1.445	3155091	1.68	1250	109.7	89.5	110.49	
Ca	44	1	He	2705.215	2.123	310063	1.84	2500	108.2	89.5	110.49	
V	51	1	He	49.268	0.936	927064	1.03	50	98.5	89.5	110.49	
Cr	52	1	He	48.551	1.246	1078888	1.19	50	97.1	89.5	110.49	
Mn	55	1	He	49.689	1.157	721257	1.38	50	99.4	89.5	110.49	
Fe	56	1	He	500.586	1.333	9903378	0.78	500	100.1	89.5	110.49	
Co	59	1	He	49.277	1.003	1658237	1.36	50	98.6	89.5	110.49	
Ni	60	1	He	48.712	1.809	417778	1.53	50	97.4	89.5	110.49	
Cu	65	1	He	48.592	0.570	556420	1.25	50	97.2	89.5	110.49	
Zn	66	1	He	51.544	0.872	216336	0.52	50	103.1	89.5	110.49	
As	75	1	He	49.719	1.255	131653	1.61	50	99.4	89.5	110.49	
Se	78	1	He	49.282	2.873	11914	3.31	50	98.6	89.5	110.49	
Sr	88	1	He	52.196	0.810	958580	1.60	50	104.4	89.5	110.49	
Mo	95	1	He	49.785	0.537	512114	1.00	50	99.6	89.5	110.49	
Ag	107	1	He	48.597	0.428	1511457	0.54	50	97.2	89.5	110.49	
Cd	111	1	He	48.976	1.025	260115	1.87	50	98.0	89.5	110.49	
Sn	118	1	He	48.952	0.427	607670	1.14	50	97.9	89.5	110.49	
Sb	123	1	He	49.146	0.741	616134	1.35	50	98.3	89.5	110.49	
Ba	137	1	He	48.925	0.441	270366	1.00	50	97.9	89.5	110.49	
Ce	140	1	He	49.983	0.481	3589586	1.20	50	100.0	89.5	110.49	
Tl	205	1	He	48.391	1.153	2989220	1.69	50	96.8	89.5	110.49	
Pb	208	1	He	49.678	2.497	4035228	1.71	50	99.4	89.5	110.49	
U	238	1	He	48.902	1.623	4024736	2.20	50	97.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	759966	0.95	683823	111.13	80	120	
Ge (IS)	72	1	He	425398	0.49	390615	108.90	80	120	
In-115 (IS)	115	1	He	3815843	0.85	3613234	105.61	80	120	
Tb-159 (IS)	159	1	He	8581270	0.59	8473761	101.27	80	120	
Bi-209 (IS)	209	1	He	6047623	0.89	6042462	100.09	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	026_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:28:10-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-118.7	9	108.3	0.5	
Na	23	1	He	150.030	9.2	1312400	5.2	110	CCB Main CR1 Failed
Mg	24	1	He	37.596	6.1	134976	4.7	110	
Al	27	1	He	0.505	9.2	1041	5.0	10	
K	39	1	He	23.466	5.4	244904	0.9	110	
Ca	44	1	He	66.660	9.5	12250	6.4	110	
V	51	1	He	0.010	34.2	2771	2.1	2	
Cr	52	1	He	0.018	44.8	3344	5.2	2	
Mn	55	1	He	0.004	173.6	677	15.4	1	
Fe	56	1	He	1.060	1.4	34957	1.3	20	
Co	59	1	He	0.008	59.3	631	27.2	1	
Ni	60	1	He	-0.010	-92.9	924	7.6	2	
Cu	65	1	He	0.115	44.7	18168	3.4	1	
Zn	66	1	He	-0.164	-27.2	3524	6.2	20	
As	75	1	He	0.037	15.1	215	7.9	1	
Se	78	1	He	0.029	291.6	202	9.3	2	
Sr	88	1	He	1.962	6.5	48548	4.4	2	
Mo	95	1	He	0.219	6.6	2756	5.8	2	
Ag	107	1	He	0.031	50.8	1326	36.4	1	
Cd	111	1	He	0.010	61.4	81	41.2	1	
Sn	118	1	He	0.152	15.9	3054	10.1	2	
Sb	123	1	He	0.203	9.7	3121	7.8	1	
Ba	137	1	He	0.009	73.1	187	18.1	1	
Ce	140	1	He	0.011	29.0	1200	19.0	1	
Tl	205	1	He	0.016	17.1	1487	13.2	1	
Pb	208	1	He	0.014	35.1	2075	19.4	1	
U	238	1	He	0.048	10.1	4954	7.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	742558	0.89	683823	108.59	80	120	
Ge (IS)	72	1	He	419722	1.12	390615	107.45	80	120	
In-115 (IS)	115	1	He	3753841	0.59	3613234	103.89	80	120	
Tb-159 (IS)	159	1	He	8528880	1.60	8473761	100.65	80	120	
Bi-209 (IS)	209	1	He	5998221	0.91	6042462	99.27	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-4-a
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:30:44-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3209
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.010	-0.010	-386.69	13	66.12	100	
Na	23	1	He	629104.698	629104.698	1.62	2452457787	2.37	75000	>LDR
Mg	24	1	He	289875.244	289875.244	1.71	627635015	0.96	125000	>LDR
Al	27	1	He	4.721	4.721	6.67	5433	8.49	4000	
K	39	1	He	68785.890	68785.890	1.66	133709092	1.06	100000	
Ca	44	1	He	694562.145	694562.145	0.71	70562675	2.55	250000	>LDR
V	51	1	He	6.948	6.948	0.43	119835	2.24	4000	
Cr	52	1	He	63.171	63.171	1.21	1263548	1.44	4000	
Mn	55	1	He	0.307	0.307	5.05	4580	5.91	4000	
Fe	56	1	He	5.657	5.657	4.81	114124	6.80	40000	
Co	59	1	He	0.257	0.257	2.69	8113	5.13	4000	
Ni	60	1	He	0.997	0.997	2.20	8619	4.36	4000	
[Cu]	63	1	He	2.802	2.802	8.78	92204	3.38	4000	
Cu	65	1	He	3.010	3.010	7.11	45653	3.25	4000	
Zn	66	1	He	2.697	2.697	1.62	12623	1.29	4000	
As	75	1	He	19.014	19.014	0.90	41491	1.91	4000	
Se	78	1	He	9.530	9.530	1.90	2027	1.91	4000	
Sr	88	1	He	14798.645	14798.645	0.46	214047934	1.64	4000	>LDR
Mo	95	1	He	93.750	93.750	1.00	770301	2.42	4000	
Ag	107	1	He	0.090	0.090	7.40	2551	7.76	100	
Cd	111	1	He	0.068	0.068	26.71	310	25.42	3500	
Sn	118	1	He	0.098	0.098	23.28	1945	9.95	4000	
Sb	123	1	He	0.221	0.221	2.38	2718	1.67	4000	
Ba	137	1	He	8.839	8.839	1.19	39133	2.89	4000	
Ce	140	1	He	0.030	0.030	23.57	2059	20.90	4000	
Tl	205	1	He	0.130	0.130	0.93	7242	3.11	3500	
Pb	208	1	He	0.090	0.090	5.92	6066	5.99	4000	
U	238	1	He	20.812	20.812	2.57	1460373	1.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684626	2.62	683823	100.12	80	120	
Ge (IS)	72	1	He	350045	1.05	390615	89.61	80	120	
In-115 (IS)	115	1	He	3049351	1.72	3613234	84.39	80	120	
Tb-159 (IS)	159	1	He	7316303	2.25	8473761	86.34	80	120	
Bi-209 (IS)	209	1	He	4433252	0.81	6042462	73.37	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144940-c-1-a
Data File Name	028SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:33:14-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3210
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.000	0.000	-8024.89	16	53.90	100	
Na	23	1	He	606648.092	606648.092	1.65	2403218607	1.27	75000	>LDR
Mg	24	1	He	223121.701	223121.701	1.75	490999305	1.08	125000	>LDR
Al	27	1	He	3.277	3.277	3.39	3963	5.12	4000	
K	39	1	He	64110.468	64110.468	1.32	126675853	1.43	100000	
Ca	44	1	He	611409.865	611409.865	1.92	63110582	0.83	250000	>LDR
V	51	1	He	16.014	16.014	1.84	277446	0.92	4000	
Cr	52	1	He	106.910	106.910	3.56	2170643	1.61	4000	
Mn	55	1	He	0.143	0.143	16.51	2472	10.22	4000	
Fe	56	1	He	3.835	3.835	2.77	82906	0.44	40000	
Co	59	1	He	0.438	0.438	2.58	13803	1.62	4000	
Ni	60	1	He	1.724	1.724	1.02	14451	2.34	4000	
[Cu]	63	1	He	1.476	1.476	9.36	65731	1.77	4000	
Cu	65	1	He	1.682	1.682	7.85	32918	1.49	4000	
Zn	66	1	He	2.187	2.187	6.22	11021	3.17	4000	
As	75	1	He	123.662	123.662	1.34	272440	1.84	4000	
Se	78	1	He	27.778	27.778	0.57	5662	1.86	4000	
Sr	88	1	He	13076.889	13076.889	2.03	194134686	0.19	4000	>LDR
Mo	95	1	He	60.744	60.744	1.64	512431	0.94	4000	
Ag	107	1	He	0.029	0.029	5.50	1062	5.11	100	
Cd	111	1	He	0.023	0.023	13.81	122	11.02	3500	
Sn	118	1	He	0.066	0.066	27.74	1671	9.19	4000	
Sb	123	1	He	0.198	0.198	1.33	2554	1.14	4000	
Ba	137	1	He	8.870	8.870	1.93	40298	0.80	4000	
Ce	140	1	He	0.013	0.013	15.62	1088	8.75	4000	
Tl	205	1	He	0.218	0.218	3.21	12065	1.77	3500	
Pb	208	1	He	0.021	0.021	11.33	2045	7.86	4000	
U	238	1	He	23.884	23.884	0.63	1703490	2.27	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	695811	2.70	683823	101.75	80	120	
Ge (IS)	72	1	He	354132	1.32	390615	90.66	80	120	
In-115 (IS)	115	1	He	3130661	2.21	3613234	86.64	80	120	
Tb-159 (IS)	159	1	He	7434656	1.87	8473761	87.74	80	120	
Bi-209 (IS)	209	1	He	4610318	1.95	6042462	76.30	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144940-c-2-a
Data File Name	029SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:35:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	3211
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.053	-0.053	-40.54	4	114.60	100	
Na	23	1	He	496.376	496.376	19.43	2792610	14.67	75000	
Mg	24	1	He	115.602	115.602	28.09	320055	24.02	125000	
Al	27	1	He	2.534	2.534	2.96	3394	1.94	4000	
K	39	1	He	65.231	65.231	17.69	334852	7.37	100000	
Ca	44	1	He	283.859	283.859	27.20	36395	23.60	250000	
V	51	1	He	0.065	0.065	16.39	3812	5.67	4000	
Cr	52	1	He	0.185	0.185	8.49	7004	4.85	4000	
Mn	55	1	He	0.005	0.005	82.38	697	8.51	4000	
Fe	56	1	He	0.710	0.710	2.64	28364	0.67	40000	
Co	59	1	He	-0.002	-0.002	-12.41	273	4.22	4000	
Ni	60	1	He	-0.059	-0.059	-9.99	517	9.15	4000	
[Cu]	63	1	He	1.376	1.376	5.96	68337	2.82	4000	
Cu	65	1	He	1.382	1.382	2.41	32097	1.40	4000	
Zn	66	1	He	0.455	0.455	13.79	6004	5.11	4000	
As	75	1	He	0.075	0.075	28.60	312	17.27	4000	
Se	78	1	He	0.022	0.022	171.12	200	3.55	4000	
Sr	88	1	He	5.632	5.632	27.52	112913	23.30	4000	
Mo	95	1	He	0.149	0.149	17.93	2040	14.04	4000	
Ag	107	1	He	-0.003	-0.003	-10.10	267	3.75	100	
Cd	111	1	He	-0.002	-0.002	-21.53	18	10.81	3500	
Sn	118	1	He	0.031	0.031	30.27	1566	7.21	4000	
Sb	123	1	He	-0.009	-0.009	-82.88	507	19.11	4000	
Ba	137	1	He	0.057	0.057	31.49	446	21.18	4000	
Ce	140	1	He	-0.002	-0.002	-59.63	238	40.69	4000	
Tl	205	1	He	-0.004	-0.004	-5.80	251	5.53	3500	
Pb	208	1	He	0.006	0.006	10.87	1457	3.42	4000	
U	238	1	He	0.023	0.023	2.72	2891	1.77	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	746965	0.61	683823	109.23	80	120	
Ge (IS)	72	1	He	417651	0.91	390615	106.92	80	120	
In-115 (IS)	115	1	He	3726973	0.96	3613234	103.15	80	120	
Tb-159 (IS)	159	1	He	8458006	0.49	8473761	99.81	80	120	
Bi-209 (IS)	209	1	He	5957487	1.77	6042462	98.59	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	030_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:38:15-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	46.919	3.909	11114	4.13	50	93.8	89.5	110.49	
Na	23	1	He	1534.948	3.322	7221637	2.96	1250	122.8	89.5	110.49	>+\-10%
Mg	24	1	He	1350.704	1.728	3243832	1.51	1250	108.1	89.5	110.49	
Al	27	1	He	51.668	1.116	60301	0.85	50	103.3	89.5	110.49	
K	39	1	He	1368.130	1.934	3100276	1.64	1250	109.5	89.5	110.49	
Ca	44	1	He	2718.421	0.400	306752	0.14	2500	108.7	89.5	110.49	
V	51	1	He	49.265	0.423	912695	0.63	50	98.5	89.5	110.49	
Cr	52	1	He	48.256	0.456	1055786	0.34	50	96.5	89.5	110.49	
Mn	55	1	He	49.726	0.674	710646	0.67	50	99.5	89.5	110.49	
Fe	56	1	He	499.305	0.983	9726180	1.24	500	99.9	89.5	110.49	
Co	59	1	He	49.457	1.692	1638497	1.42	50	98.9	89.5	110.49	
Ni	60	1	He	48.485	0.812	409420	0.54	50	97.0	89.5	110.49	
Cu	65	1	He	48.783	0.428	549892	0.17	50	97.6	89.5	110.49	
Zn	66	1	He	51.342	1.548	211114	0.53	50	102.7	89.5	110.49	
As	75	1	He	49.975	0.545	129638	0.57	50	100.0	89.5	110.49	
Se	78	1	He	50.456	2.371	11943	1.51	50	100.9	89.5	110.49	
Sr	88	1	He	51.746	0.282	935013	0.70	50	103.5	89.5	110.49	
Mo	95	1	He	49.423	1.046	500174	1.41	50	98.8	89.5	110.49	
Ag	107	1	He	48.830	0.426	1494125	0.69	50	97.7	89.5	110.49	
Cd	111	1	He	49.232	1.265	257218	0.70	50	98.5	89.5	110.49	
Sn	118	1	He	48.964	0.412	597967	0.39	50	97.9	89.5	110.49	
Sb	123	1	He	49.010	0.167	604480	0.62	50	98.0	89.5	110.49	
Ba	137	1	He	49.187	1.104	267407	0.97	50	98.4	89.5	110.49	
Ce	140	1	He	49.309	0.791	3483737	0.18	50	98.6	89.5	110.49	
Tl	205	1	He	48.440	1.359	2917722	0.89	50	96.9	89.5	110.49	
Pb	208	1	He	50.087	1.345	3952850	0.75	50	100.2	89.5	110.49	
U	238	1	He	49.232	1.966	3950630	1.21	50	98.5	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	748217	0.27	683823	109.42	80	120	
Ge (IS)	72	1	He	416766	1.11	390615	106.69	80	120	
In-115 (IS)	115	1	He	3754069	0.62	3613234	103.90	80	120	
Tb-159 (IS)	159	1	He	8368207	0.77	8473761	98.75	80	120	
Bi-209 (IS)	209	1	He	5875397	0.61	6042462	97.24	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	031_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:40:41-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.004	1107.2	18	65.8	0.5	
Na	23	1	He	169.922	5.9	1384722	3.6	110	CCB Main CR1 Failed
Mg	24	1	He	45.379	6.9	151984	5.4	110	
Al	27	1	He	0.010	904.1	469	21.8	10	
K	39	1	He	25.669	4.9	247481	1.6	110	
Ca	44	1	He	186.282	80.9	25273	65.9	110	CCB Main CR1 Failed
V	51	1	He	0.016	53.1	2874	5.9	2	
Cr	52	1	He	0.036	11.8	3697	2.8	2	
Mn	55	1	He	-0.002	-295.7	589	12.1	1	
Fe	56	1	He	0.436	4.7	22727	1.3	20	
Co	59	1	He	0.008	62.4	608	27.2	1	
Ni	60	1	He	-0.017	-69.6	863	11.5	2	
Cu	65	1	He	0.107	59.4	17934	4.4	1	
Zn	66	1	He	-0.191	-30.0	3349	7.2	20	
As	75	1	He	0.033	39.5	199	16.0	1	
Se	78	1	He	0.069	208.8	208	15.3	2	
Sr	88	1	He	2.009	6.7	48869	6.8	2	CCB Main CR1 Failed
Mo	95	1	He	0.115	19.3	1691	10.8	2	
Ag	107	1	He	0.027	43.9	1185	31.8	1	
Cd	111	1	He	0.007	22.8	63	13.9	1	
Sn	118	1	He	0.157	12.3	3077	6.3	2	
Sb	123	1	He	0.182	8.1	2838	5.3	1	
Ba	137	1	He	0.012	48.7	202	14.0	1	
Ce	140	1	He	0.009	61.3	1028	38.8	1	
Tl	205	1	He	0.013	33.5	1280	21.3	1	
Pb	208	1	He	0.012	38.5	1903	19.9	1	
U	238	1	He	0.047	1.5	4799	1.1	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	736368	0.58	683823	107.68	80	120	
Ge (IS)	72	1	He	412020	0.55	390615	105.48	80	120	
In-115 (IS)	115	1	He	3713091	2.23	3613234	102.76	80	120	
Tb-159 (IS)	159	1	He	8415115	0.29	8473761	99.31	80	120	
Bi-209 (IS)	209	1	He	5910910	1.07	6042462	97.82	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-325535/1-a@20
Data File Name	032_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:29:32-07:00
Sample Type	MB
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-100.3	8	89.2	0.5	
Na	23	1	He	35.765	51.3	724593	9.4	110	
Mg	24	1	He	29.250	28.2	100812	16.8	110	
Al	27	1	He	2.035	6.2	2447	5.0	10	
K	39	1	He	4.660	35.3	179443	1.8	110	
Ca	44	1	He	81.434	24.2	12126	15.6	110	
V	51	1	He	0.010	36.4	2428	2.3	2	
Cr	52	1	He	0.094	2.8	4365	1.3	2	
Mn	55	1	He	0.062	4.6	1310	2.4	1	
Fe	56	1	He	3.462	5.7	71071	4.4	20	
Co	59	1	He	0.003	90.1	407	22.0	1	
Ni	60	1	He	-0.008	-126.1	823	8.8	2	
Cu	65	1	He	-0.680	-1.9	8346	1.8	1	
Zn	66	1	He	0.234	20.7	4552	4.3	20	
As	75	1	He	0.017	39.1	144	11.4	1	
Se	78	1	He	0.067	101.3	187	8.3	2	
Sr	88	1	He	1.391	27.2	35204	17.5	2	
Mo	95	1	He	0.225	19.5	2592	15.9	2	
Ag	107	1	He	-0.001	-111.2	314	10.1	1	
Cd	111	1	He	0.002	68.3	34	20.1	1	
Sn	118	1	He	1.538	3.1	18301	3.1	2	
Sb	123	1	He	0.044	64.2	1069	30.0	1	
Ba	137	1	He	0.070	19.4	479	14.3	1	
Ce	140	1	He	0.004	22.2	640	9.5	1	
Tl	205	1	He	0.002	42.1	551	8.6	1	
Pb	208	1	He	0.009	10.3	1626	5.0	1	
U	238	1	He	0.009	7.5	1603	4.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	649013	0.31	683823	94.91	80	120	
Ge (IS)	72	1	He	371991	0.79	390615	95.23	80	120	
In-115 (IS)	115	1	He	3443761	0.18	3613234	95.31	80	120	
Tb-159 (IS)	159	1	He	7987577	1.68	8473761	94.26	80	120	
Bi-209 (IS)	209	1	He	5672004	0.78	6042462	93.87	80	120	

Sample Report

Sample Table

Sample Name	lcs 440-325535/2-a@20
Data File Name	033SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:32:06-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3301
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	102.717	102.717	1.80	21024	1.72	100	>LDR
Na	23	1	He	1022.478	1022.478	0.33	4357478	0.45	75000	
Mg	24	1	He	518.065	518.065	0.86	1101035	0.45	125000	
Al	27	1	He	105.226	105.226	0.98	105788	0.61	4000	
K	39	1	He	1058.171	1058.171	0.33	2112375	0.67	100000	
Ca	44	1	He	703.066	703.066	1.80	71776	1.52	250000	
V	51	1	He	103.641	103.641	1.66	1657939	1.34	4000	
Cr	52	1	He	102.442	102.442	1.78	1935364	1.44	4000	
Mn	55	1	He	103.439	103.439	1.42	1277788	1.06	4000	
Fe	56	1	He	119.411	119.411	1.96	2021114	1.75	40000	
Co	59	1	He	103.109	103.109	1.14	2953878	0.89	4000	
Ni	60	1	He	102.479	102.479	0.36	747399	0.04	4000	
[Cu]	63	1	He	101.102	101.102	0.85	2018897	0.58	4000	
Cu	65	1	He	102.100	102.100	0.84	979185	0.55	4000	
Zn	66	1	He	100.540	100.540	1.04	358545	0.15	4000	
As	75	1	He	101.002	101.002	0.94	229327	0.35	4000	
Se	78	1	He	97.180	97.180	1.06	19988	1.24	4000	
Sr	88	1	He	103.417	103.417	0.86	1689184	1.48	4000	
Mo	95	1	He	102.721	102.721	1.13	945970	0.67	4000	
Ag	107	1	He	52.102	52.102	0.55	1451613	0.62	100	
Cd	111	1	He	101.496	101.496	0.93	482830	0.92	3500	
Sn	118	1	He	103.881	103.881	0.63	1153899	0.13	4000	
Sb	123	1	He	104.442	104.442	0.46	1172271	0.59	4000	
Ba	137	1	He	102.669	102.669	0.28	508109	0.92	4000	
Ce	140	1	He	0.003	0.003	29.55	553	10.06	4000	
Tl	205	1	He	99.750	99.750	0.20	5721897	0.29	3500	
Pb	208	1	He	102.969	102.969	1.54	7815832	0.36	4000	
U	238	1	He	-0.007	-0.007	-2.92	394	3.52	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647067	0.38	683823	94.62	80	120	
Ge (IS)	72	1	He	364955	0.89	390615	93.43	80	120	
In-115 (IS)	115	1	He	3418244	0.63	3613234	94.60	80	120	
Tb-159 (IS)	159	1	He	7969613	0.47	8473761	94.05	80	120	
Bi-209 (IS)	209	1	He	5652062	1.39	6042462	93.54	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-d@20
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:34:30-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3302
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.425	0.425	24.89	104	21.25	100	
Na	23	1	He	961.205	961.205	2.05	4246465	1.27	75000	
Mg	24	1	He	3983.884	3983.884	1.66	8423414	1.97	125000	
Al	27	1	He	10998.491	10998.491	1.21	11321894	0.62	4000	>LDR
K	39	1	He	1510.884	1510.884	2.00	3024961	1.58	100000	
Ca	44	1	He	5692.600	5692.600	0.56	566183	0.84	250000	
V	51	1	He	92.082	92.082	1.62	1514461	2.34	4000	
Cr	52	1	He	18.156	18.156	1.09	354748	1.61	4000	
Mn	55	1	He	392.138	392.138	0.52	4977703	1.25	4000	
Fe	56	1	He	31355.278	31355.278	1.55	542139374	2.24	40000	
Co	59	1	He	7.672	7.672	1.55	226208	1.40	4000	
Ni	60	1	He	10.138	10.138	1.34	76814	1.99	4000	
[Cu]	63	1	He	21.916	21.916	0.77	475721	0.83	4000	
Cu	65	1	He	22.338	22.338	0.35	232043	1.03	4000	
Zn	66	1	He	49.433	49.433	0.54	178611	0.60	4000	
As	75	1	He	12.371	12.371	1.30	28251	0.38	4000	
Se	78	1	He	0.986	0.986	13.05	372	8.13	4000	
Sr	88	1	He	93.942	93.942	2.26	1501469	3.17	4000	
Mo	95	1	He	1.114	1.114	1.07	10510	1.65	4000	
Ag	107	1	He	0.085	0.085	11.68	2639	8.43	100	
Cd	111	1	He	0.098	0.098	12.04	477	9.79	3500	
Sn	118	1	He	1.829	1.829	2.85	20917	1.95	4000	
Sb	123	1	He	0.587	0.587	2.76	6994	4.07	4000	
Ba	137	1	He	98.183	98.183	2.12	475044	1.90	4000	
Ce	140	1	He	47.481	47.481	2.00	2985993	0.42	4000	
Tl	205	1	He	0.233	0.233	4.82	13748	4.45	3500	
Pb	208	1	He	5.488	5.488	0.90	415485	1.11	4000	
U	238	1	He	2.947	2.947	1.50	225407	0.56	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665076	0.73	683823	97.26	80	120	
Ge (IS)	72	1	He	365913	1.13	390615	93.68	80	120	
In-115 (IS)	115	1	He	3342257	1.74	3613234	92.50	80	120	
Tb-159 (IS)	159	1	He	7946738	1.38	8473761	93.78	80	120	
Bi-209 (IS)	209	1	He	5624594	0.43	6042462	93.08	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-e ms@20
Data File Name	035SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:36:56-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3303
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	97.357	97.357	1.86	21008	1.25	100	>LDR
Na	23	1	He	2501.806	2501.806	0.77	10339889	0.92	75000	
Mg	24	1	He	5133.453	5133.453	0.57	11120824	0.56	125000	
Al	27	1	He	15220.495	15220.495	1.68	16071122	1.05	4000	>LDR
K	39	1	He	3371.654	3371.654	0.70	6703546	1.13	100000	
Ca	44	1	He	8386.265	8386.265	0.39	853456	0.93	250000	
V	51	1	He	200.113	200.113	1.09	3372778	0.45	4000	
Cr	52	1	He	119.665	119.665	0.50	2383132	0.64	4000	
Mn	55	1	He	526.973	526.973	1.29	6860922	0.99	4000	
Fe	56	1	He	34743.625	34743.625	0.92	616126856	0.22	40000	
Co	59	1	He	106.767	106.767	1.52	3224624	0.99	4000	
Ni	60	1	He	106.795	106.795	0.78	821122	0.51	4000	
[Cu]	63	1	He	117.542	117.542	0.20	2469188	0.68	4000	
Cu	65	1	He	118.730	118.730	0.71	1197967	0.31	4000	
Zn	66	1	He	150.992	150.992	0.66	546990	0.55	4000	
As	75	1	He	112.398	112.398	0.29	260114	0.66	4000	
Se	78	1	He	96.052	96.052	0.57	20138	0.77	4000	
Sr	88	1	He	223.685	223.685	1.71	3606565	0.75	4000	
Mo	95	1	He	104.762	104.762	1.38	956195	0.44	4000	
Ag	107	1	He	51.941	51.941	1.23	1434266	0.15	100	
Cd	111	1	He	101.822	101.822	1.96	480060	1.14	3500	
Sn	118	1	He	106.757	106.757	1.33	1175288	0.22	4000	
Sb	123	1	He	103.848	103.848	1.02	1155276	0.50	4000	
Ba	137	1	He	229.069	229.069	1.81	1123357	0.78	4000	
Ce	140	1	He	60.233	60.233	1.53	3840431	1.06	4000	
Tl	205	1	He	100.249	100.249	2.30	5760036	0.39	3500	
Pb	208	1	He	111.413	111.413	0.73	8299824	0.61	4000	
U	238	1	He	2.792	2.792	1.70	214647	0.83	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	682209	0.79	683823	99.76	80	120	
Ge (IS)	72	1	He	371975	0.49	390615	95.23	80	120	
In-115 (IS)	115	1	He	3388128	1.11	3613234	93.77	80	120	
Tb-159 (IS)	159	1	He	7985419	2.22	8473761	94.24	80	120	
Bi-209 (IS)	209	1	He	5546614	0.71	6042462	91.79	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-f msd@20
Data File Name	036SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:39:15-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3304
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	99.532	99.532	1.33	21528	1.17	100	>LDR
Na	23	1	He	2407.161	2407.161	0.82	9995152	0.73	75000	
Mg	24	1	He	4969.142	4969.142	1.37	10790831	1.09	125000	
Al	27	1	He	14864.679	14864.679	0.91	15732320	0.67	4000	>LDR
K	39	1	He	3123.324	3123.324	1.50	6237092	1.22	100000	
Ca	44	1	He	7979.740	7979.740	0.55	814159	0.62	250000	
V	51	1	He	190.173	190.173	0.39	3212868	0.57	4000	
Cr	52	1	He	118.541	118.541	1.09	2366172	0.76	4000	
Mn	55	1	He	491.532	491.532	0.85	6414383	0.68	4000	
Fe	56	1	He	30666.929	30666.929	1.15	545089241	0.75	40000	
Co	59	1	He	106.295	106.295	1.43	3218053	1.76	4000	
Ni	60	1	He	106.536	106.536	0.28	821028	0.12	4000	
[Cu]	63	1	He	118.496	118.496	1.79	2494587	1.54	4000	
Cu	65	1	He	117.793	117.793	0.45	1191390	0.18	4000	
Zn	66	1	He	148.135	148.135	0.85	538162	0.52	4000	
As	75	1	He	111.260	111.260	0.55	258174	0.23	4000	
Se	78	1	He	96.295	96.295	1.41	20242	1.04	4000	
Sr	88	1	He	227.862	227.862	1.49	3651303	0.66	4000	
Mo	95	1	He	106.417	106.417	0.83	965400	0.56	4000	
Ag	107	1	He	42.685	42.685	0.63	1171580	0.23	100	
Cd	111	1	He	103.224	103.224	0.61	483731	0.36	3500	
Sn	118	1	He	107.428	107.428	1.13	1175457	0.29	4000	
Sb	123	1	He	105.243	105.243	1.47	1163593	0.65	4000	
Ba	137	1	He	229.944	229.944	0.80	1120838	0.35	4000	
Ce	140	1	He	49.446	49.446	1.77	3133386	1.26	4000	
Tl	205	1	He	101.533	101.533	1.16	5830441	0.89	3500	
Pb	208	1	He	110.249	110.249	1.15	8357537	1.09	4000	
U	238	1	He	3.764	3.764	1.50	288815	0.68	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	683772	0.40	683823	99.99	80	120	
Ge (IS)	72	1	He	372985	0.35	390615	95.49	80	120	
In-115 (IS)	115	1	He	3367368	0.86	3613234	93.20	80	120	
Tb-159 (IS)	159	1	He	7978637	1.12	8473761	94.16	80	120	
Bi-209 (IS)	209	1	He	5644065	0.34	6042462	93.41	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-d pds@20
Data File Name	037SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:41:34-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3305
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	92.378	92.378	2.53	19502	2.13	100	>LDR
Na	23	1	He	3414.372	3414.372	2.04	13582136	1.33	75000	
Mg	24	1	He	6382.401	6382.401	0.93	13516059	0.36	125000	
Al	27	1	He	11252.533	11252.533	1.35	11624132	0.98	4000	>LDR
K	39	1	He	3880.660	3880.660	1.95	7521106	1.47	100000	
Ca	44	1	He	10496.569	10496.569	0.42	1043912	0.32	250000	
V	51	1	He	186.194	186.194	0.28	3070387	0.41	4000	
Cr	52	1	He	111.481	111.481	0.33	2172217	0.83	4000	
Mn	55	1	He	489.486	489.486	1.07	6234651	0.61	4000	
Fe	56	1	He	32616.843	32616.843	1.26	565868866	0.95	40000	
Co	59	1	He	100.366	100.366	1.18	2965606	0.59	4000	
Ni	60	1	He	100.263	100.263	0.81	754238	0.66	4000	
[Cu]	63	1	He	113.822	113.822	0.46	2340244	0.97	4000	
Cu	65	1	He	114.001	114.001	0.56	1125930	0.55	4000	
Zn	66	1	He	143.075	143.075	0.43	511255	0.18	4000	
As	75	1	He	107.743	107.743	0.27	245861	0.82	4000	
Se	78	1	He	92.675	92.675	2.17	19163	1.59	4000	
Sr	88	1	He	194.618	194.618	1.13	3111644	0.95	4000	
Mo	95	1	He	97.540	97.540	0.12	882407	0.34	4000	
Ag	107	1	He	100.822	100.822	1.40	2758973	1.44	100	>LDR
Cd	111	1	He	93.863	93.863	0.47	438623	0.56	3500	
Sn	118	1	He	99.843	99.843	0.88	1089478	0.81	4000	
Sb	123	1	He	99.216	99.216	0.56	1093922	0.10	4000	
Ba	137	1	He	194.491	194.491	0.29	945365	0.22	4000	
Ce	140	1	He	143.679	143.679	1.84	9078439	1.39	4000	
Tl	205	1	He	93.131	93.131	1.71	5307534	1.46	3500	
Pb	208	1	He	101.397	101.397	1.61	7664951	0.35	4000	
U	238	1	He	98.110	98.110	0.58	7449331	0.90	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	667407	0.64	683823	97.60	80	120	
Ge (IS)	72	1	He	366778	0.58	390615	93.90	80	120	
In-115 (IS)	115	1	He	3357733	0.46	3613234	92.93	80	120	
Tb-159 (IS)	159	1	He	7918060	0.32	8473761	93.44	80	120	
Bi-209 (IS)	209	1	He	5628855	1.27	6042462	93.15	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-1-h@20
Data File Name	038SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:43:53-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3306
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.474	1.474	6.40	348	5.62	100	
Na	23	1	He	896.482	896.482	1.00	4284149	0.37	75000	
Mg	24	1	He	13917.408	13917.408	0.57	31392230	0.51	125000	
Al	27	1	He	38888.344	38888.344	1.03	42858709	0.59	4000	>LDR
K	39	1	He	8730.803	8730.803	0.72	17819354	0.42	100000	
Ca	44	1	He	18138.072	18138.072	0.85	1921082	0.41	250000	
V	51	1	He	121.939	121.939	1.95	2146098	1.74	4000	
Cr	52	1	He	28.042	28.042	0.62	585042	0.18	4000	
Mn	55	1	He	923.404	923.404	1.28	12547702	0.96	4000	
Fe	56	1	He	41432.194	41432.194	0.85	766895650	0.79	40000	>LDR
Co	59	1	He	15.286	15.286	1.22	482179	0.82	4000	
Ni	60	1	He	20.791	20.791	0.39	167630	0.50	4000	
[Cu]	63	1	He	64.383	64.383	0.41	1427636	0.37	4000	
Cu	65	1	He	65.606	65.606	0.46	698182	0.17	4000	
Zn	66	1	He	102.055	102.055	0.20	371120	0.57	4000	
As	75	1	He	21.362	21.362	1.25	49547	1.33	4000	
Se	78	1	He	1.452	1.452	4.01	475	3.02	4000	
Sr	88	1	He	229.763	229.763	1.41	3679495	0.50	4000	
Mo	95	1	He	2.076	2.076	1.50	19302	1.77	4000	
Ag	107	1	He	0.225	0.225	4.33	6498	2.77	100	
Cd	111	1	He	0.290	0.290	1.83	1382	2.28	3500	
Sn	118	1	He	2.636	2.636	3.24	29875	2.87	4000	
Sb	123	1	He	1.214	1.214	1.52	13966	2.05	4000	
Ba	137	1	He	312.156	312.156	1.64	1520559	0.84	4000	
Ce	140	1	He	74.792	74.792	2.06	4736519	1.42	4000	
Tl	205	1	He	0.543	0.543	2.27	31379	2.21	3500	
Pb	208	1	He	16.930	16.930	0.53	1256318	0.87	4000	
U	238	1	He	5.146	5.146	0.75	391443	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	712043	0.47	683823	104.13	80	120	
Ge (IS)	72	1	He	372181	0.52	390615	95.28	80	120	
In-115 (IS)	115	1	He	3365518	1.37	3613234	93.14	80	120	
Tb-159 (IS)	159	1	He	7915545	0.29	8473761	93.41	80	120	
Bi-209 (IS)	209	1	He	5521735	1.18	6042462	91.38	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-1-h SD@100
Data File Name	039SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:46:18-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3307
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.210	0.210	75.67	60	56.39	100	
Na	23	1	He	178.467	178.467	57.11	1298295	29.97	75000	
Mg	24	1	He	3048.731	3048.731	2.81	6533916	2.00	125000	
Al	27	1	He	8323.224	8323.224	2.43	8671988	1.19	4000	>LDR
K	39	1	He	1888.044	1888.044	1.52	3782147	1.12	100000	
Ca	44	1	He	3803.422	3803.422	2.95	384359	2.51	250000	
V	51	1	He	25.217	25.217	0.91	421473	0.44	4000	
Cr	52	1	He	6.088	6.088	1.76	122179	0.98	4000	
Mn	55	1	He	203.952	203.952	0.78	2620817	1.05	4000	
Fe	56	1	He	9051.408	9051.408	0.45	158418300	1.13	40000	
Co	59	1	He	3.375	3.375	1.75	100901	1.14	4000	
Ni	60	1	He	4.570	4.570	2.06	35556	2.51	4000	
[Cu]	63	1	He	13.466	13.466	1.21	308759	0.35	4000	
Cu	65	1	He	13.748	13.748	1.41	150446	0.23	4000	
Zn	66	1	He	21.317	21.317	1.31	81191	1.86	4000	
As	75	1	He	4.349	4.349	1.18	10263	1.87	4000	
Se	78	1	He	0.285	0.285	47.78	235	11.64	4000	
Sr	88	1	He	44.280	44.280	5.16	730703	5.00	4000	
Mo	95	1	He	0.477	0.477	25.01	4895	22.84	4000	
Ag	107	1	He	0.061	0.061	38.84	2045	32.23	100	
Cd	111	1	He	0.087	0.087	27.98	437	26.26	3500	
Sn	118	1	He	0.565	0.565	7.83	7372	6.88	4000	
Sb	123	1	He	0.266	0.266	14.97	3553	13.51	4000	
Ba	137	1	He	62.499	62.499	1.23	309517	0.88	4000	
Ce	140	1	He	14.573	14.573	0.79	938304	1.24	4000	
Tl	205	1	He	0.134	0.134	23.75	8288	21.39	3500	
Pb	208	1	He	3.341	3.341	0.57	259303	1.15	4000	
U	238	1	He	1.000	1.000	2.97	78727	2.26	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	673242	1.24	683823	98.45	80	120	
Ge (IS)	72	1	He	375560	0.78	390615	96.15	80	120	
In-115 (IS)	115	1	He	3420582	1.91	3613234	94.67	80	120	
Tb-159 (IS)	159	1	He	8110751	1.03	8473761	95.72	80	120	
Bi-209 (IS)	209	1	He	5758041	1.06	6042462	95.29	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	040_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:48:46-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.368	3.538	10535	4.10	50	100.7	89.5	110.49	
Na	23	1	He	1216.200	2.453	5177547	1.71	1250	97.3	89.5	110.49	
Mg	24	1	He	1269.513	2.267	2694451	1.46	1250	101.6	89.5	110.49	
Al	27	1	He	60.127	1.197	61902	1.86	50	120.3	89.5	110.49	>+\-10%
K	39	1	He	1299.036	1.166	2608120	0.90	1250	103.9	89.5	110.49	
Ca	44	1	He	2509.254	0.701	250356	0.28	2500	100.4	89.5	110.49	
V	51	1	He	49.532	1.276	810225	0.58	50	99.1	89.5	110.49	
Cr	52	1	He	49.107	1.065	948637	0.30	50	98.2	89.5	110.49	
Mn	55	1	He	50.570	1.287	638122	0.81	50	101.1	89.5	110.49	
Fe	56	1	He	518.380	0.488	8915839	0.75	500	103.7	89.5	110.49	
Co	59	1	He	50.733	0.705	1484156	0.27	50	101.5	89.5	110.49	
Ni	60	1	He	50.164	1.007	374008	0.81	50	100.3	89.5	110.49	
Cu	65	1	He	49.446	0.903	491945	0.23	50	98.9	89.5	110.49	
Zn	66	1	He	51.820	1.004	190967	0.33	50	103.6	89.5	110.49	
As	75	1	He	50.009	0.826	116280	0.59	50	100.0	89.5	110.49	
Se	78	1	He	49.845	2.724	10578	2.28	50	99.7	89.5	110.49	
Sr	88	1	He	47.093	0.572	786817	1.03	50	94.2	89.5	110.49	
Mo	95	1	He	49.485	0.111	462375	0.42	50	99.0	89.5	110.49	
Ag	107	1	He	49.502	0.419	1398501	0.15	50	99.0	89.5	110.49	
Cd	111	1	He	49.467	0.558	238631	0.14	50	98.9	89.5	110.49	
Sn	118	1	He	49.764	0.175	561113	0.30	50	99.5	89.5	110.49	
Sb	123	1	He	49.733	0.906	566334	0.65	50	99.5	89.5	110.49	
Ba	137	1	He	49.619	0.879	249062	0.43	50	99.2	89.5	110.49	
Ce	140	1	He	51.143	0.982	3336312	1.37	50	102.3	89.5	110.49	
Tl	205	1	He	49.755	1.582	2891349	0.85	50	99.5	89.5	110.49	
Pb	208	1	He	50.123	2.016	3889343	1.23	50	100.2	89.5	110.49	
U	238	1	He	50.147	1.196	3882612	0.63	50	100.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660694	0.77	683823	96.62	80	120	
Ge (IS)	72	1	He	373577	1.30	390615	95.64	80	120	
In-115 (IS)	115	1	He	3466144	0.46	3613234	95.93	80	120	
Tb-159 (IS)	159	1	He	8073941	1.23	8473761	95.28	80	120	
Bi-209 (IS)	209	1	He	5777150	0.79	6042462	95.61	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	041_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:51:12-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.009	-323.1	13	43.3	0.5	
Na	23	1	He	-102.962	-0.7	218915	0.4	110	
Mg	24	1	He	-14.810	-1.3	10698	3.1	110	
Al	27	1	He	5.283	10.1	5894	8.6	10	
K	39	1	He	-6.434	-18.6	164221	0.6	110	
Ca	44	1	He	-32.006	-1.8	1241	3.9	110	
V	51	1	He	0.015	76.9	2587	6.4	2	
Cr	52	1	He	0.027	12.4	3197	2.6	2	
Mn	55	1	He	0.175	7.3	2799	5.3	1	
Fe	56	1	He	9.194	4.3	173258	3.5	20	
Co	59	1	He	0.025	8.6	1066	5.2	1	
Ni	60	1	He	0.058	15.2	1352	5.7	2	
Cu	65	1	He	-0.836	-4.5	7091	4.3	1	
Zn	66	1	He	0.093	59.9	4118	5.5	20	
As	75	1	He	0.025	17.6	165	5.8	1	
Se	78	1	He	0.083	191.2	194	18.3	2	
Sr	88	1	He	-0.595	-2.6	2811	9.2	2	
Mo	95	1	He	0.061	14.0	1082	7.1	2	
Ag	107	1	He	0.038	33.9	1427	25.4	1	
Cd	111	1	He	0.020	55.5	120	43.7	1	
Sn	118	1	He	0.139	7.8	2695	4.8	2	
Sb	123	1	He	0.226	8.0	3171	6.6	1	
Ba	137	1	He	0.065	10.8	459	7.3	1	
Ce	140	1	He	0.021	14.1	1773	10.8	1	
Tl	205	1	He	0.030	10.9	2177	8.4	1	
Pb	208	1	He	0.025	14.1	2899	10.4	1	
U	238	1	He	0.026	4.9	2935	2.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	670295	0.86	683823	98.02	80	120	
Ge (IS)	72	1	He	378737	1.19	390615	96.96	80	120	
In-115 (IS)	115	1	He	3498431	0.53	3613234	96.82	80	120	
Tb-159 (IS)	159	1	He	8030677	0.57	8473761	94.77	80	120	
Bi-209 (IS)	209	1	He	5772913	0.87	6042462	95.54	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-2-d@20
Data File Name	042SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:53:46-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3308
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.638	1.638	8.89	400	8.21	100	
Na	23	1	He	1419.650	1419.650	0.64	6658466	0.11	75000	
Mg	24	1	He	16072.995	16072.995	1.16	37681457	1.08	125000	
Al	27	1	He	44891.103	44891.103	0.34	51433670	0.74	4000	>LDR
K	39	1	He	7029.809	7029.809	0.81	14953339	0.61	100000	
Ca	44	1	He	37574.975	37574.975	1.11	4131922	0.67	250000	
V	51	1	He	137.628	137.628	0.81	2517767	0.59	4000	
Cr	52	1	He	34.218	34.218	1.13	741479	0.84	4000	
Mn	55	1	He	1015.397	1015.397	1.59	14343382	1.15	4000	
Fe	56	1	He	48713.288	48713.288	0.37	937338843	0.24	40000	>LDR
Co	59	1	He	18.587	18.587	0.31	609434	0.18	4000	
Ni	60	1	He	25.470	25.470	0.76	213253	0.38	4000	
[Cu]	63	1	He	65.422	65.422	0.63	1507518	1.04	4000	
Cu	65	1	He	65.530	65.530	0.41	724991	0.60	4000	
Zn	66	1	He	114.921	114.921	0.18	419870	1.14	4000	
As	75	1	He	27.586	27.586	0.77	64321	0.32	4000	
Se	78	1	He	1.779	1.779	10.96	547	8.35	4000	
Sr	88	1	He	351.655	351.655	1.61	5537526	1.48	4000	
Mo	95	1	He	4.981	4.981	1.11	44919	0.77	4000	
Ag	107	1	He	0.187	0.187	1.40	5383	1.07	100	
Cd	111	1	He	0.287	0.287	2.66	1349	3.22	3500	
Sn	118	1	He	2.624	2.624	1.25	29283	0.62	4000	
Sb	123	1	He	1.406	1.406	0.86	15832	0.27	4000	
Ba	137	1	He	466.081	466.081	1.72	2234932	1.37	4000	
Ce	140	1	He	92.988	92.988	0.52	5797310	0.66	4000	
Tl	205	1	He	0.597	0.597	0.53	34639	0.08	3500	
Pb	208	1	He	18.909	18.909	0.32	1383760	0.51	4000	
U	238	1	He	11.957	11.957	0.68	913155	0.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	740216	0.48	683823	108.25	80	120	
Ge (IS)	72	1	He	374346	1.04	390615	95.84	80	120	
In-115 (IS)	115	1	He	3312837	0.61	3613234	91.69	80	120	
Tb-159 (IS)	159	1	He	7957396	0.60	8473761	93.91	80	120	
Bi-209 (IS)	209	1	He	5445494	0.20	6042462	90.12	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-3-d@20
Data File Name	043SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:56:09-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3309
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.668	1.668	14.39	413	14.72	100	
Na	23	1	He	5173.519	5173.519	2.48	22802515	1.22	75000	
Mg	24	1	He	14471.437	14471.437	0.34	34426286	0.87	125000	
Al	27	1	He	44752.172	44752.172	1.41	52016797	0.22	4000	>LDR
K	39	1	He	5083.009	5083.009	1.49	11024647	1.61	100000	
Ca	44	1	He	13233.031	13233.031	1.97	1479439	0.77	250000	
V	51	1	He	131.929	131.929	0.59	2448979	1.69	4000	
Cr	52	1	He	36.553	36.553	0.31	803450	0.91	4000	
Mn	55	1	He	1852.944	1852.944	0.61	26556912	1.16	4000	
Fe	56	1	He	50721.544	50721.544	1.36	990133401	0.31	40000	>LDR
Co	59	1	He	18.354	18.354	0.37	610607	1.46	4000	
Ni	60	1	He	26.902	26.902	0.58	228477	1.10	4000	
[Cu]	63	1	He	63.181	63.181	0.56	1478353	0.99	4000	
Cu	65	1	He	63.143	63.143	0.90	709358	0.54	4000	
Zn	66	1	He	122.461	122.461	0.43	450040	0.90	4000	
As	75	1	He	28.740	28.740	1.03	67439	0.67	4000	
Se	78	1	He	1.758	1.758	8.52	546	5.85	4000	
Sr	88	1	He	331.368	331.368	1.75	5238856	1.84	4000	
Mo	95	1	He	10.245	10.245	0.26	92227	0.40	4000	
Ag	107	1	He	0.195	0.195	1.56	5611	1.56	100	
Cd	111	1	He	0.232	0.232	3.18	1097	3.43	3500	
Sn	118	1	He	2.792	2.792	1.18	31212	1.50	4000	
Sb	123	1	He	1.145	1.145	0.42	13053	0.78	4000	
Ba	137	1	He	550.481	550.481	1.25	2649811	1.21	4000	
Ce	140	1	He	101.401	101.401	0.96	6345839	0.59	4000	
Tl	205	1	He	0.647	0.647	1.50	37559	2.01	3500	
Pb	208	1	He	19.650	19.650	1.20	1449213	0.20	4000	
U	238	1	He	7.552	7.552	0.49	578326	0.27	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	751021	1.19	683823	109.83	80	120	
Ge (IS)	72	1	He	376758	1.11	390615	96.45	80	120	
In-115 (IS)	115	1	He	3325493	0.38	3613234	92.04	80	120	
Tb-159 (IS)	159	1	He	7973925	0.54	8473761	94.10	80	120	
Bi-209 (IS)	209	1	He	5488552	1.07	6042462	90.83	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-4-e@20
Data File Name	044SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:58:33-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3310
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.578	0.578	12.53	143	10.66	100	
Na	23	1	He	2121.201	2121.201	1.58	9063793	0.89	75000	
Mg	24	1	He	5819.175	5819.175	1.07	12888392	0.28	125000	
Al	27	1	He	17011.415	17011.415	0.55	18374988	1.38	4000	>LDR
K	39	1	He	1922.736	1922.736	1.19	3988970	0.69	100000	
Ca	44	1	He	6748.077	6748.077	1.17	703302	0.22	250000	
V	51	1	He	92.221	92.221	2.49	1591077	1.76	4000	
Cr	52	1	He	22.179	22.179	1.48	454027	0.53	4000	
Mn	55	1	He	742.524	742.524	0.63	9888342	0.46	4000	
Fe	56	1	He	32379.358	32379.358	0.58	587353026	0.65	40000	
Co	59	1	He	9.468	9.468	0.69	292821	0.30	4000	
Ni	60	1	He	12.912	12.912	1.51	102381	0.94	4000	
[Cu]	63	1	He	25.263	25.263	1.65	570018	0.70	4000	
Cu	65	1	He	25.599	25.599	1.00	276666	0.45	4000	
Zn	66	1	He	56.388	56.388	1.56	210405	1.11	4000	
As	75	1	He	17.939	17.939	1.52	42367	0.28	4000	
Se	78	1	He	1.069	1.069	9.21	403	6.02	4000	
Sr	88	1	He	117.495	117.495	2.15	1931207	2.33	4000	
Mo	95	1	He	3.290	3.290	1.69	31000	0.94	4000	
Ag	107	1	He	0.058	0.058	11.56	1977	9.53	100	
Cd	111	1	He	0.087	0.087	11.86	440	10.61	3500	
Sn	118	1	He	1.885	1.885	3.91	22167	2.72	4000	
Sb	123	1	He	0.699	0.699	0.75	8470	0.34	4000	
Ba	137	1	He	148.569	148.569	1.32	740448	0.39	4000	
Ce	140	1	He	55.613	55.613	1.54	3603123	0.58	4000	
Tl	205	1	He	0.209	0.209	1.21	12671	0.47	3500	
Pb	208	1	He	7.368	7.368	0.18	554385	0.36	4000	
U	238	1	He	3.639	3.639	1.12	284200	0.97	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	697821	0.95	683823	102.05	80	120	
Ge (IS)	72	1	He	378857	1.27	390615	96.99	80	120	
In-115 (IS)	115	1	He	3442937	1.04	3613234	95.29	80	120	
Tb-159 (IS)	159	1	He	8117978	0.81	8473761	95.80	80	120	
Bi-209 (IS)	209	1	He	5593221	0.39	6042462	92.57	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-5-d@20
Data File Name	045SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:01:00-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3311
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.007	1.007	30.48	242	28.35	100	
Na	23	1	He	5995.438	5995.438	0.50	24907662	0.41	75000	
Mg	24	1	He	9397.580	9397.580	1.16	21171943	1.34	125000	
Al	27	1	He	26588.363	26588.363	0.44	29248284	0.49	4000	>LDR
K	39	1	He	6628.211	6628.211	2.31	13548229	2.58	100000	
Ca	44	1	He	12293.094	12293.094	1.09	1301087	1.12	250000	
V	51	1	He	54.177	54.177	0.34	953105	0.63	4000	
Cr	52	1	He	14.822	14.822	0.50	309987	0.39	4000	
Mn	55	1	He	533.229	533.229	0.22	7232524	0.45	4000	
Fe	56	1	He	24382.423	24382.423	0.57	450462942	0.62	40000	
Co	59	1	He	8.937	8.937	0.52	281527	0.36	4000	
Ni	60	1	He	11.961	11.961	0.07	96666	0.25	4000	
[Cu]	63	1	He	71.313	71.313	1.13	1574465	0.84	4000	
Cu	65	1	He	71.632	71.632	0.94	759366	0.62	4000	
Zn	66	1	He	61.310	61.310	0.49	227587	0.44	4000	
As	75	1	He	8.333	8.333	0.74	19663	0.58	4000	
Se	78	1	He	1.108	1.108	20.04	409	10.93	4000	
Sr	88	1	He	141.949	141.949	0.55	2258926	0.33	4000	
Mo	95	1	He	4.479	4.479	1.31	40738	1.58	4000	
Ag	107	1	He	0.079	0.079	3.23	2484	3.07	100	
Cd	111	1	He	0.175	0.175	7.13	834	6.65	3500	
Sn	118	1	He	1.374	1.374	2.29	15958	2.35	4000	
Sb	123	1	He	0.552	0.552	2.92	6604	2.84	4000	
Ba	137	1	He	174.062	174.062	0.23	840901	0.48	4000	
Ce	140	1	He	42.716	42.716	0.47	2682849	0.20	4000	
Tl	205	1	He	0.244	0.244	2.02	14528	1.33	3500	
Pb	208	1	He	9.503	9.503	0.48	710876	0.36	4000	
U	238	1	He	2.352	2.352	0.35	182050	0.57	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710690	0.30	683823	103.93	80	120	
Ge (IS)	72	1	He	377414	0.50	390615	96.62	80	120	
In-115 (IS)	115	1	He	3337142	0.28	3613234	92.36	80	120	
Tb-159 (IS)	159	1	He	8031061	0.65	8473761	94.78	80	120	
Bi-209 (IS)	209	1	He	5563284	0.63	6042462	92.07	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-6-d@20
Data File Name	046SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:03:25-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3312
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.543	1.543	5.52	390	4.76	100	
Na	23	1	He	11654.959	11654.959	1.38	51413082	0.75	75000	
Mg	24	1	He	17690.686	17690.686	0.45	42820094	0.23	125000	
Al	27	1	He	51861.237	51861.237	0.29	61354258	0.36	4000	>LDR
K	39	1	He	10203.800	10203.800	0.39	22321122	0.30	100000	
Ca	44	1	He	26149.577	26149.577	1.71	2970684	1.29	250000	
V	51	1	He	115.213	115.213	1.02	2176797	0.87	4000	
Cr	52	1	He	29.325	29.325	0.68	656615	0.63	4000	
Mn	55	1	He	1038.572	1038.572	1.71	15149293	1.77	4000	
Fe	56	1	He	46645.978	46645.978	0.98	926828337	1.38	40000	>LDR
Co	59	1	He	17.455	17.455	0.95	590955	0.44	4000	
Ni	60	1	He	23.087	23.087	1.45	199682	0.80	4000	
[Cu]	63	1	He	135.928	135.928	1.89	3193021	1.45	4000	
Cu	65	1	He	141.860	141.860	0.71	1600261	0.16	4000	
Zn	66	1	He	121.880	121.880	0.61	450019	0.85	4000	
As	75	1	He	28.042	28.042	0.08	66114	0.33	4000	
Se	78	1	He	1.891	1.891	15.48	576	10.99	4000	
Sr	88	1	He	301.763	301.763	2.47	4809501	1.49	4000	
Mo	95	1	He	10.759	10.759	1.94	97596	0.76	4000	
Ag	107	1	He	0.145	0.145	6.46	4298	4.91	100	
Cd	111	1	He	0.331	0.331	9.24	1568	8.03	3500	
Sn	118	1	He	2.772	2.772	2.63	31240	1.37	4000	
Sb	123	1	He	0.942	0.942	2.34	10920	1.95	4000	
Ba	137	1	He	418.485	418.485	3.00	2030255	1.87	4000	
Ce	140	1	He	85.532	85.532	2.60	5395155	1.71	4000	
Tl	205	1	He	0.495	0.495	1.05	29042	0.87	3500	
Pb	208	1	He	19.697	19.697	1.22	1432974	0.45	4000	
U	238	1	He	6.543	6.543	1.39	504767	1.16	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	764331	0.65	683823	111.77	80	120	
Ge (IS)	72	1	He	378510	0.38	390615	96.90	80	120	
In-115 (IS)	115	1	He	3352306	1.16	3613234	92.78	80	120	
Tb-159 (IS)	159	1	He	8031564	0.24	8473761	94.78	80	120	
Bi-209 (IS)	209	1	He	5414054	0.88	6042462	89.60	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-7-d@20
Data File Name	047SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:05:47-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3401
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.222	1.222	10.60	307	9.96	100	
Na	23	1	He	7334.487	7334.487	1.11	32001165	0.76	75000	
Mg	24	1	He	15191.755	15191.755	1.80	36084169	0.60	125000	
Al	27	1	He	47841.303	47841.303	1.81	55530192	0.68	4000	>LDR
K	39	1	He	5962.598	5962.598	1.39	12879931	0.77	100000	
Ca	44	1	He	91890.487	91890.487	2.03	10229852	0.90	250000	
V	51	1	He	120.750	120.750	1.80	2238274	0.95	4000	
Cr	52	1	He	30.347	30.347	1.43	666588	0.15	4000	
Mn	55	1	He	775.554	775.554	1.30	11100271	1.19	4000	
Fe	56	1	He	46392.480	46392.480	1.54	904381973	0.35	40000	>LDR
Co	59	1	He	15.365	15.365	0.96	510484	0.41	4000	
Ni	60	1	He	21.297	21.297	0.66	180828	0.65	4000	
[Cu]	63	1	He	112.566	112.566	1.59	2600919	0.53	4000	
Cu	65	1	He	111.291	111.291	1.30	1235485	0.30	4000	
Zn	66	1	He	112.789	112.789	0.47	410751	0.75	4000	
As	75	1	He	38.287	38.287	0.21	88935	0.50	4000	
Se	78	1	He	1.449	1.449	15.81	476	9.51	4000	
Sr	88	1	He	354.859	354.859	1.87	5599222	1.55	4000	
Mo	95	1	He	3.243	3.243	0.93	29470	1.34	4000	
Ag	107	1	He	0.154	0.154	1.18	4493	1.09	100	
Cd	111	1	He	0.490	0.490	1.76	2286	3.22	3500	
Sn	118	1	He	2.715	2.715	1.87	30316	0.33	4000	
Sb	123	1	He	0.958	0.958	1.43	10987	0.79	4000	
Ba	137	1	He	370.600	370.600	2.13	1780655	1.28	4000	
Ce	140	1	He	83.839	83.839	0.73	5237685	0.77	4000	
Tl	205	1	He	0.488	0.488	1.10	27903	0.96	3500	
Pb	208	1	He	18.729	18.729	0.38	1331111	0.49	4000	
U	238	1	He	10.371	10.371	0.62	778351	0.41	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	750007	1.30	683823	109.68	80	120	
Ge (IS)	72	1	He	373077	0.58	390615	95.51	80	120	
In-115 (IS)	115	1	He	3319849	1.49	3613234	91.88	80	120	
Tb-159 (IS)	159	1	He	7818168	0.22	8473761	92.26	80	120	
Bi-209 (IS)	209	1	He	5288580	0.35	6042462	87.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-8-d@20
Data File Name	048SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:08:13-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3402
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.485	1.485	9.98	370	8.87	100	
Na	23	1	He	3155.290	3155.290	1.12	14204194	0.66	75000	
Mg	24	1	He	13223.753	13223.753	1.29	31522189	0.39	125000	
Al	27	1	He	44410.424	44410.424	1.10	51727270	1.59	4000	>LDR
K	39	1	He	4441.430	4441.430	1.71	9676324	0.82	100000	
Ca	44	1	He	14267.298	14267.298	0.93	1598046	1.25	250000	
V	51	1	He	119.509	119.509	1.88	2222730	1.22	4000	
Cr	52	1	He	36.289	36.289	0.88	799206	0.34	4000	
Mn	55	1	He	868.936	868.936	1.59	12478633	1.76	4000	
Fe	56	1	He	50254.698	50254.698	1.31	983081596	1.91	40000	>LDR
Co	59	1	He	19.037	19.037	1.16	634495	0.28	4000	
Ni	60	1	He	24.167	24.167	1.74	205741	1.22	4000	
[Cu]	63	1	He	89.935	89.935	0.82	2092575	0.28	4000	
Cu	65	1	He	89.042	89.042	1.28	995266	1.21	4000	
Zn	66	1	He	113.316	113.316	0.21	421357	0.61	4000	
As	75	1	He	20.553	20.553	0.56	48799	0.69	4000	
Se	78	1	He	1.891	1.891	6.98	580	5.31	4000	
Sr	88	1	He	271.922	271.922	2.45	4350672	0.47	4000	
Mo	95	1	He	2.340	2.340	4.94	21680	2.93	4000	
Ag	107	1	He	0.168	0.168	2.68	4936	0.90	100	
Cd	111	1	He	0.170	0.170	11.44	820	9.15	3500	
Sn	118	1	He	2.737	2.737	1.51	30977	1.99	4000	
Sb	123	1	He	1.088	1.088	2.58	12570	0.56	4000	
Ba	137	1	He	454.245	454.245	1.24	2212140	0.88	4000	
Ce	140	1	He	96.476	96.476	2.03	6107631	0.26	4000	
Tl	205	1	He	0.543	0.543	1.82	31808	1.11	3500	
Pb	208	1	He	18.814	18.814	0.31	1374123	0.69	4000	
U	238	1	He	5.196	5.196	0.69	400424	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	752492	0.93	683823	110.04	80	120	
Ge (IS)	72	1	He	380947	0.54	390615	97.53	80	120	
In-115 (IS)	115	1	He	3364919	2.13	3613234	93.13	80	120	
Tb-159 (IS)	159	1	He	8019064	0.84	8473761	94.63	80	120	
Bi-209 (IS)	209	1	He	5435004	0.75	6042462	89.95	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-9-d@20
Data File Name	049SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:10:36-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3403
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.653	0.653	7.00	163	5.40	100	
Na	23	1	He	562.658	562.658	2.37	2934177	1.27	75000	
Mg	24	1	He	8474.202	8474.202	1.30	19153335	0.38	125000	
Al	27	1	He	25695.657	25695.657	0.88	28352559	0.62	4000	>LDR
K	39	1	He	6090.048	6090.048	0.32	12501151	0.63	100000	
Ca	44	1	He	9347.260	9347.260	0.31	993508	1.22	250000	
V	51	1	He	49.196	49.196	0.56	868358	0.52	4000	
Cr	52	1	He	14.339	14.339	0.57	300902	0.48	4000	
Mn	55	1	He	459.600	459.600	1.82	6252718	1.37	4000	
Fe	56	1	He	23474.668	23474.668	1.26	435010934	0.91	40000	
Co	59	1	He	8.039	8.039	1.06	254020	0.46	4000	
Ni	60	1	He	11.370	11.370	1.18	92217	0.79	4000	
[Cu]	63	1	He	66.735	66.735	2.23	1480369	2.80	4000	
Cu	65	1	He	66.869	66.869	0.93	712136	0.89	4000	
Zn	66	1	He	57.884	57.884	1.79	217106	0.62	4000	
As	75	1	He	7.984	7.984	1.87	19023	1.68	4000	
Se	78	1	He	0.851	0.851	17.42	359	10.01	4000	
Sr	88	1	He	127.436	127.436	3.29	2053373	1.86	4000	
Mo	95	1	He	0.687	0.687	5.60	6735	3.65	4000	
Ag	107	1	He	0.071	0.071	3.19	2291	1.35	100	
Cd	111	1	He	0.163	0.163	10.66	790	8.98	3500	
Sn	118	1	He	1.351	1.351	2.01	15897	0.78	4000	
Sb	123	1	He	0.534	0.534	2.13	6479	1.56	4000	
Ba	137	1	He	156.463	156.463	2.20	764954	0.72	4000	
Ce	140	1	He	39.802	39.802	3.57	2529541	2.09	4000	
Tl	205	1	He	0.230	0.230	2.98	13706	1.31	3500	
Pb	208	1	He	8.808	8.808	1.13	661594	0.31	4000	
U	238	1	He	1.751	1.751	1.24	135103	0.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	712888	0.91	683823	104.25	80	120	
Ge (IS)	72	1	He	381020	1.19	390615	97.54	80	120	
In-115 (IS)	115	1	He	3377979	1.67	3613234	93.49	80	120	
Tb-159 (IS)	159	1	He	7994223	1.91	8473761	94.34	80	120	
Bi-209 (IS)	209	1	He	5586087	1.41	6042462	92.45	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-10-e@20
Data File Name	050SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:13:02-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3404
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.531	0.531	12.44	132	10.19	100	
Na	23	1	He	713.064	713.064	1.16	3453205	0.26	75000	
Mg	24	1	He	5417.504	5417.504	1.28	11944789	1.15	125000	
Al	27	1	He	17419.524	17419.524	1.38	18724606	1.17	4000	>LDR
K	39	1	He	2510.160	2510.160	0.69	5127312	1.35	100000	
Ca	44	1	He	9133.531	9133.531	0.82	945774	0.11	250000	
V	51	1	He	104.538	104.538	0.46	1794925	1.28	4000	
Cr	52	1	He	21.475	21.475	0.25	437643	0.65	4000	
Mn	55	1	He	389.643	389.643	0.46	5164731	1.27	4000	
Fe	56	1	He	35409.697	35409.697	0.30	639261166	0.71	40000	
Co	59	1	He	8.317	8.317	0.91	256033	0.31	4000	
Ni	60	1	He	11.394	11.394	0.91	90027	0.55	4000	
[Cu]	63	1	He	33.185	33.185	0.76	734398	0.28	4000	
Cu	65	1	He	33.513	33.513	0.75	355583	0.30	4000	
Zn	66	1	He	56.499	56.499	0.59	210874	1.00	4000	
As	75	1	He	16.156	16.156	0.63	38177	0.18	4000	
Se	78	1	He	0.962	0.962	18.09	380	10.00	4000	
Sr	88	1	He	123.300	123.300	0.75	1988801	0.94	4000	
Mo	95	1	He	0.898	0.898	4.00	8667	4.02	4000	
Ag	107	1	He	0.049	0.049	5.32	1688	4.39	100	
Cd	111	1	He	0.099	0.099	10.42	489	9.58	3500	
Sn	118	1	He	1.911	1.911	0.91	22046	0.86	4000	
Sb	123	1	He	1.080	1.080	2.62	12537	2.85	4000	
Ba	137	1	He	124.567	124.567	0.09	609487	0.30	4000	
Ce	140	1	He	58.489	58.489	1.41	3720074	1.05	4000	
Tl	205	1	He	0.167	0.167	1.15	10060	2.11	3500	
Pb	208	1	He	7.389	7.389	0.45	552509	0.38	4000	
U	238	1	He	2.829	2.829	0.31	218143	0.83	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	694483	0.82	683823	101.56	80	120	
Ge (IS)	72	1	He	378930	0.53	390615	97.01	80	120	
In-115 (IS)	115	1	He	3379662	0.37	3613234	93.54	80	120	
Tb-159 (IS)	159	1	He	8008452	1.07	8473761	94.51	80	120	
Bi-209 (IS)	209	1	He	5558794	0.16	6042462	92.00	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	051_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:15:28-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.505	1.240	10531	1.72	50	101.0	89.5	110.49	
Na	23	1	He	1206.155	3.620	5123904	2.70	1250	96.5	89.5	110.49	
Mg	24	1	He	1296.343	1.547	2742362	1.41	1250	103.7	89.5	110.49	
Al	27	1	He	68.349	2.636	70094	2.86	50	136.7	89.5	110.49	>+\-10%
K	39	1	He	1323.962	1.100	2646798	1.18	1250	105.9	89.5	110.49	
Ca	44	1	He	2522.645	0.518	250904	0.28	2500	100.9	89.5	110.49	
V	51	1	He	49.757	0.778	811438	0.41	50	99.5	89.5	110.49	
Cr	52	1	He	49.324	0.868	949932	0.54	50	98.6	89.5	110.49	
Mn	55	1	He	50.730	0.879	638196	0.39	50	101.5	89.5	110.49	
Fe	56	1	He	536.547	0.260	9199707	0.58	500	107.3	89.5	110.49	
Co	59	1	He	50.460	3.390	1471625	3.24	50	100.9	89.5	110.49	
Ni	60	1	He	49.657	0.512	369117	0.10	50	99.3	89.5	110.49	
Cu	65	1	He	48.693	1.226	483220	1.05	50	97.4	89.5	110.49	
Zn	66	1	He	50.976	1.546	188499	1.01	50	102.0	89.5	110.49	
As	75	1	He	49.867	1.036	116308	0.71	50	99.7	89.5	110.49	
Se	78	1	He	49.491	1.834	10536	1.16	50	99.0	89.5	110.49	
Sr	88	1	He	47.440	1.094	784907	0.09	50	94.9	89.5	110.49	
Mo	95	1	He	50.087	2.146	463482	1.21	50	100.2	89.5	110.49	
Ag	107	1	He	49.571	1.723	1387006	0.80	50	99.1	89.5	110.49	
Cd	111	1	He	49.525	2.003	236610	1.14	50	99.0	89.5	110.49	
Sn	118	1	He	50.314	1.659	561843	0.67	50	100.6	89.5	110.49	
Sb	123	1	He	49.863	1.472	562365	0.51	50	99.7	89.5	110.49	
Ba	137	1	He	49.849	1.473	247819	0.46	50	99.7	89.5	110.49	
Ce	140	1	He	51.013	2.299	3295593	1.33	50	102.0	89.5	110.49	
Tl	205	1	He	49.829	0.938	2858007	0.50	50	99.7	89.5	110.49	
Pb	208	1	He	49.795	1.103	3811253	0.73	50	99.6	89.5	110.49	
U	238	1	He	50.342	2.739	3846642	2.12	50	100.7	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	658672	0.49	683823	96.32	80	120	
Ge (IS)	72	1	He	374727	0.91	390615	95.93	80	120	
In-115 (IS)	115	1	He	3433170	1.02	3613234	95.02	80	120	
Tb-159 (IS)	159	1	He	7968336	0.66	8473761	94.04	80	120	
Bi-209 (IS)	209	1	He	5698331	1.55	6042462	94.30	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	052_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:17:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.013	349.1	18	54.1	0.5	
Na	23	1	He	-117.931	-0.6	159758	0.8	110	
Mg	24	1	He	-13.659	-1.1	12977	3.1	110	
Al	27	1	He	12.625	4.4	13348	4.9	10	CCB Main CR1 Failed
K	39	1	He	-8.020	-10.7	159188	0.6	110	
Ca	44	1	He	-27.300	-1.2	1688	0.8	110	
V	51	1	He	0.023	45.9	2697	7.5	2	
Cr	52	1	He	0.016	84.0	2940	8.0	2	
Mn	55	1	He	0.300	7.4	4346	6.8	1	
Fe	56	1	He	17.589	3.5	315539	3.2	20	
Co	59	1	He	0.013	30.8	708	17.3	1	
Ni	60	1	He	0.043	17.5	1218	5.7	2	
Cu	65	1	He	-0.937	-3.0	6024	3.6	1	
Zn	66	1	He	0.086	40.2	4078	3.6	20	
As	75	1	He	0.028	38.1	172	14.1	1	
Se	78	1	He	-0.051	-135.5	165	9.5	2	
Sr	88	1	He	-0.643	-0.4	1997	2.8	2	
Mo	95	1	He	0.040	25.1	881	11.2	2	
Ag	107	1	He	0.028	45.9	1147	32.6	1	
Cd	111	1	He	0.008	22.1	63	13.9	1	
Sn	118	1	He	0.070	16.4	1896	6.2	2	
Sb	123	1	He	0.196	5.7	2797	4.0	1	
Ba	137	1	He	0.107	5.8	667	4.8	1	
Ce	140	1	He	0.033	14.6	2529	13.0	1	
Tl	205	1	He	0.018	22.0	1456	15.0	1	
Pb	208	1	He	0.019	22.3	2352	13.8	1	
U	238	1	He	0.019	8.1	2411	4.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661900	1.16	683823	96.79	80	120	
Ge (IS)	72	1	He	377280	0.65	390615	96.59	80	120	
In-115 (IS)	115	1	He	3463210	0.59	3613234	95.85	80	120	
Tb-159 (IS)	159	1	He	7960402	0.52	8473761	93.94	80	120	
Bi-209 (IS)	209	1	He	5665304	0.80	6042462	93.76	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-11-f@20
Data File Name	053SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:20:30-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3405
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.479	0.479	17.77	122	15.51	100	
Na	23	1	He	734.915	734.915	0.66	3580202	1.15	75000	
Mg	24	1	He	4524.666	4524.666	0.15	10097565	0.72	125000	
Al	27	1	He	13978.601	13978.601	0.96	15197808	1.08	4000	>LDR
K	39	1	He	1743.052	1743.052	1.24	3657436	1.41	100000	
Ca	44	1	He	7347.539	7347.539	0.42	770437	0.34	250000	
V	51	1	He	103.380	103.380	0.99	1795198	0.67	4000	
Cr	52	1	He	21.318	21.318	1.22	439412	1.12	4000	
Mn	55	1	He	347.086	347.086	1.48	4653049	1.66	4000	
Fe	56	1	He	34745.022	34745.022	0.86	634408970	0.85	40000	
Co	59	1	He	8.894	8.894	0.65	276885	0.84	4000	
Ni	60	1	He	10.285	10.285	1.17	82280	0.54	4000	
[Cu]	63	1	He	24.897	24.897	0.40	566000	0.45	4000	
Cu	65	1	He	25.164	25.164	0.85	274032	0.53	4000	
Zn	66	1	He	52.341	52.341	0.68	197429	0.73	4000	
As	75	1	He	11.685	11.685	1.34	27896	1.50	4000	
Se	78	1	He	1.046	1.046	10.66	402	5.48	4000	
Sr	88	1	He	108.131	108.131	1.41	1778577	1.19	4000	
Mo	95	1	He	0.850	0.850	4.96	8384	5.21	4000	
Ag	107	1	He	0.074	0.074	3.72	2407	2.93	100	
Cd	111	1	He	0.092	0.092	11.02	464	10.99	3500	
Sn	118	1	He	1.842	1.842	2.08	21697	1.51	4000	
Sb	123	1	He	0.708	0.708	3.08	8569	2.65	4000	
Ba	137	1	He	105.790	105.790	0.46	527417	0.41	4000	
Ce	140	1	He	51.199	51.199	0.59	3318119	0.68	4000	
Tl	205	1	He	0.170	0.170	1.66	10346	1.97	3500	
Pb	208	1	He	6.512	6.512	0.90	489783	0.83	4000	
U	238	1	He	3.112	3.112	0.99	241565	0.59	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	702400	0.62	683823	102.72	80	120	
Ge (IS)	72	1	He	382420	0.44	390615	97.90	80	120	
In-115 (IS)	115	1	He	3443564	0.55	3613234	95.30	80	120	
Tb-159 (IS)	159	1	He	8064577	0.40	8473761	95.17	80	120	
Bi-209 (IS)	209	1	He	5590221	0.95	6042462	92.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-12-d@20
Data File Name	054SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:22:57-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3406
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.399	0.399	10.82	102	9.96	100	
Na	23	1	He	537.693	537.693	1.28	2731221	0.46	75000	
Mg	24	1	He	4002.927	4002.927	0.69	8745717	0.72	125000	
Al	27	1	He	10639.712	10639.712	1.84	11317946	1.25	4000	>LDR
K	39	1	He	1478.365	1478.365	0.67	3062693	0.78	100000	
Ca	44	1	He	6259.272	6259.272	0.22	642888	1.00	250000	
V	51	1	He	121.379	121.379	3.08	2061727	2.37	4000	
Cr	52	1	He	22.109	22.109	1.38	445798	1.13	4000	
Mn	55	1	He	536.812	536.812	0.71	7041075	0.45	4000	
Fe	56	1	He	42071.500	42071.500	0.35	751652628	0.77	40000	>LDR
Co	59	1	He	7.801	7.801	1.18	237694	1.41	4000	
Ni	60	1	He	10.930	10.930	0.55	85506	1.29	4000	
[Cu]	63	1	He	22.576	22.576	0.86	505352	0.25	4000	
Cu	65	1	He	22.859	22.859	1.54	245011	1.37	4000	
Zn	66	1	He	53.360	53.360	0.47	199670	0.63	4000	
As	75	1	He	14.609	14.609	0.16	34585	0.59	4000	
Se	78	1	He	1.008	1.008	4.38	391	2.83	4000	
Sr	88	1	He	75.450	75.450	1.36	1235284	0.50	4000	
Mo	95	1	He	1.288	1.288	3.14	12350	2.07	4000	
Ag	107	1	He	0.059	0.059	4.39	1971	4.83	100	
Cd	111	1	He	0.072	0.072	19.66	366	17.41	3500	
Sn	118	1	He	1.809	1.809	0.72	21163	1.74	4000	
Sb	123	1	He	0.599	0.599	3.51	7279	2.61	4000	
Ba	137	1	He	87.510	87.510	0.65	432985	0.52	4000	
Ce	140	1	He	58.775	58.775	1.58	3779956	1.32	4000	
Tl	205	1	He	0.147	0.147	1.91	8958	1.94	3500	
Pb	208	1	He	5.667	5.667	1.08	430397	0.09	4000	
U	238	1	He	3.908	3.908	1.99	302636	0.91	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	687283	0.82	683823	100.51	80	120	
Ge (IS)	72	1	He	379507	0.45	390615	97.16	80	120	
In-115 (IS)	115	1	He	3417492	1.18	3613234	94.58	80	120	
Tb-159 (IS)	159	1	He	8053535	1.77	8473761	95.04	80	120	
Bi-209 (IS)	209	1	He	5643461	1.03	6042462	93.40	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-13-d@20
Data File Name	055SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:25:25-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3407
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.499	0.499	7.28	122	6.86	100	
Na	23	1	He	572.806	572.806	2.80	2828547	1.69	75000	
Mg	24	1	He	8285.689	8285.689	0.36	17805439	0.82	125000	
Al	27	1	He	13294.867	13294.867	0.79	13945876	0.27	4000	>LDR
K	39	1	He	2910.161	2910.161	1.67	5771866	1.18	100000	
Ca	44	1	He	5174.214	5174.214	0.12	524801	0.42	250000	
V	51	1	He	42.476	42.476	0.33	713091	0.85	4000	
Cr	52	1	He	8.877	8.877	0.39	178118	0.90	4000	
Mn	55	1	He	234.136	234.136	0.23	3028639	0.61	4000	
Fe	56	1	He	21216.994	21216.994	0.39	373786110	0.45	40000	
Co	59	1	He	6.384	6.384	1.11	191855	1.49	4000	
Ni	60	1	He	11.295	11.295	2.48	87090	1.95	4000	
[Cu]	63	1	He	619.660	619.660	0.75	12787031	0.57	4000	
Cu	65	1	He	624.972	624.972	1.32	6198318	0.87	4000	
Zn	66	1	He	35.288	35.288	0.19	132371	0.22	4000	
As	75	1	He	9.968	9.968	0.23	23463	0.29	4000	
Se	78	1	He	1.780	1.780	1.92	550	1.21	4000	
Sr	88	1	He	111.817	111.817	2.14	1802772	1.28	4000	
Mo	95	1	He	2.001	2.001	4.04	18680	2.96	4000	
Ag	107	1	He	0.090	0.090	6.81	2801	4.48	100	
Cd	111	1	He	0.080	0.080	8.93	399	9.17	3500	
Sn	118	1	He	2.504	2.504	1.45	28534	0.83	4000	
Sb	123	1	He	0.587	0.587	3.24	7069	4.08	4000	
Ba	137	1	He	95.128	95.128	1.79	464972	0.35	4000	
Ce	140	1	He	30.427	30.427	1.73	1933431	0.69	4000	
Tl	205	1	He	0.650	0.650	1.12	37878	0.25	3500	
Pb	208	1	He	4.230	4.230	0.33	316615	0.16	4000	
U	238	1	He	2.450	2.450	1.06	188861	0.34	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	677701	0.53	683823	99.10	80	120	
Ge (IS)	72	1	He	376786	0.11	390615	96.46	80	120	
In-115 (IS)	115	1	He	3376626	1.57	3613234	93.45	80	120	
Tb-159 (IS)	159	1	He	7999117	0.89	8473761	94.40	80	120	
Bi-209 (IS)	209	1	He	5557925	0.24	6042462	91.98	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-14-d@20
Data File Name	056SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:27:51-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3408
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.839	0.839	18.60	197	17.69	100	
Na	23	1	He	693.871	693.871	0.54	3320898	0.60	75000	
Mg	24	1	He	5480.002	5480.002	1.27	11880686	1.85	125000	
Al	27	1	He	13754.017	13754.017	0.25	14537579	0.72	4000	>LDR
K	39	1	He	2462.714	2462.714	2.66	4949488	2.71	100000	
Ca	44	1	He	6131.716	6131.716	0.40	625820	0.96	250000	
V	51	1	He	57.897	57.897	0.52	978475	0.76	4000	
Cr	52	1	He	11.525	11.525	0.43	232190	0.78	4000	
Mn	55	1	He	271.088	271.088	0.30	3533235	0.98	4000	
Fe	56	1	He	24677.325	24677.325	1.60	438053947	1.74	40000	
Co	59	1	He	7.705	7.705	0.93	233240	1.48	4000	
Ni	60	1	He	11.409	11.409	0.62	88632	0.15	4000	
[Cu]	63	1	He	302.778	302.778	0.30	6313053	1.01	4000	
Cu	65	1	He	312.165	312.165	0.46	3127465	0.98	4000	
Zn	66	1	He	58.174	58.174	0.17	215875	0.91	4000	
As	75	1	He	18.040	18.040	0.90	42395	1.25	4000	
Se	78	1	He	1.609	1.609	7.66	515	5.73	4000	
Sr	88	1	He	114.896	114.896	0.69	1846467	0.83	4000	
Mo	95	1	He	1.530	1.530	0.78	14354	1.35	4000	
Ag	107	1	He	0.082	0.082	5.70	2580	4.36	100	
Cd	111	1	He	0.153	0.153	5.28	740	6.19	3500	
Sn	118	1	He	1.903	1.903	2.05	21869	0.59	4000	
Sb	123	1	He	0.522	0.522	2.87	6330	2.37	4000	
Ba	137	1	He	102.282	102.282	0.80	498412	0.64	4000	
Ce	140	1	He	56.053	56.053	1.03	3550614	0.79	4000	
Tl	205	1	He	0.282	0.282	1.96	16623	2.63	3500	
Pb	208	1	He	5.660	5.660	0.39	429597	1.11	4000	
U	238	1	He	2.901	2.901	0.50	222886	0.87	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	682855	0.71	683823	99.86	80	120	
Ge (IS)	72	1	He	376947	0.88	390615	96.50	80	120	
In-115 (IS)	115	1	He	3366010	1.43	3613234	93.16	80	120	
Tb-159 (IS)	159	1	He	7978654	0.73	8473761	94.16	80	120	
Bi-209 (IS)	209	1	He	5640033	1.23	6042462	93.34	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-15-d@20
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:30:17-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3409
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.257	1.257	7.90	299	7.91	100	
Na	23	1	He	1147.046	1147.046	1.47	5294643	1.32	75000	
Mg	24	1	He	10182.811	10182.811	0.90	22956946	0.70	125000	
Al	27	1	He	29391.082	29391.082	0.63	32360556	1.03	4000	>LDR
K	39	1	He	4290.263	4290.263	0.99	8842527	0.23	100000	
Ca	44	1	He	10219.680	10219.680	0.69	1083376	0.50	250000	
V	51	1	He	107.761	107.761	1.05	1894958	0.76	4000	
Cr	52	1	He	23.967	23.967	0.22	499944	0.62	4000	
Mn	55	1	He	445.927	445.927	1.30	6053509	0.49	4000	
Fe	56	1	He	39102.620	39102.620	1.68	723039118	1.60	40000	>LDR
Co	59	1	He	11.385	11.385	1.05	358830	0.27	4000	
Ni	60	1	He	16.797	16.797	1.56	135468	0.71	4000	
[Cu]	63	1	He	222.164	222.164	0.46	4834809	1.14	4000	
Cu	65	1	He	230.752	230.752	1.14	2412325	0.72	4000	
Zn	66	1	He	94.409	94.409	1.11	349696	0.64	4000	
As	75	1	He	28.271	28.271	0.83	66704	0.52	4000	
Se	78	1	He	2.122	2.122	9.98	626	7.19	4000	
Sr	88	1	He	182.087	182.087	1.19	2920038	0.54	4000	
Mo	95	1	He	1.138	1.138	4.92	10812	5.31	4000	
Ag	107	1	He	0.178	0.178	5.03	5228	5.43	100	
Cd	111	1	He	0.169	0.169	4.13	813	3.69	3500	
Sn	118	1	He	2.246	2.246	1.22	25634	0.75	4000	
Sb	123	1	He	1.094	1.094	3.40	12646	2.79	4000	
Ba	137	1	He	275.395	275.395	0.88	1342226	0.18	4000	
Ce	140	1	He	112.619	112.619	0.61	7136045	0.93	4000	
Tl	205	1	He	0.408	0.408	2.19	24096	1.26	3500	
Pb	208	1	He	13.000	13.000	1.15	968328	0.38	4000	
U	238	1	He	4.864	4.864	1.40	376355	0.56	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	711333	0.84	683823	104.02	80	120	
Ge (IS)	72	1	He	378802	0.47	390615	96.98	80	120	
In-115 (IS)	115	1	He	3367032	0.71	3613234	93.19	80	120	
Tb-159 (IS)	159	1	He	8049760	0.88	8473761	95.00	80	120	
Bi-209 (IS)	209	1	He	5541592	0.76	6042462	91.71	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-16-d@20
Data File Name	058SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:32:42-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3410
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.821	0.821	19.35	204	17.88	100	
Na	23	1	He	1119.740	1119.740	0.75	5281153	1.58	75000	
Mg	24	1	He	12536.737	12536.737	0.79	28781600	1.09	125000	
Al	27	1	He	33812.225	33812.225	0.42	37923346	1.03	4000	>LDR
K	39	1	He	5664.886	5664.886	1.59	11833811	2.22	100000	
Ca	44	1	He	10005.256	10005.256	0.25	1080583	1.03	250000	
V	51	1	He	126.181	126.181	1.14	2259903	1.32	4000	
Cr	52	1	He	21.322	21.322	0.70	453409	1.38	4000	
Mn	55	1	He	497.158	497.158	1.35	6874829	0.51	4000	
Fe	56	1	He	42754.014	42754.014	0.55	805322279	0.74	40000	>LDR
Co	59	1	He	10.990	10.990	0.18	352880	0.81	4000	
Ni	60	1	He	15.551	15.551	0.49	127841	0.45	4000	
[Cu]	63	1	He	89.871	89.871	1.33	2013809	1.93	4000	
Cu	65	1	He	89.839	89.839	1.08	966787	0.20	4000	
Zn	66	1	He	105.282	105.282	1.07	384257	0.41	4000	
As	75	1	He	42.710	42.710	0.55	99356	0.87	4000	
Se	78	1	He	1.620	1.620	4.90	512	2.28	4000	
Sr	88	1	He	189.807	189.807	2.31	3005951	0.16	4000	
Mo	95	1	He	1.855	1.855	1.47	17099	1.03	4000	
Ag	107	1	He	0.174	0.174	3.91	5057	4.83	100	
Cd	111	1	He	0.125	0.125	3.65	602	4.15	3500	
Sn	118	1	He	2.643	2.643	2.68	29603	0.72	4000	
Sb	123	1	He	1.298	1.298	0.96	14730	3.05	4000	
Ba	137	1	He	280.146	280.146	1.68	1348717	0.52	4000	
Ce	140	1	He	83.842	83.842	2.15	5247562	1.18	4000	
Tl	205	1	He	0.460	0.460	1.44	26630	1.00	3500	
Pb	208	1	He	16.832	16.832	0.84	1250869	0.55	4000	
U	238	1	He	9.526	9.526	1.59	723322	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	724612	0.94	683823	105.96	80	120	
Ge (IS)	72	1	He	373680	0.95	390615	95.66	80	120	
In-115 (IS)	115	1	He	3326611	2.17	3613234	92.07	80	120	
Tb-159 (IS)	159	1	He	7910798	1.66	8473761	93.36	80	120	
Bi-209 (IS)	209	1	He	5530028	1.24	6042462	91.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-17-d@20
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:35:07-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3411
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.908	0.908	35.88	216	32.78	100	
Na	23	1	He	1060.277	1060.277	0.22	4844753	0.38	75000	
Mg	24	1	He	9398.435	9398.435	1.11	20770753	1.52	125000	
Al	27	1	He	29072.007	29072.007	1.57	31372692	2.07	4000	>LDR
K	39	1	He	7230.108	7230.108	1.46	14480165	1.86	100000	
Ca	44	1	He	10638.371	10638.371	0.60	1105120	0.79	250000	
V	51	1	He	80.197	80.197	0.59	1382783	0.17	4000	
Cr	52	1	He	20.291	20.291	1.16	415240	0.63	4000	
Mn	55	1	He	592.116	592.116	1.00	7878062	0.96	4000	
Fe	56	1	He	35073.187	35073.187	0.81	635610393	0.60	40000	
Co	59	1	He	9.669	9.669	0.64	298744	1.15	4000	
Ni	60	1	He	13.060	13.060	0.58	103448	0.44	4000	
[Cu]	63	1	He	59.269	59.269	0.79	1289485	0.25	4000	
Cu	65	1	He	60.240	60.240	0.83	628973	0.92	4000	
Zn	66	1	He	76.903	76.903	0.75	280743	0.86	4000	
As	75	1	He	9.567	9.567	1.14	22260	1.04	4000	
Se	78	1	He	1.246	1.246	11.27	433	6.60	4000	
Sr	88	1	He	137.506	137.506	1.13	2192418	1.57	4000	
Mo	95	1	He	0.895	0.895	0.86	8542	1.42	4000	
Ag	107	1	He	0.089	0.089	1.85	2749	0.57	100	
Cd	111	1	He	0.239	0.239	6.78	1138	7.65	3500	
Sn	118	1	He	2.191	2.191	0.59	24855	1.56	4000	
Sb	123	1	He	0.639	0.639	0.21	7567	1.24	4000	
Ba	137	1	He	175.558	175.558	0.75	849582	1.17	4000	
Ce	140	1	He	63.360	63.360	1.68	3985797	0.99	4000	
Tl	205	1	He	0.253	0.253	0.67	15094	1.45	3500	
Pb	208	1	He	13.170	13.170	0.73	980049	0.32	4000	
U	238	1	He	2.402	2.402	0.75	185979	0.40	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	697150	0.54	683823	101.95	80	120	
Ge (IS)	72	1	He	372409	0.16	390615	95.34	80	120	
In-115 (IS)	115	1	He	3342926	1.05	3613234	92.52	80	120	
Tb-159 (IS)	159	1	He	8035299	0.87	8473761	94.83	80	120	
Bi-209 (IS)	209	1	He	5535997	0.83	6042462	91.62	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-18-d@20
Data File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:37:34-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3412
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.028	1.028	13.18	248	11.60	100	
Na	23	1	He	1692.631	1692.631	0.97	7524264	0.18	75000	
Mg	24	1	He	10081.000	10081.000	0.47	22790015	0.87	125000	
Al	27	1	He	30953.342	30953.342	0.55	34171931	0.39	4000	>LDR
K	39	1	He	5775.941	5775.941	0.92	11872981	1.71	100000	
Ca	44	1	He	12294.120	12294.120	0.78	1305839	0.08	250000	
V	51	1	He	101.497	101.497	1.30	1789747	0.83	4000	
Cr	52	1	He	24.486	24.486	1.09	512072	0.90	4000	
Mn	55	1	He	624.787	624.787	1.40	8504712	1.43	4000	
Fe	56	1	He	40275.907	40275.907	1.07	746729073	0.30	40000	>LDR
Co	59	1	He	11.752	11.752	0.18	371427	0.79	4000	
Ni	60	1	He	16.185	16.185	1.25	130927	0.43	4000	
[Cu]	63	1	He	55.498	55.498	0.28	1237633	1.08	4000	
Cu	65	1	He	56.274	56.274	0.76	602216	1.19	4000	
Zn	66	1	He	86.544	86.544	0.99	316908	1.41	4000	
As	75	1	He	16.658	16.658	0.14	38859	0.75	4000	
Se	78	1	He	1.500	1.500	11.61	488	6.78	4000	
Sr	88	1	He	170.331	170.331	1.63	2720848	1.00	4000	
Mo	95	1	He	2.220	2.220	2.25	20530	1.19	4000	
Ag	107	1	He	0.153	0.153	4.13	4512	2.85	100	
Cd	111	1	He	0.198	0.198	13.93	950	14.28	3500	
Sn	118	1	He	2.206	2.206	1.10	25086	0.48	4000	
Sb	123	1	He	0.752	0.752	2.38	8827	1.49	4000	
Ba	137	1	He	218.790	218.790	1.19	1061892	0.20	4000	
Ce	140	1	He	72.600	72.600	1.41	4580957	1.05	4000	
Tl	205	1	He	0.330	0.330	0.98	19426	1.92	3500	
Pb	208	1	He	12.203	12.203	1.45	910554	0.26	4000	
U	238	1	He	4.484	4.484	1.45	344108	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	713256	0.81	683823	104.30	80	120	
Ge (IS)	72	1	He	374098	0.71	390615	95.77	80	120	
In-115 (IS)	115	1	He	3353024	1.01	3613234	92.80	80	120	
Tb-159 (IS)	159	1	He	7982892	0.97	8473761	94.21	80	120	
Bi-209 (IS)	209	1	He	5551141	1.19	6042462	91.87	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-19-e@20
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:39:59-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3501
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.560	0.560	17.58	137	14.83	100	
Na	23	1	He	1162.942	1162.942	0.18	5158379	0.78	75000	
Mg	24	1	He	4941.251	4941.251	0.67	10744921	0.60	125000	
Al	27	1	He	14198.339	14198.339	1.10	15047157	1.07	4000	>LDR
K	39	1	He	1848.626	1848.626	0.99	3770092	0.80	100000	
Ca	44	1	He	6079.214	6079.214	0.24	622156	0.68	250000	
V	51	1	He	76.070	76.070	1.84	1288243	1.45	4000	
Cr	52	1	He	16.342	16.342	1.01	328977	0.81	4000	
Mn	55	1	He	432.429	432.429	1.09	5650949	1.59	4000	
Fe	56	1	He	27407.816	27407.816	0.59	487820407	0.67	40000	
Co	59	1	He	7.546	7.546	0.41	229036	0.56	4000	
Ni	60	1	He	9.690	9.690	1.16	75621	0.40	4000	
[Cu]	63	1	He	23.082	23.082	0.86	513975	0.15	4000	
Cu	65	1	He	23.520	23.520	2.03	250664	1.01	4000	
Zn	66	1	He	52.838	52.838	0.54	196341	0.85	4000	
As	75	1	He	11.549	11.549	1.12	27167	0.83	4000	
Se	78	1	He	0.821	0.821	6.93	348	3.51	4000	
Sr	88	1	He	111.199	111.199	3.27	1805208	1.92	4000	
Mo	95	1	He	0.993	0.993	2.29	9584	2.25	4000	
Ag	107	1	He	0.050	0.050	2.38	1710	1.88	100	
Cd	111	1	He	0.074	0.074	16.26	374	13.39	3500	
Sn	118	1	He	1.731	1.731	1.78	20195	1.31	4000	
Sb	123	1	He	0.451	0.451	1.02	5597	1.80	4000	
Ba	137	1	He	215.471	215.471	2.43	1060346	0.67	4000	
Ce	140	1	He	50.052	50.052	2.41	3202833	2.38	4000	
Tl	205	1	He	0.169	0.169	1.87	10226	2.17	3500	
Pb	208	1	He	6.142	6.142	0.88	462946	0.10	4000	
U	238	1	He	2.592	2.592	0.24	200775	0.61	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684692	0.91	683823	100.13	80	120	
Ge (IS)	72	1	He	376796	0.59	390615	96.46	80	120	
In-115 (IS)	115	1	He	3400529	2.04	3613234	94.11	80	120	
Tb-159 (IS)	159	1	He	8040639	0.44	8473761	94.89	80	120	
Bi-209 (IS)	209	1	He	5601465	0.86	6042462	92.70	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	062_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:44:04-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.574	0.934	10364	1.33	50	101.1	89.5	110.49	
Na	23	1	He	1211.758	1.698	5057293	1.70	1250	96.9	89.5	110.49	
Mg	24	1	He	1295.147	1.472	2693043	1.86	1250	103.6	89.5	110.49	
Al	27	1	He	61.917	0.392	62445	0.11	50	123.8	89.5	110.49	>+\-10%
K	39	1	He	1312.647	2.296	2580770	2.55	1250	105.0	89.5	110.49	
Ca	44	1	He	2539.332	0.787	248207	0.87	2500	101.6	89.5	110.49	
V	51	1	He	50.104	0.471	803092	0.76	50	100.2	89.5	110.49	
Cr	52	1	He	49.679	0.260	940372	0.54	50	99.4	89.5	110.49	
Mn	55	1	He	51.191	0.385	632953	0.04	50	102.4	89.5	110.49	
Fe	56	1	He	535.343	0.924	9021645	0.98	500	107.1	89.5	110.49	
Co	59	1	He	50.761	2.381	1455060	2.24	50	101.5	89.5	110.49	
Ni	60	1	He	50.414	0.298	368306	0.43	50	100.8	89.5	110.49	
Cu	65	1	He	49.360	0.676	481240	0.82	50	98.7	89.5	110.49	
Zn	66	1	He	51.126	0.723	187718	0.83	50	102.3	89.5	110.49	
As	75	1	He	49.667	0.408	115028	0.27	50	99.3	89.5	110.49	
Se	78	1	He	49.377	1.148	10439	1.26	50	98.8	89.5	110.49	
Sr	88	1	He	47.064	1.706	778019	0.29	50	94.1	89.5	110.49	
Mo	95	1	He	49.736	1.904	459811	0.81	50	99.5	89.5	110.49	
Ag	107	1	He	49.570	1.601	1385689	0.65	50	99.1	89.5	110.49	
Cd	111	1	He	49.374	1.745	235671	0.46	50	98.7	89.5	110.49	
Sn	118	1	He	49.632	1.902	553720	0.86	50	99.3	89.5	110.49	
Sb	123	1	He	49.491	1.820	557642	0.95	50	99.0	89.5	110.49	
Ba	137	1	He	49.959	1.289	248136	0.22	50	99.9	89.5	110.49	
Ce	140	1	He	50.846	0.624	3282255	1.10	50	101.7	89.5	110.49	
Tl	205	1	He	49.612	0.838	2830093	0.79	50	99.2	89.5	110.49	
Pb	208	1	He	50.188	1.178	3799998	0.16	50	100.4	89.5	110.49	
U	238	1	He	50.641	1.811	3848573	1.27	50	101.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647376	0.41	683823	94.67	80	120	
Ge (IS)	72	1	He	372077	0.16	390615	95.25	80	120	
In-115 (IS)	115	1	He	3430088	1.48	3613234	94.93	80	120	
Tb-159 (IS)	159	1	He	7925536	1.62	8473761	93.53	80	120	
Bi-209 (IS)	209	1	He	5636979	1.09	6042462	93.29	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	063_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:46:31-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.023	-122.3	10	57.7	0.5	
Na	23	1	He	-123.630	-0.2	135656	0.3	110	
Mg	24	1	He	-14.796	-1.5	10392	4.3	110	
Al	27	1	He	7.856	1.5	8297	1.0	10	
K	39	1	He	-9.729	-7.4	153009	0.5	110	
Ca	44	1	He	-33.658	-1.1	1043	3.5	110	
V	51	1	He	0.002	1083.9	2297	12.3	2	
Cr	52	1	He	0.009	27.6	2755	1.3	2	
Mn	55	1	He	0.172	4.1	2671	3.3	1	
Fe	56	1	He	12.724	3.3	227416	3.1	20	
Co	59	1	He	0.015	28.2	742	16.4	1	
Ni	60	1	He	0.036	10.8	1144	2.2	2	
Cu	65	1	He	-1.015	-0.7	5171	1.2	1	
Zn	66	1	He	0.075	35.3	3973	2.1	20	
As	75	1	He	0.023	37.4	156	13.2	1	
Se	78	1	He	0.076	122.4	189	10.1	2	
Sr	88	1	He	-0.688	-1.6	1232	13.6	2	
Mo	95	1	He	0.030	28.0	768	10.8	2	
Ag	107	1	He	0.025	25.0	1036	15.8	1	
Cd	111	1	He	0.008	80.2	62	48.6	1	
Sn	118	1	He	0.056	8.0	1705	2.9	2	
Sb	123	1	He	0.190	12.2	2672	10.5	1	
Ba	137	1	He	0.068	15.8	458	10.6	1	
Ce	140	1	He	0.026	12.5	2010	9.3	1	
Tl	205	1	He	0.017	21.7	1411	15.4	1	
Pb	208	1	He	0.017	30.0	2180	17.6	1	
U	238	1	He	0.018	18.5	2291	11.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	649263	0.42	683823	94.95	80	120	
Ge (IS)	72	1	He	371193	0.97	390615	95.03	80	120	
In-115 (IS)	115	1	He	3389419	1.01	3613234	93.81	80	120	
Tb-159 (IS)	159	1	He	7866732	0.54	8473761	92.84	80	120	
Bi-209 (IS)	209	1	He	5620641	2.01	6042462	93.02	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	064_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:49:06-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL BP CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.993	22.197	221	21.39	1	99.3	50	150	
Na	23	1	He	81.994	0.855	905072	0.90	200	41.0	50	150	>+/-50%
Mg	24	1	He	191.929	0.313	439510	1.38	200	96.0	50	150	
Al	27	1	He	26.414	1.601	27228	1.85	20	132.1	50	150	
K	39	1	He	196.549	0.458	538437	1.44	200	98.3	50	150	
Ca	44	1	He	953.741	0.313	97173	1.08	1000	95.4	50	150	
V	51	1	He	1.974	2.611	34256	1.45	2	98.7	50	150	
Cr	52	1	He	1.962	0.438	40145	1.27	2	98.1	50	150	
Mn	55	1	He	2.161	2.812	27595	2.91	2	108.0	50	150	
Fe	56	1	He	49.106	1.209	850159	0.25	40	122.8	50	150	
Co	59	1	He	1.943	0.631	56747	1.76	2	97.2	50	150	
Ni	60	1	He	2.088	1.827	16307	0.87	2	104.4	50	150	
Cu	65	1	He	1.040	5.575	24901	1.25	2	52.0	50	150	
Zn	66	1	He	20.903	1.065	79415	0.82	20	104.5	50	150	
As	75	1	He	2.111	2.923	5019	3.52	2	105.5	50	150	
Se	78	1	He	2.066	3.923	607	3.18	2	103.3	50	150	
Sr	88	1	He	1.278	3.423	33212	1.82	2	63.9	50	150	
Mo	95	1	He	2.012	3.027	19077	2.38	2	100.6	50	150	
Ag	107	1	He	1.924	1.639	54104	2.37	2	96.2	50	150	
Cd	111	1	He	1.992	3.501	9529	3.63	2	99.6	50	150	
Sn	118	1	He	20.290	0.884	226994	1.02	20	101.5	50	150	
Sb	123	1	He	1.902	2.599	21974	2.00	2	95.1	50	150	
Ba	137	1	He	2.138	0.984	10740	1.12	2	106.9	50	150	
Ce	140	1	He	1.962	1.413	126961	0.91	2	98.1	50	150	
Tl	205	1	He	1.923	1.216	111034	0.94	2	96.1	50	150	
Pb	208	1	He	2.098	1.235	160871	0.83	2	104.9	50	150	
U	238	1	He	1.902	1.581	146643	1.92	2	95.1	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656030	1.15	683823	95.94	80	120	
Ge (IS)	72	1	He	374352	1.84	390615	95.84	80	120	
In-115 (IS)	115	1	He	3429218	0.78	3613234	94.91	80	120	
Tb-159 (IS)	159	1	He	7990714	0.56	8473761	94.30	80	120	
Bi-209 (IS)	209	1	He	5677701	1.05	6042462	93.96	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	065ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:51:39-07:00
Sample Type	ICSA
Dilution	1
Comment	BP CHK A
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.044	-58.050	6	91.64	-1	1	
Na	23	1	He	103020.028	0.662	373262865	0.70	100000	100000	
Mg	24	1	He	100885.678	1.052	202810490	0.56	100000	100000	
Al	27	1	He	100613.204	1.406	98947878	0.90	100000	100000	
K	39	1	He	102838.053	0.763	185496397	0.70	100000	100000	
Ca	44	1	He	95502.845	0.472	9008799	0.88	100000	100000	
V	51	1	He	0.043	24.015	2894	5.27	-4	4	
Cr	52	1	He	1.274	2.022	26132	0.98	-4	4	
Mn	55	1	He	0.434	4.970	5795	4.53	-2	2	
Co	59	1	He	0.035	4.373	1290	2.98	-2	2	
Ni	60	1	He	0.452	0.969	4094	0.33	-4	4	
Cu	65	1	He	-0.143	-26.503	13150	1.80	-4	4	
Zn	66	1	He	1.231	5.892	7733	2.70	-40	40	
As	75	1	He	0.096	4.033	310	3.07	-2	2	
Se	78	1	He	0.191	30.889	202	4.95	-4	4	
Sr	88	1	He	-0.011	-238.889	11060	2.17	-2	2	
Mo	95	1	He	2119.101	2.203	17663700	0.53	2000	2000	
Ag	107	1	He	0.028	18.216	1022	11.89	-2	2	
Cd	111	1	He	0.818	5.063	3546	4.19	-2	2	
Sn	118	1	He	0.037	12.919	1361	2.38	-20	20	
Sb	123	1	He	0.086	14.302	1388	8.34	-4	4	
Ba	137	1	He	0.118	23.147	642	19.21	-2	2	
Ce	140	1	He	0.036	2.407	2410	1.80	-2	2	
Tl	205	1	He	0.005	18.751	703	5.94	-2	2	
Pb	208	1	He	0.228	1.673	15916	0.55	-2	2	
U	238	1	He	-0.001	-107.829	782	12.25	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	635417	1.00	683823	92.92	80	120	
Ge (IS)	72	1	He	353371	0.86	390615	90.47	80	120	
In-115 (IS)	115	1	He	3096177	1.73	3613234	85.69	80	120	
Tb-159 (IS)	159	1	He	7465951	1.64	8473761	88.11	80	120	
Bi-209 (IS)	209	1	He	4927718	1.43	6042462	81.55	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	066ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:54:06-07:00
Sample Type	ICSB
Dilution	1
Comment	BP CHK B
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	18.578	3.231	3759	3.65	20	92.9	79.5	120.49	
Na	23	1	He	103771.442	0.868	377305656	0.57	101000	102.7	79.5	120.49	
Mg	24	1	He	100380.230	0.770	202510983	0.38	101000	99.4	79.5	120.49	
Al	27	1	He	98764.947	1.853	97473616	1.46	101000	97.8	79.5	120.49	
K	39	1	He	102259.850	1.110	185107353	1.08	101000	101.2	79.5	120.49	
Ca	44	1	He	96826.254	1.817	9165312	1.38	101000	95.9	79.5	120.49	
V	51	1	He	19.769	0.257	313461	0.21	20	98.8	79.5	120.49	
Cr	52	1	He	20.129	0.541	376800	0.70	20	100.6	79.5	120.49	
Mn	55	1	He	19.653	0.946	239672	0.90	20	98.3	79.5	120.49	
Fe	56	1	He	94978.632	0.339	1574338462	0.45	101000	94.0	79.5	120.49	
Co	59	1	He	18.548	0.798	523873	0.62	20	92.7	79.5	120.49	
Ni	60	1	He	18.764	0.237	135566	0.21	20	93.8	79.5	120.49	
Cu	65	1	He	17.955	1.825	181664	1.26	20	89.8	79.5	120.49	
Zn	66	1	He	18.872	1.601	68224	1.52	20	94.4	79.5	120.49	
As	75	1	He	19.871	0.829	43890	0.78	20	99.4	79.5	120.49	
Se	78	1	He	18.621	1.808	3852	1.34	20	93.1	79.5	120.49	
Sr	88	1	He	20.420	0.370	308043	0.29	20	102.1	79.5	120.49	
Mo	95	1	He	2164.632	1.082	17870198	1.24	2020	107.2	79.5	120.49	
Ag	107	1	He	19.122	0.871	477996	1.03	20	95.6	79.5	120.49	
Cd	111	1	He	19.830	1.089	84622	1.25	20	99.1	79.5	120.49	
Sn	118	1	He	20.509	0.805	205106	0.85	20	102.5	79.5	120.49	
Sb	123	1	He	20.931	0.404	211116	0.59	20	104.7	79.5	120.49	
Ba	137	1	He	21.013	0.944	93357	0.81	20	105.1	79.5	120.49	
Ce	140	1	He	20.394	0.345	1176899	0.54	20	102.0	79.5	120.49	
Tl	205	1	He	18.334	1.156	979248	0.46	20	91.7	79.5	120.49	
Pb	208	1	He	20.424	1.448	1329687	0.31	20	102.1	79.5	120.49	
U	238	1	He	19.584	1.667	1393689	1.01	20	97.9	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	637648	0.43	683823	93.25	80	120	
Ge (IS)	72	1	He	354364	0.64	390615	90.72	80	120	
In-115 (IS)	115	1	He	3065679	0.19	3613234	84.85	80	120	
Tb-159 (IS)	159	1	He	7418404	0.72	8473761	87.55	80	120	
Bi-209 (IS)	209	1	He	4845351	1.23	6042462	80.19	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	067SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:56:34-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.045	-0.045	-54.72	6	91.64	100	
Na	23	1	He	-71.055	-71.055	-17.63	332260	14.76	75000	
Mg	24	1	He	25.179	25.179	50.57	93190	29.00	125000	
Al	27	1	He	42.346	42.346	29.54	43282	30.00	4000	
K	39	1	He	35.108	35.108	34.68	237138	10.24	100000	
Ca	44	1	He	7.107	7.107	190.13	5007	26.92	250000	
V	51	1	He	0.004	0.004	225.35	2350	6.73	4000	
Cr	52	1	He	0.007	0.007	123.67	2736	6.90	4000	
Mn	55	1	He	0.064	0.064	14.78	1338	9.43	4000	
Fe	56	1	He	50.065	50.065	23.24	863868	23.63	40000	
Co	59	1	He	0.006	0.006	42.08	484	15.91	4000	
Ni	60	1	He	0.034	0.034	23.21	1136	5.22	4000	
[Cu]	63	1	He	-0.937	-0.937	-1.16	13878	1.99	4000	
Cu	65	1	He	-0.880	-0.880	-2.22	6492	3.59	4000	
Zn	66	1	He	0.456	0.456	13.10	5366	4.30	4000	
As	75	1	He	0.003	0.003	15.16	112	1.55	4000	
Se	78	1	He	0.124	0.124	37.02	200	5.07	4000	
Sr	88	1	He	-0.721	-0.721	-0.79	708	14.30	4000	
Mo	95	1	He	1.979	1.979	4.78	18683	5.88	4000	
Ag	107	1	He	0.018	0.018	53.86	832	33.19	100	
Cd	111	1	He	0.011	0.011	54.73	78	38.65	3500	
Sn	118	1	He	-0.039	-0.039	-15.64	664	11.38	4000	
Sb	123	1	He	-0.009	-0.009	-35.49	470	6.84	4000	
Ba	137	1	He	0.022	0.022	11.13	238	6.32	4000	
Ce	140	1	He	0.009	0.009	20.59	972	14.06	4000	
Tl	205	1	He	0.022	0.022	3.72	1661	1.34	3500	
Pb	208	1	He	0.008	0.008	45.00	1530	18.10	4000	
U	238	1	He	0.002	0.002	89.61	1092	15.98	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	653268	0.72	683823	95.53	80	120	
Ge (IS)	72	1	He	372997	0.51	390615	95.49	80	120	
In-115 (IS)	115	1	He	3412280	1.21	3613234	94.44	80	120	
Tb-159 (IS)	159	1	He	7860211	1.69	8473761	92.76	80	120	
Bi-209 (IS)	209	1	He	5570925	0.08	6042462	92.20	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	068SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:59:09-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.035	-0.035	-69.37	8	65.47	100	
Na	23	1	He	-99.466	-99.466	-2.31	230633	3.59	75000	
Mg	24	1	He	0.758	0.758	187.41	43399	6.71	125000	
Al	27	1	He	19.046	19.046	10.12	20033	9.73	4000	
K	39	1	He	9.545	9.545	25.00	193244	2.14	100000	
Ca	44	1	He	-15.424	-15.424	-15.88	2870	8.25	250000	
V	51	1	He	-0.008	-0.008	-82.26	2190	5.38	4000	
Cr	52	1	He	0.001	0.001	618.54	2667	4.75	4000	
Mn	55	1	He	0.047	0.047	4.71	1153	2.47	4000	
Fe	56	1	He	22.655	22.655	4.94	404948	4.59	40000	
Co	59	1	He	0.001	0.001	48.13	349	4.71	4000	
Ni	60	1	He	0.027	0.027	44.15	1103	8.13	4000	
[Cu]	63	1	He	-1.029	-1.029	-1.26	12291	1.94	4000	
Cu	65	1	He	-0.964	-0.964	-1.86	5798	2.83	4000	
Zn	66	1	He	0.473	0.473	15.51	5518	4.45	4000	
As	75	1	He	-0.001	-0.001	-1342.11	105	16.88	4000	
Se	78	1	He	0.036	0.036	85.55	184	4.00	4000	
Sr	88	1	He	-0.725	-0.725	-0.31	656	4.83	4000	
Mo	95	1	He	0.575	0.575	8.17	5879	8.80	4000	
Ag	107	1	He	0.000	0.000	2546.35	348	24.10	100	
Cd	111	1	He	0.003	0.003	67.75	40	25.00	3500	
Sn	118	1	He	-0.042	-0.042	-7.79	643	7.01	4000	
Sb	123	1	He	-0.022	-0.022	-1.88	326	0.59	4000	
Ba	137	1	He	0.021	0.021	42.22	233	20.00	4000	
Ce	140	1	He	0.004	0.004	42.28	634	16.06	4000	
Tl	205	1	He	0.005	0.005	19.05	732	6.60	3500	
Pb	208	1	He	0.003	0.003	23.46	1140	4.12	4000	
U	238	1	He	-0.006	-0.006	-3.25	463	3.14	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665604	0.19	683823	97.34	80	120	
Ge (IS)	72	1	He	379158	0.51	390615	97.07	80	120	
In-115 (IS)	115	1	He	3469193	1.33	3613234	96.01	80	120	
Tb-159 (IS)	159	1	He	7880582	0.91	8473761	93.00	80	120	
Bi-209 (IS)	209	1	He	5610857	0.41	6042462	92.86	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	069_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:01:44-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	48.603	1.076	10448	1.73	50	97.2	89.5	110.49	
Na	23	1	He	1207.899	0.178	5290059	1.43	1250	96.6	89.5	110.49	
Mg	24	1	He	1300.767	1.399	2836575	0.13	1250	104.1	89.5	110.49	
Al	27	1	He	64.671	0.506	68400	1.77	50	129.3	89.5	110.49	>+\-10%
K	39	1	He	1317.384	1.734	2715810	0.76	1250	105.4	89.5	110.49	
Ca	44	1	He	2536.443	0.422	260066	0.94	2500	101.5	89.5	110.49	
V	51	1	He	49.869	1.494	838397	0.61	50	99.7	89.5	110.49	
Cr	52	1	He	49.525	0.841	983317	0.69	50	99.1	89.5	110.49	
Mn	55	1	He	50.446	0.246	654305	1.11	50	100.9	89.5	110.49	
Fe	56	1	He	520.319	1.046	9197634	0.68	500	104.1	89.5	110.49	
Co	59	1	He	50.857	2.623	1528981	1.90	50	101.7	89.5	110.49	
Ni	60	1	He	49.843	1.777	381923	0.49	50	99.7	89.5	110.49	
Cu	65	1	He	49.015	1.400	501341	0.34	50	98.0	89.5	110.49	
Zn	66	1	He	51.289	0.447	195957	1.01	50	102.6	89.5	110.49	
As	75	1	He	49.620	0.331	119589	0.82	50	99.2	89.5	110.49	
Se	78	1	He	48.851	2.910	10748	2.00	50	97.7	89.5	110.49	
Sr	88	1	He	48.011	1.417	809314	0.77	50	96.0	89.5	110.49	
Mo	95	1	He	50.431	0.908	475590	0.70	50	100.9	89.5	110.49	
Ag	107	1	He	49.725	0.502	1417911	0.51	50	99.5	89.5	110.49	
Cd	111	1	He	49.641	0.978	241694	0.09	50	99.3	89.5	110.49	
Sn	118	1	He	50.177	1.291	571003	0.64	50	100.4	89.5	110.49	
Sb	123	1	He	49.916	1.037	573703	0.64	50	99.8	89.5	110.49	
Ba	137	1	He	50.189	1.481	254259	0.62	50	100.4	89.5	110.49	
Ce	140	1	He	50.984	0.269	3357011	1.15	50	102.0	89.5	110.49	
Tl	205	1	He	49.450	1.548	2846012	0.87	50	98.9	89.5	110.49	
Pb	208	1	He	49.806	0.511	3852163	0.35	50	99.6	89.5	110.49	
U	238	1	He	50.378	1.790	3863743	2.81	50	100.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	679086	1.29	683823	99.31	80	120	
Ge (IS)	72	1	He	387202	1.07	390615	99.13	80	120	
In-115 (IS)	115	1	He	3498527	1.01	3613234	96.83	80	120	
Tb-159 (IS)	159	1	He	7996336	1.18	8473761	94.37	80	120	
Bi-209 (IS)	209	1	He	5757794	0.60	6042462	95.29	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	070_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:04:11-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.040	-104.8	7	132.3	0.5	
Na	23	1	He	-111.554	-0.8	185968	1.2	110	
Mg	24	1	He	-6.807	-6.3	27642	2.8	110	
Al	27	1	He	11.250	1.6	12078	1.7	10	CCB Main CR1 Failed
K	39	1	He	-0.009	-9485.9	176293	0.8	110	
Ca	44	1	He	-27.404	-1.2	1698	2.4	110	
V	51	1	He	-0.007	-43.8	2234	2.7	2	
Cr	52	1	He	-0.001	-797.2	2648	3.8	2	
Mn	55	1	He	0.048	13.9	1171	6.7	1	
Fe	56	1	He	13.125	0.3	241572	0.3	20	
Co	59	1	He	0.012	60.6	684	31.9	1	
Ni	60	1	He	0.034	33.5	1165	7.9	2	
Cu	65	1	He	-1.043	-0.8	5067	1.5	1	
Zn	66	1	He	0.028	303.6	3918	8.1	20	
As	75	1	He	0.018	42.0	149	12.3	1	
Se	78	1	He	0.124	54.8	205	7.1	2	
Sr	88	1	He	-0.714	-0.6	833	7.7	2	
Mo	95	1	He	0.328	13.4	3587	12.5	2	
Ag	107	1	He	0.030	43.0	1188	29.4	1	
Cd	111	1	He	0.009	79.5	70	50.4	1	
Sn	118	1	He	0.064	9.0	1839	4.1	2	
Sb	123	1	He	0.197	4.3	2832	4.5	1	
Ba	137	1	He	0.024	23.9	251	11.1	1	
Ce	140	1	He	0.010	33.2	1019	19.8	1	
Tl	205	1	He	0.017	19.6	1407	13.5	1	
Pb	208	1	He	0.016	37.1	2122	21.0	1	
U	238	1	He	0.021	8.1	2510	4.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	669719	0.56	683823	97.94	80	120	
Ge (IS)	72	1	He	382351	0.43	390615	97.88	80	120	
In-115 (IS)	115	1	He	3487452	1.08	3613234	96.52	80	120	
Tb-159 (IS)	159	1	He	8009136	0.98	8473761	94.52	80	120	
Bi-209 (IS)	209	1	He	5665612	0.29	6042462	93.76	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-325847/1-a@20
Data File Name	071_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:27:51-07:00
Sample Type	MB
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-70.5	8	65.5	0.5	
Na	23	1	He	-99.774	-3.3	227449	5.0	110	
Mg	24	1	He	7.622	52.4	57342	14.4	110	
Al	27	1	He	26.302	13.0	27268	12.7	10	OUT OF RANGE
K	39	1	He	7.440	27.3	187624	1.7	110	
Ca	44	1	He	-6.777	-53.0	3692	9.3	110	
V	51	1	He	-0.016	-33.7	2047	4.3	2	
Cr	52	1	He	0.054	13.9	3659	4.4	2	
Mn	55	1	He	0.113	3.9	1973	3.4	1	
Fe	56	1	He	29.036	11.9	510867	11.5	20	OUT OF RANGE
Co	59	1	He	0.005	38.1	467	12.4	1	
Ni	60	1	He	0.003	71.9	921	1.4	2	
Cu	65	1	He	-1.094	-2.2	4495	5.9	1	
Zn	66	1	He	-0.002	-1109.9	3718	0.5	20	
As	75	1	He	0.004	64.4	114	6.1	1	
Se	78	1	He	0.004	1911.4	175	7.6	2	
Sr	88	1	He	-0.671	-0.5	1527	2.4	2	
Mo	95	1	He	0.598	8.3	6050	6.8	2	
Ag	107	1	He	-0.003	-12.6	267	3.3	1	
Cd	111	1	He	0.003	167.5	38	58.7	1	
Sn	118	1	He	2.319	1.4	27065	1.0	2	OUT OF RANGE
Sb	123	1	He	0.029	43.3	897	15.5	1	
Ba	137	1	He	0.050	15.4	378	10.7	1	
Ce	140	1	He	0.009	18.9	957	10.8	1	
Tl	205	1	He	0.002	72.8	548	11.3	1	
Pb	208	1	He	0.012	3.0	1845	3.1	1	
U	238	1	He	-0.004	-18.8	664	8.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	659829	0.64	683823	96.49	80	120	
Ge (IS)	72	1	He	373382	1.26	390615	95.59	80	120	
In-115 (IS)	115	1	He	3448597	0.83	3613234	95.44	80	120	
Tb-159 (IS)	159	1	He	8033181	1.58	8473761	94.80	80	120	
Bi-209 (IS)	209	1	He	5678359	1.60	6042462	93.97	80	120	

Sample Report

Sample Table

Sample Name	lcs 440-325847/2-a@20
Data File Name	072SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:30:25-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3102
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	105.163	105.163	0.94	21971	0.78	100	>LDR
Na	23	1	He	1002.707	1002.707	0.95	4373685	0.61	75000	
Mg	24	1	He	535.772	535.772	1.34	1160974	1.55	125000	
Al	27	1	He	113.885	113.885	1.75	116833	0.70	4000	
K	39	1	He	1108.755	1108.755	1.57	2251082	1.62	100000	
Ca	44	1	He	757.520	757.520	0.37	78614	1.65	250000	
V	51	1	He	108.148	108.148	1.48	1766124	2.18	4000	
Cr	52	1	He	107.237	107.237	2.18	2068004	2.07	4000	
Mn	55	1	He	110.705	110.705	3.57	1395734	2.67	4000	
Fe	56	1	He	118.055	118.055	1.51	2039822	0.87	40000	
Co	59	1	He	107.432	107.432	1.33	3141772	1.31	4000	
Ni	60	1	He	106.511	106.511	1.24	792899	0.62	4000	
[Cu]	63	1	He	105.142	105.142	1.60	2141799	0.29	4000	
Cu	65	1	He	105.019	105.019	1.61	1027640	0.61	4000	
Zn	66	1	He	104.341	104.341	0.37	380461	0.79	4000	
As	75	1	He	105.371	105.371	0.20	244707	0.81	4000	
Se	78	1	He	100.459	100.459	0.80	21127	1.28	4000	
Sr	88	1	He	109.194	109.194	0.93	1802559	1.30	4000	
Mo	95	1	He	107.487	107.487	1.02	1000792	0.13	4000	
Ag	107	1	He	47.172	47.172	0.82	1328846	0.98	100	
Cd	111	1	He	104.322	104.322	0.39	501784	0.86	3500	
Sn	118	1	He	109.403	109.403	0.74	1228675	0.83	4000	
Sb	123	1	He	109.092	109.092	0.92	1237979	0.31	4000	
Ba	137	1	He	106.109	106.109	1.21	530934	1.19	4000	
Ce	140	1	He	-0.001	-0.001	-71.73	334	8.06	4000	
Tl	205	1	He	104.102	104.102	1.96	5960680	1.31	3500	
Pb	208	1	He	107.644	107.644	1.75	8063479	0.46	4000	
U	238	1	He	-0.010	-0.010	-6.81	187	27.72	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660557	1.30	683823	96.60	80	120	
Ge (IS)	72	1	He	373271	0.72	390615	95.56	80	120	
In-115 (IS)	115	1	He	3456229	1.16	3613234	95.65	80	120	
Tb-159 (IS)	159	1	He	7955813	0.69	8473761	93.89	80	120	
Bi-209 (IS)	209	1	He	5578035	1.31	6042462	92.31	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-a@20
Data File Name	073SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:32:47-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3103
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.097	1.097	13.63	254	13.12	100	
Na	23	1	He	2843.184	2843.184	0.13	11771575	1.03	75000	
Mg	24	1	He	7725.613	7725.613	1.39	16865112	0.81	125000	
Al	27	1	He	22325.551	22325.551	0.76	23788555	1.36	4000	>LDR
K	39	1	He	5148.250	5148.250	1.34	10232118	0.66	100000	
Ca	44	1	He	9839.079	9839.079	0.91	1009521	0.15	250000	
V	51	1	He	89.665	89.665	1.67	1526343	1.92	4000	
Cr	52	1	He	18.078	18.078	0.31	365606	1.01	4000	
Mn	55	1	He	534.450	534.450	0.68	7021345	0.71	4000	
Fe	56	1	He	32703.389	32703.389	1.38	585173826	0.50	40000	
Co	59	1	He	10.945	10.945	1.13	333853	0.68	4000	
Ni	60	1	He	13.604	13.604	1.28	106355	0.32	4000	
[Cu]	63	1	He	121.657	121.657	1.67	2577406	1.28	4000	
Cu	65	1	He	121.909	121.909	0.69	1240748	0.45	4000	
Zn	66	1	He	75.026	75.026	0.69	274120	0.67	4000	
As	75	1	He	35.577	35.577	1.64	82536	0.99	4000	
Se	78	1	He	1.325	1.325	7.17	450	5.15	4000	
Sr	88	1	He	177.118	177.118	0.64	2793854	0.84	4000	
Mo	95	1	He	3.953	3.953	2.60	35726	1.97	4000	
Ag	107	1	He	0.133	0.133	4.48	3929	4.73	100	
Cd	111	1	He	0.275	0.275	9.72	1290	9.86	3500	
Sn	118	1	He	2.543	2.543	0.48	28402	1.08	4000	
Sb	123	1	He	0.641	0.641	1.27	7521	1.06	4000	
Ba	137	1	He	196.519	196.519	1.26	941980	0.64	4000	
Ce	140	1	He	57.654	57.654	2.25	3592653	1.65	4000	
Tl	205	1	He	0.383	0.383	0.20	22118	0.79	3500	
Pb	208	1	He	10.465	10.465	1.32	776712	0.21	4000	
U	238	1	He	6.185	6.185	1.03	466766	0.38	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	688388	1.05	683823	100.67	80	120	
Ge (IS)	72	1	He	372606	0.91	390615	95.39	80	120	
In-115 (IS)	115	1	He	3311345	0.63	3613234	91.64	80	120	
Tb-159 (IS)	159	1	He	7856216	0.71	8473761	92.71	80	120	
Bi-209 (IS)	209	1	He	5520570	1.11	6042462	91.36	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-b ms@20
Data File Name	074SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:35:12-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3104
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	93.900	93.900	2.73	20750	2.79	100	>LDR
Na	23	1	He	3903.582	3903.582	1.43	16161969	0.72	75000	
Mg	24	1	He	8496.338	8496.338	1.51	18817492	0.81	125000	
Al	27	1	He	25674.899	25674.899	0.89	27760335	0.26	4000	>LDR
K	39	1	He	6529.795	6529.795	0.40	13121373	0.75	100000	
Ca	44	1	He	12375.819	12375.819	1.01	1287410	0.66	250000	
V	51	1	He	188.235	188.235	0.79	3248822	0.23	4000	
Cr	52	1	He	112.778	112.778	0.68	2299980	0.78	4000	
Mn	55	1	He	637.873	637.873	0.70	8504254	1.26	4000	
Fe	56	1	He	35349.168	35349.168	1.26	641883512	0.57	40000	
Co	59	1	He	106.382	106.382	1.14	3290164	1.03	4000	
Ni	60	1	He	106.581	106.581	1.05	839106	0.44	4000	
[Cu]	63	1	He	220.992	220.992	2.06	4722641	1.38	4000	
Cu	65	1	He	228.680	228.680	0.18	2347995	0.77	4000	
Zn	66	1	He	174.450	174.450	0.88	632303	0.30	4000	
As	75	1	He	137.871	137.871	0.90	319493	0.22	4000	
Se	78	1	He	96.147	96.147	1.56	20185	0.62	4000	
Sr	88	1	He	275.282	275.282	1.11	4329168	0.82	4000	
Mo	95	1	He	109.756	109.756	0.70	977693	0.35	4000	
Ag	107	1	He	53.600	53.600	0.71	1444486	0.45	100	
Cd	111	1	He	102.029	102.029	0.68	469493	0.29	3500	
Sn	118	1	He	109.351	109.351	0.84	1174907	0.66	4000	
Sb	123	1	He	94.509	94.509	0.37	1026155	0.31	4000	
Ba	137	1	He	289.993	289.993	0.80	1387979	0.52	4000	
Ce	140	1	He	67.014	67.014	0.90	4170029	0.60	4000	
Tl	205	1	He	99.038	99.038	0.46	5635840	1.04	3500	
Pb	208	1	He	113.983	113.983	0.88	8420422	1.11	4000	
U	238	1	He	7.078	7.078	0.91	537426	0.82	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	698561	0.71	683823	102.16	80	120	
Ge (IS)	72	1	He	372528	1.03	390615	95.37	80	120	
In-115 (IS)	115	1	He	3306478	0.44	3613234	91.51	80	120	
Tb-159 (IS)	159	1	He	7906300	1.22	8473761	93.30	80	120	
Bi-209 (IS)	209	1	He	5500333	1.09	6042462	91.03	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-c msd@20
Data File Name	075SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:37:30-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3105
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	96.766	96.766	2.03	21213	2.00	100	>LDR
Na	23	1	He	3885.837	3885.837	0.41	15964399	0.46	75000	
Mg	24	1	He	9210.039	9210.039	0.23	20233699	0.29	125000	
Al	27	1	He	26570.834	26570.834	0.75	28501670	0.78	4000	>LDR
K	39	1	He	6610.344	6610.344	1.27	13175423	1.31	100000	
Ca	44	1	He	11675.719	11675.719	1.35	1205219	1.32	250000	
V	51	1	He	225.953	225.953	0.65	3868441	0.62	4000	
Cr	52	1	He	116.508	116.508	1.44	2357097	1.42	4000	
Mn	55	1	He	695.110	695.110	1.32	9193401	1.33	4000	
Fe	56	1	He	37732.037	37732.037	1.18	679742622	1.22	40000	>LDR
Co	59	1	He	108.074	108.074	0.96	3315995	1.01	4000	
Ni	60	1	He	108.667	108.667	0.26	848745	0.26	4000	
[Cu]	63	1	He	217.849	217.849	0.36	4619357	0.38	4000	
Cu	65	1	He	224.689	224.689	0.15	2288935	0.13	4000	
Zn	66	1	He	177.330	177.330	0.62	641224	0.99	4000	
As	75	1	He	182.719	182.719	0.63	422417	0.35	4000	
Se	78	1	He	95.418	95.418	0.17	19989	0.54	4000	
Sr	88	1	He	281.566	281.566	2.24	4418911	1.33	4000	
Mo	95	1	He	108.975	108.975	0.96	968876	0.22	4000	
Ag	107	1	He	53.899	53.899	0.90	1449776	0.51	100	
Cd	111	1	He	102.229	102.229	0.59	469530	0.70	3500	
Sn	118	1	He	107.932	107.932	1.73	1157410	1.02	4000	
Sb	123	1	He	97.311	97.311	1.97	1054458	1.04	4000	
Ba	137	1	He	322.732	322.732	1.78	1541619	0.81	4000	
Ce	140	1	He	67.852	67.852	1.82	4213830	0.84	4000	
Tl	205	1	He	98.481	98.481	1.15	5642627	0.67	3500	
Pb	208	1	He	115.146	115.146	1.07	8452291	0.72	4000	
U	238	1	He	7.361	7.361	0.79	562771	1.13	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693004	0.06	683823	101.34	80	120	
Ge (IS)	72	1	He	371658	0.37	390615	95.15	80	120	
In-115 (IS)	115	1	He	3300288	0.98	3613234	91.34	80	120	
Tb-159 (IS)	159	1	He	7960814	0.79	8473761	93.95	80	120	
Bi-209 (IS)	209	1	He	5465858	1.65	6042462	90.46	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-a@20
Data File Name	076SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:39:49-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3106
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	93.403	93.403	3.10	20218	2.87	100	>LDR
Na	23	1	He	5149.943	5149.943	0.10	20689221	0.51	75000	
Mg	24	1	He	10078.807	10078.807	0.96	21859913	0.53	125000	
Al	27	1	He	22223.008	22223.008	0.23	23538882	0.40	4000	>LDR
K	39	1	He	7544.924	7544.924	1.37	14823456	0.94	100000	
Ca	44	1	He	14921.396	14921.396	1.42	1519620	1.00	250000	
V	51	1	He	180.615	180.615	0.89	3053997	1.29	4000	
Cr	52	1	He	109.138	109.138	0.69	2180430	0.47	4000	
Mn	55	1	He	629.459	629.459	1.20	8220471	0.81	4000	
Fe	56	1	He	33780.348	33780.348	1.29	600899141	0.91	40000	
Co	59	1	He	103.846	103.846	0.58	3146251	0.32	4000	
Ni	60	1	He	102.307	102.307	0.11	789104	0.32	4000	
[Cu]	63	1	He	206.242	206.242	0.68	4320163	0.57	4000	
Cu	65	1	He	213.546	213.546	0.66	2148917	0.85	4000	
Zn	66	1	He	165.521	165.521	0.53	597911	0.31	4000	
As	75	1	He	131.055	131.055	1.20	302574	0.76	4000	
Se	78	1	He	91.382	91.382	0.42	19124	0.81	4000	
Sr	88	1	He	275.233	275.233	0.90	4351072	0.52	4000	
Mo	95	1	He	101.902	101.902	0.72	912518	0.44	4000	
Ag	107	1	He	98.064	98.064	1.25	2656305	0.87	100	>LDR
Cd	111	1	He	95.430	95.430	0.17	441435	0.31	3500	
Sn	118	1	He	101.962	101.962	0.46	1101331	0.29	4000	
Sb	123	1	He	100.680	100.680	0.31	1098848	0.29	4000	
Ba	137	1	He	294.201	294.201	0.34	1415513	0.36	4000	
Ce	140	1	He	153.452	153.452	0.31	9598390	0.34	4000	
Tl	205	1	He	91.554	91.554	1.67	5272608	1.43	3500	
Pb	208	1	He	107.073	107.073	0.64	7873720	1.31	4000	
U	238	1	He	99.103	99.103	0.55	7603822	0.59	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684312	0.43	683823	100.07	80	120	
Ge (IS)	72	1	He	371134	0.44	390615	95.01	80	120	
In-115 (IS)	115	1	He	3323791	0.38	3613234	91.99	80	120	
Tb-159 (IS)	159	1	He	8001422	0.25	8473761	94.43	80	120	
Bi-209 (IS)	209	1	He	5474815	0.78	6042462	90.61	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-2-a PDS@20
Data File Name	077SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:42:06-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.005	1.005	22.56	237	21.27	100	
Na	23	1	He	4327.826	4327.826	1.66	17765543	1.67	75000	
Mg	24	1	He	8706.295	8706.295	0.62	19190973	0.42	125000	
Al	27	1	He	24333.967	24333.967	0.92	26186808	1.09	4000	>LDR
K	39	1	He	6253.631	6253.631	1.90	12514287	1.75	100000	
Ca	44	1	He	13327.198	13327.198	0.58	1379491	0.68	250000	
V	51	1	He	76.199	76.199	1.55	1310418	1.69	4000	
Cr	52	1	He	18.665	18.665	0.12	381160	0.15	4000	
Mn	55	1	He	578.460	578.460	0.86	7675316	0.67	4000	
Fe	56	1	He	28966.399	28966.399	0.87	523511784	0.73	40000	
Co	59	1	He	10.006	10.006	1.55	308299	1.34	4000	
Ni	60	1	He	13.207	13.207	1.15	104316	1.05	4000	
[Cu]	63	1	He	46.006	46.006	0.96	1005935	0.74	4000	
Cu	65	1	He	46.805	46.805	0.20	490892	0.35	4000	
Zn	66	1	He	68.537	68.537	1.25	251408	0.77	4000	
As	75	1	He	23.314	23.314	1.03	54272	0.16	4000	
Se	78	1	He	1.462	1.462	9.88	479	6.32	4000	
Sr	88	1	He	163.252	163.252	0.98	2598754	0.78	4000	
Mo	95	1	He	4.184	4.184	1.21	38126	1.14	4000	
Ag	107	1	He	0.174	0.174	6.60	5066	6.36	100	
Cd	111	1	He	0.230	0.230	15.70	1094	15.23	3500	
Sn	118	1	He	2.280	2.280	2.28	25793	2.02	4000	
Sb	123	1	He	0.744	0.744	2.30	8716	1.97	4000	
Ba	137	1	He	187.253	187.253	0.49	905530	0.36	4000	
Ce	140	1	He	59.247	59.247	0.97	3724806	1.02	4000	
Tl	205	1	He	0.335	0.335	2.43	19694	1.50	3500	
Pb	208	1	He	10.946	10.946	0.19	808699	0.53	4000	
U	238	1	He	3.331	3.331	1.06	256131	1.49	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	695241	0.21	683823	101.67	80	120	
Ge (IS)	72	1	He	373630	1.13	390615	95.65	80	120	
In-115 (IS)	115	1	He	3340544	0.20	3613234	92.45	80	120	
Tb-159 (IS)	159	1	He	7989922	1.10	8473761	94.29	80	120	
Bi-209 (IS)	209	1	He	5495402	0.65	6042462	90.95	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	078SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:44:31-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.009	0.009	349.28	17	39.99	100	
Na	23	1	He	-125.535	-125.535	-0.47	128933	1.37	75000	
Mg	24	1	He	-11.620	-11.620	-7.31	16954	10.00	125000	
Al	27	1	He	14.887	14.887	16.85	15398	16.06	4000	
K	39	1	He	-8.478	-8.478	-7.92	155697	0.42	100000	
Ca	44	1	He	-24.014	-24.014	-8.00	1977	8.91	250000	
V	51	1	He	0.049	0.049	6.02	3071	1.73	4000	
Cr	52	1	He	0.027	0.027	37.87	3106	6.18	4000	
Mn	55	1	He	0.380	0.380	20.61	5257	18.22	4000	
Fe	56	1	He	22.245	22.245	13.15	388992	12.44	40000	
Co	59	1	He	0.032	0.032	15.16	1229	10.77	4000	
Ni	60	1	He	0.066	0.066	19.12	1370	7.13	4000	
[Cu]	63	1	He	-1.142	-1.142	-0.99	9783	2.49	4000	
Cu	65	1	He	-1.069	-1.069	-2.88	4677	6.68	4000	
Zn	66	1	He	0.570	0.570	17.91	5715	5.79	4000	
As	75	1	He	0.038	0.038	7.80	190	3.03	4000	
Se	78	1	He	0.060	0.060	78.81	184	5.16	4000	
Sr	88	1	He	-0.617	-0.617	-3.22	2372	13.51	4000	
Mo	95	1	He	0.039	0.039	57.01	852	23.78	4000	
Ag	107	1	He	0.018	0.018	16.25	836	9.81	100	
Cd	111	1	He	0.017	0.017	34.40	104	26.58	3500	
Sn	118	1	He	0.047	0.047	12.45	1612	3.73	4000	
Sb	123	1	He	0.001	0.001	538.84	581	15.20	4000	
Ba	137	1	He	0.132	0.132	14.78	779	12.36	4000	
Ce	140	1	He	0.039	0.039	12.99	2881	11.43	4000	
Tl	205	1	He	0.033	0.033	8.12	2367	7.30	3500	
Pb	208	1	He	0.035	0.035	8.25	3632	6.49	4000	
U	238	1	He	0.008	0.008	3.18	1535	1.74	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650875	0.70	683823	95.18	80	120	
Ge (IS)	72	1	He	369199	0.88	390615	94.52	80	120	
In-115 (IS)	115	1	He	3402229	0.31	3613234	94.16	80	120	
Tb-159 (IS)	159	1	He	7972540	0.85	8473761	94.09	80	120	
Bi-209 (IS)	209	1	He	5686495	0.43	6042462	94.11	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	079SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:47:04-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.043	0.043	166.44	23	62.27	100	
Na	23	1	He	-126.354	-126.354	-0.07	124589	0.44	75000	
Mg	24	1	He	-14.331	-14.331	-1.38	11256	3.37	125000	
Al	27	1	He	7.831	7.831	5.60	8206	5.11	4000	
K	39	1	He	-8.759	-8.759	-10.71	153566	1.34	100000	
Ca	44	1	He	-28.092	-28.092	-5.93	1567	9.97	250000	
V	51	1	He	0.032	0.032	30.43	2761	5.43	4000	
Cr	52	1	He	0.016	0.016	41.16	2854	4.09	4000	
Mn	55	1	He	0.198	0.198	10.13	2970	8.11	4000	
Fe	56	1	He	12.489	12.489	4.81	221658	4.33	40000	
Co	59	1	He	0.028	0.028	5.86	1110	4.17	4000	
Ni	60	1	He	0.057	0.057	8.21	1291	2.59	4000	
[Cu]	63	1	He	-1.173	-1.173	-0.77	9078	2.16	4000	
Cu	65	1	He	-1.091	-1.091	-2.14	4419	4.82	4000	
Zn	66	1	He	0.451	0.451	16.82	5286	5.64	4000	
As	75	1	He	0.030	0.030	24.29	173	10.20	4000	
Se	78	1	He	0.024	0.024	307.03	177	8.65	4000	
Sr	88	1	He	-0.660	-0.660	-0.14	1686	0.30	4000	
Mo	95	1	He	0.024	0.024	71.64	713	22.91	4000	
Ag	107	1	He	0.011	0.011	14.33	641	6.03	100	
Cd	111	1	He	0.023	0.023	42.18	131	34.70	3500	
Sn	118	1	He	0.007	0.007	102.08	1166	7.55	4000	
Sb	123	1	He	-0.009	-0.009	-18.99	467	2.86	4000	
Ba	137	1	He	0.083	0.083	16.07	532	11.42	4000	
Ce	140	1	He	0.021	0.021	15.87	1709	11.37	4000	
Tl	205	1	He	0.026	0.026	4.20	1928	3.87	3500	
Pb	208	1	He	0.024	0.024	6.00	2779	4.84	4000	
U	238	1	He	0.000	0.000	-878.27	916	11.78	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	644078	0.22	683823	94.19	80	120	
Ge (IS)	72	1	He	368573	0.54	390615	94.36	80	120	
In-115 (IS)	115	1	He	3392653	1.11	3613234	93.90	80	120	
Tb-159 (IS)	159	1	He	7958096	0.79	8473761	93.91	80	120	
Bi-209 (IS)	209	1	He	5654573	1.10	6042462	93.58	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	080_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:49:38-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.801	1.424	10451	1.99	50	99.6	89.5	110.49	
Na	23	1	He	1171.983	1.957	5028008	1.35	1250	93.8	89.5	110.49	
Mg	24	1	He	1266.588	1.162	2697437	0.43	1250	101.3	89.5	110.49	
Al	27	1	He	55.228	2.801	57071	2.13	50	110.5	89.5	110.49	
K	39	1	He	1287.947	1.527	2595839	0.61	1250	103.0	89.5	110.49	
Ca	44	1	He	2508.273	1.044	251088	0.19	2500	100.3	89.5	110.49	
V	51	1	He	49.500	0.410	812440	0.57	50	99.0	89.5	110.49	
Cr	52	1	He	48.953	0.353	948867	0.88	50	97.9	89.5	110.49	
Mn	55	1	He	50.131	0.495	634712	0.39	50	100.3	89.5	110.49	
Fe	56	1	He	510.582	0.663	8811083	0.78	500	102.1	89.5	110.49	
Co	59	1	He	49.853	1.088	1463386	1.84	50	99.7	89.5	110.49	
Ni	60	1	He	49.990	1.585	373941	0.82	50	100.0	89.5	110.49	
Cu	65	1	He	48.721	0.677	486586	0.92	50	97.4	89.5	110.49	
Zn	66	1	He	51.731	0.699	191318	0.40	50	103.5	89.5	110.49	
As	75	1	He	49.607	0.317	115753	0.64	50	99.2	89.5	110.49	
Se	78	1	He	48.483	1.529	10330	1.51	50	97.0	89.5	110.49	
Sr	88	1	He	47.695	1.278	788496	0.22	50	95.4	89.5	110.49	
Mo	95	1	He	50.525	1.711	467216	0.71	50	101.1	89.5	110.49	
Ag	107	1	He	49.976	1.269	1397399	0.20	50	100.0	89.5	110.49	
Cd	111	1	He	49.998	0.617	238730	0.87	50	100.0	89.5	110.49	
Sn	118	1	He	50.154	1.231	559697	0.67	50	100.3	89.5	110.49	
Sb	123	1	He	50.223	0.638	566075	0.93	50	100.4	89.5	110.49	
Ba	137	1	He	50.216	1.762	249463	0.61	50	100.4	89.5	110.49	
Ce	140	1	He	51.168	1.969	3303342	0.77	50	102.3	89.5	110.49	
Tl	205	1	He	49.245	0.569	2874328	0.56	50	98.5	89.5	110.49	
Pb	208	1	He	49.540	0.737	3839335	0.39	50	99.1	89.5	110.49	
U	238	1	He	49.320	1.128	3835460	1.46	50	98.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	662895	0.85	683823	96.94	80	120	
Ge (IS)	72	1	He	374876	0.91	390615	95.97	80	120	
In-115 (IS)	115	1	He	3430916	1.46	3613234	94.95	80	120	
Tb-159 (IS)	159	1	He	8108954	1.13	8473761	95.69	80	120	
Bi-209 (IS)	209	1	He	5769593	1.06	6042462	95.48	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	081_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:52:04-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.079	63.4	31	32.7	0.5	
Na	23	1	He	-128.422	-0.1	119015	0.5	110	
Mg	24	1	He	-15.961	-1.5	8073	6.4	110	
Al	27	1	He	3.818	3.5	4279	3.7	10	
K	39	1	He	-11.790	-9.1	150565	0.8	110	
Ca	44	1	He	-34.235	-0.4	997	0.9	110	
V	51	1	He	0.008	74.8	2414	4.6	2	
Cr	52	1	He	0.012	50.0	2832	4.2	2	
Mn	55	1	He	0.124	11.2	2100	8.8	1	
Fe	56	1	He	6.251	1.2	119240	1.1	20	
Co	59	1	He	0.026	11.4	1072	8.8	1	
Ni	60	1	He	0.043	12.5	1206	4.0	2	
Cu	65	1	He	-1.144	-2.0	3987	5.6	1	
Zn	66	1	He	0.082	72.8	4034	5.2	20	
As	75	1	He	0.029	43.1	171	16.8	1	
Se	78	1	He	0.007	643.6	176	5.1	2	
Sr	88	1	He	-0.694	-0.9	1153	9.3	2	
Mo	95	1	He	0.059	5.8	1052	3.4	2	
Ag	107	1	He	0.031	45.8	1220	32.9	1	
Cd	111	1	He	0.014	61.4	90	44.9	1	
Sn	118	1	He	0.118	11.3	2420	6.2	2	
Sb	123	1	He	0.225	12.2	3117	10.4	1	
Ba	137	1	He	0.065	19.7	450	14.3	1	
Ce	140	1	He	0.017	31.3	1486	23.6	1	
Tl	205	1	He	0.034	15.0	2408	11.7	1	
Pb	208	1	He	0.030	25.0	3274	17.8	1	
U	238	1	He	0.026	10.7	2899	6.7	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655167	0.81	683823	95.81	80	120	
Ge (IS)	72	1	He	374674	0.21	390615	95.92	80	120	
In-115 (IS)	115	1	He	3445594	0.61	3613234	95.36	80	120	
Tb-159 (IS)	159	1	He	7925225	0.59	8473761	93.53	80	120	
Bi-209 (IS)	209	1	He	5711591	0.21	6042462	94.52	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-2-a@20
Data File Name	082SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:54:38-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3108
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.200	0.200	61.06	57	44.41	100	
Na	23	1	He	831.122	831.122	1.68	3733491	0.97	75000	
Mg	24	1	He	1838.717	1838.717	1.40	3888868	1.71	125000	
Al	27	1	He	5124.164	5124.164	0.28	5246552	0.80	4000	>LDR
K	39	1	He	1334.829	1334.829	1.57	2678337	1.69	100000	
Ca	44	1	He	2732.565	2732.565	0.62	272561	0.39	250000	
V	51	1	He	16.044	16.044	0.25	264317	0.85	4000	
Cr	52	1	He	4.408	4.408	0.97	87651	0.14	4000	
Mn	55	1	He	127.764	127.764	1.07	1613200	0.30	4000	
Fe	56	1	He	6194.627	6194.627	0.72	106521269	0.24	40000	
Co	59	1	He	2.191	2.191	1.74	64474	0.88	4000	
Ni	60	1	He	2.865	2.865	1.69	22238	2.35	4000	
[Cu]	63	1	He	9.086	9.086	0.53	215385	0.42	4000	
Cu	65	1	He	9.245	9.245	0.15	104344	0.82	4000	
Zn	66	1	He	14.189	14.189	0.59	55070	0.60	4000	
As	75	1	He	4.733	4.733	1.06	11114	0.69	4000	
Se	78	1	He	0.150	0.150	45.37	206	6.90	4000	
Sr	88	1	He	30.590	30.590	0.45	511332	0.52	4000	
Mo	95	1	He	1.135	1.135	2.39	11010	2.56	4000	
Ag	107	1	He	0.023	0.023	12.42	981	7.82	100	
Cd	111	1	He	0.049	0.049	8.52	258	7.90	3500	
Sn	118	1	He	0.511	0.511	4.86	6809	4.07	4000	
Sb	123	1	He	0.190	0.190	8.57	2719	6.71	4000	
Ba	137	1	He	37.368	37.368	0.38	186092	0.18	4000	
Ce	140	1	He	11.518	11.518	0.50	745569	0.49	4000	
Tl	205	1	He	0.062	0.062	2.24	4011	3.40	3500	
Pb	208	1	He	2.193	2.193	0.31	169228	0.34	4000	
U	238	1	He	0.666	0.666	1.39	52007	0.50	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661450	0.87	683823	96.73	80	120	
Ge (IS)	72	1	He	374073	1.15	390615	95.77	80	120	
In-115 (IS)	115	1	He	3438231	0.28	3613234	95.16	80	120	
Tb-159 (IS)	159	1	He	8001286	1.77	8473761	94.42	80	120	
Bi-209 (IS)	209	1	He	5714421	0.28	6042462	94.57	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-3-a SD@100
Data File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:57:07-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3109
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.899	0.899	17.44	217	15.61	100	
Na	23	1	He	1457.052	1457.052	1.09	6505864	0.92	75000	
Mg	24	1	He	8221.215	8221.215	0.89	18418369	1.01	125000	
Al	27	1	He	24816.536	24816.536	1.32	27139483	1.54	4000	>LDR
K	39	1	He	5798.231	5798.231	1.64	11805359	1.95	100000	
Ca	44	1	He	10674.628	10674.628	1.03	1123800	1.38	250000	
V	51	1	He	94.983	94.983	2.82	1659189	2.46	4000	
Cr	52	1	He	22.331	22.331	1.05	462876	1.34	4000	
Mn	55	1	He	606.982	606.982	1.20	8184136	0.61	4000	
Fe	56	1	He	35241.203	35241.203	1.62	647215192	1.06	40000	
Co	59	1	He	10.976	10.976	0.74	343621	0.64	4000	
Ni	60	1	He	15.291	15.291	1.30	122584	1.13	4000	
[Cu]	63	1	He	46.289	46.289	0.99	1028345	1.19	4000	
Cu	65	1	He	46.750	46.750	1.23	498271	0.96	4000	
Zn	66	1	He	72.474	72.474	0.59	269529	0.86	4000	
As	75	1	He	16.107	16.107	0.61	38078	0.99	4000	
Se	78	1	He	1.195	1.195	7.86	430	4.73	4000	
Sr	88	1	He	167.898	167.898	1.23	2681226	0.23	4000	
Mo	95	1	He	2.198	2.198	1.60	20327	1.52	4000	
Ag	107	1	He	0.125	0.125	3.13	3762	4.10	100	
Cd	111	1	He	0.217	0.217	7.74	1034	7.76	3500	
Sn	118	1	He	2.341	2.341	1.24	26552	2.17	4000	
Sb	123	1	He	0.850	0.850	2.62	9901	1.70	4000	
Ba	137	1	He	208.996	208.996	2.31	1013913	1.00	4000	
Ce	140	1	He	63.231	63.231	2.40	3988028	1.29	4000	
Tl	205	1	He	0.316	0.316	1.49	18831	0.83	3500	
Pb	208	1	He	11.203	11.203	1.23	844972	0.88	4000	
U	238	1	He	4.628	4.628	1.46	359564	0.25	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	706524	0.61	683823	103.32	80	120	
Ge (IS)	72	1	He	379072	0.38	390615	97.04	80	120	
In-115 (IS)	115	1	He	3351929	1.29	3613234	92.77	80	120	
Tb-159 (IS)	159	1	He	8082637	1.21	8473761	95.38	80	120	
Bi-209 (IS)	209	1	He	5610555	1.25	6042462	92.85	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-4-a@20
Data File Name	084SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:59:33-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3110
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.824	0.824	18.65	201	17.41	100	
Na	23	1	He	1743.974	1743.974	0.48	7698175	0.70	75000	
Mg	24	1	He	7727.019	7727.019	0.21	17399773	0.16	125000	
Al	27	1	He	24289.956	24289.956	0.69	26694780	0.38	4000	>LDR
K	39	1	He	4164.103	4164.103	0.91	8572575	0.60	100000	
Ca	44	1	He	9042.592	9042.592	0.65	957405	0.68	250000	
V	51	1	He	109.460	109.460	1.17	1921386	1.52	4000	
Cr	52	1	He	26.807	26.807	0.53	557831	0.26	4000	
Mn	55	1	He	583.090	583.090	1.03	7901410	1.09	4000	
Fe	56	1	He	39315.407	39315.407	1.37	725644113	1.05	40000	>LDR
Co	59	1	He	11.972	11.972	1.23	376652	0.94	4000	
Ni	60	1	He	16.288	16.288	0.41	131163	0.56	4000	
[Cu]	63	1	He	42.581	42.581	0.53	953488	0.73	4000	
Cu	65	1	He	43.057	43.057	0.25	462481	0.12	4000	
Zn	66	1	He	73.940	73.940	0.36	275184	0.38	4000	
As	75	1	He	13.245	13.245	0.12	31363	0.18	4000	
Se	78	1	He	1.332	1.332	4.98	459	3.13	4000	
Sr	88	1	He	157.585	157.585	2.03	2570727	0.87	4000	
Mo	95	1	He	2.141	2.141	4.67	20224	3.30	4000	
Ag	107	1	He	0.109	0.109	4.88	3390	5.22	100	
Cd	111	1	He	0.161	0.161	4.29	792	4.09	3500	
Sn	118	1	He	2.128	2.128	1.22	24751	1.33	4000	
Sb	123	1	He	0.785	0.785	4.41	9388	3.86	4000	
Ba	137	1	He	205.891	205.891	0.82	1020254	0.52	4000	
Ce	140	1	He	69.959	69.959	0.18	4507209	1.44	4000	
Tl	205	1	He	0.296	0.296	3.32	17670	2.57	3500	
Pb	208	1	He	11.112	11.112	1.05	834222	0.22	4000	
U	238	1	He	5.350	5.350	0.61	415006	0.14	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710030	0.35	683823	103.83	80	120	
Ge (IS)	72	1	He	379462	0.30	390615	97.14	80	120	
In-115 (IS)	115	1	He	3423311	1.31	3613234	94.74	80	120	
Tb-159 (IS)	159	1	He	8071669	0.68	8473761	95.25	80	120	
Bi-209 (IS)	209	1	He	5584192	1.01	6042462	92.42	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-5-a@20
Data File Name	085SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:01:59-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3111
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.828	0.828	29.40	200	27.44	100	
Na	23	1	He	3416.733	3416.733	1.19	14320151	1.35	75000	
Mg	24	1	He	8189.588	8189.588	1.06	18259998	1.16	125000	
Al	27	1	He	25128.879	25128.879	0.84	27348643	0.43	4000	>LDR
K	39	1	He	4815.380	4815.380	0.37	9788499	0.74	100000	
Ca	44	1	He	10993.634	10993.634	0.24	1151694	0.65	250000	
V	51	1	He	88.987	88.987	0.66	1547274	0.54	4000	
Cr	52	1	He	21.667	21.667	0.92	447050	1.15	4000	
Mn	55	1	He	740.721	740.721	1.01	9940210	1.43	4000	
Fe	56	1	He	33023.134	33023.134	1.17	603612172	1.17	40000	
Co	59	1	He	11.750	11.750	0.40	366098	0.81	4000	
Ni	60	1	He	15.885	15.885	0.86	126704	1.15	4000	
[Cu]	63	1	He	40.090	40.090	0.47	891037	0.24	4000	
Cu	65	1	He	40.504	40.504	0.61	431794	1.00	4000	
Zn	66	1	He	70.597	70.597	0.88	261810	1.75	4000	
As	75	1	He	18.850	18.850	0.11	44400	1.00	4000	
Se	78	1	He	1.853	1.853	5.38	567	4.23	4000	
Sr	88	1	He	177.932	177.932	1.45	2837991	0.60	4000	
Mo	95	1	He	3.950	3.950	3.52	36095	2.47	4000	
Ag	107	1	He	0.110	0.110	7.99	3341	6.59	100	
Cd	111	1	He	0.159	0.159	11.02	766	9.63	3500	
Sn	118	1	He	2.037	2.037	3.80	23213	2.60	4000	
Sb	123	1	He	0.855	0.855	2.33	9956	1.38	4000	
Ba	137	1	He	239.395	239.395	1.08	1160376	0.17	4000	
Ce	140	1	He	137.354	137.354	1.68	8654884	0.94	4000	
Tl	205	1	He	0.305	0.305	0.52	18354	1.93	3500	
Pb	208	1	He	11.220	11.220	1.36	834771	0.24	4000	
U	238	1	He	5.638	5.638	1.99	441061	1.07	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	703143	0.42	683823	102.83	80	120	
Ge (IS)	72	1	He	377858	1.10	390615	96.73	80	120	
In-115 (IS)	115	1	He	3348651	1.03	3613234	92.68	80	120	
Tb-159 (IS)	159	1	He	8143187	1.43	8473761	96.10	80	120	
Bi-209 (IS)	209	1	He	5534718	1.41	6042462	91.60	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-6-a@20
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:04:24-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3112
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.982	0.982	4.30	237	5.08	100	
Na	23	1	He	4694.059	4694.059	1.40	19639398	1.86	75000	
Mg	24	1	He	8720.807	8720.807	1.22	19645580	0.39	125000	
Al	27	1	He	27566.662	27566.662	1.91	30319163	2.02	4000	>LDR
K	39	1	He	4878.148	4878.148	1.33	10017664	0.64	100000	
Ca	44	1	He	11001.527	11001.527	0.99	1164636	0.61	250000	
V	51	1	He	100.218	100.218	0.99	1760720	1.62	4000	
Cr	52	1	He	24.563	24.563	0.61	511747	0.80	4000	
Mn	55	1	He	1066.105	1066.105	0.65	14457705	1.47	4000	
Fe	56	1	He	35593.421	35593.421	0.68	657490907	1.47	40000	
Co	59	1	He	13.907	13.907	0.62	437808	0.72	4000	
Ni	60	1	He	17.632	17.632	0.57	142020	1.42	4000	
[Cu]	63	1	He	42.116	42.116	0.68	944161	0.71	4000	
Cu	65	1	He	43.108	43.108	0.40	463367	1.13	4000	
Zn	66	1	He	74.400	74.400	0.13	273368	0.95	4000	
As	75	1	He	28.573	28.573	0.55	66677	0.84	4000	
Se	78	1	He	1.379	1.379	6.24	463	4.62	4000	
Sr	88	1	He	179.194	179.194	0.35	2858783	0.72	4000	
Mo	95	1	He	7.068	7.068	2.24	64221	1.54	4000	
Ag	107	1	He	0.131	0.131	3.43	3917	2.98	100	
Cd	111	1	He	0.151	0.151	6.29	728	6.63	3500	
Sn	118	1	He	2.199	2.199	1.52	24988	0.63	4000	
Sb	123	1	He	0.701	0.701	1.98	8258	1.78	4000	
Ba	137	1	He	316.658	316.658	1.26	1535118	0.40	4000	
Ce	140	1	He	67.935	67.935	0.48	4282006	0.74	4000	
Tl	205	1	He	0.336	0.336	1.36	19712	1.42	3500	
Pb	208	1	He	11.936	11.936	1.06	892355	0.39	4000	
U	238	1	He	6.167	6.167	1.01	472576	0.99	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710587	1.17	683823	103.91	80	120	
Ge (IS)	72	1	He	374661	1.00	390615	95.92	80	120	
In-115 (IS)	115	1	He	3349250	0.86	3613234	92.69	80	120	
Tb-159 (IS)	159	1	He	7976671	0.74	8473761	94.13	80	120	
Bi-209 (IS)	209	1	He	5561818	1.16	6042462	92.05	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-7-a@20
Data File Name	087SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:06:49-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3201
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.123	1.123	7.98	268	6.39	100	
Na	23	1	He	2596.496	2596.496	1.26	11131793	0.74	75000	
Mg	24	1	He	9470.657	9470.657	1.02	21292534	1.00	125000	
Al	27	1	He	27439.756	27439.756	1.43	30122495	1.05	4000	>LDR
K	39	1	He	4761.168	4761.168	0.53	9764323	0.57	100000	
Ca	44	1	He	13521.219	13521.219	0.99	1427646	0.22	250000	
V	51	1	He	107.563	107.563	0.96	1885944	0.25	4000	
Cr	52	1	He	25.900	25.900	1.03	538444	0.31	4000	
Mn	55	1	He	1700.794	1700.794	1.72	23018873	0.76	4000	
Fe	56	1	He	40207.322	40207.322	0.85	741290726	0.25	40000	>LDR
Co	59	1	He	17.940	17.940	1.23	563605	0.45	4000	
Ni	60	1	He	19.477	19.477	1.51	156472	0.78	4000	
[Cu]	63	1	He	54.096	54.096	0.82	1200435	0.30	4000	
Cu	65	1	He	55.026	55.026	1.13	585876	0.03	4000	
Zn	66	1	He	84.346	84.346	1.13	311037	0.81	4000	
As	75	1	He	20.750	20.750	0.76	48706	0.07	4000	
Se	78	1	He	1.430	1.430	6.90	476	3.62	4000	
Sr	88	1	He	202.459	202.459	0.82	3242429	0.92	4000	
Mo	95	1	He	4.496	4.496	1.00	41216	1.04	4000	
Ag	107	1	He	0.111	0.111	4.32	3389	4.02	100	
Cd	111	1	He	0.190	0.190	1.32	911	1.12	3500	
Sn	118	1	He	2.133	2.133	1.75	24374	1.83	4000	
Sb	123	1	He	0.872	0.872	3.82	10189	3.79	4000	
Ba	137	1	He	306.048	306.048	0.51	1490239	0.69	4000	
Ce	140	1	He	78.496	78.496	0.28	4969159	0.17	4000	
Tl	205	1	He	0.386	0.386	2.66	22783	2.40	3500	
Pb	208	1	He	12.433	12.433	0.62	929544	0.37	4000	
U	238	1	He	5.613	5.613	0.72	433576	0.31	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	709272	1.09	683823	103.72	80	120	
Ge (IS)	72	1	He	376640	0.76	390615	96.42	80	120	
In-115 (IS)	115	1	He	3363777	0.18	3613234	93.10	80	120	
Tb-159 (IS)	159	1	He	8039057	1.03	8473761	94.87	80	120	
Bi-209 (IS)	209	1	He	5561739	0.47	6042462	92.04	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:09:15-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.050	-0.050	-50.52	4	114.60	100	
Na	23	1	He	-129.274	-129.274	-0.25	113671	1.28	75000	
Mg	24	1	He	-11.549	-11.549	-9.24	16897	13.06	125000	
Al	27	1	He	16.950	16.950	17.51	17270	17.33	4000	
K	39	1	He	-8.331	-8.331	-3.23	154057	0.04	100000	
Ca	44	1	He	-23.289	-23.289	-6.74	2022	7.53	250000	
V	51	1	He	0.039	0.039	29.76	2865	6.61	4000	
Cr	52	1	He	0.008	0.008	62.42	2712	3.58	4000	
Mn	55	1	He	0.829	0.829	20.85	10704	20.03	4000	
Fe	56	1	He	27.720	27.720	13.14	475886	13.02	40000	
Co	59	1	He	0.015	0.015	16.92	742	10.21	4000	
Ni	60	1	He	0.059	0.059	20.55	1302	7.03	4000	
[Cu]	63	1	He	-1.204	-1.204	-1.54	8455	4.35	4000	
Cu	65	1	He	-1.132	-1.132	-1.57	4026	4.43	4000	
Zn	66	1	He	0.477	0.477	16.14	5368	5.11	4000	
As	75	1	He	0.009	0.009	68.97	123	11.48	4000	
Se	78	1	He	0.037	0.037	79.36	179	3.35	4000	
Sr	88	1	He	-0.640	-0.640	-2.34	1983	11.79	4000	
Mo	95	1	He	-0.020	-0.020	-26.76	311	15.20	4000	
Ag	107	1	He	-0.003	-0.003	-50.38	243	19.32	100	
Cd	111	1	He	0.003	0.003	205.29	37	72.15	3500	
Sn	118	1	He	-0.045	-0.045	-13.39	591	11.30	4000	
Sb	123	1	He	-0.025	-0.025	-11.24	287	10.66	4000	
Ba	137	1	He	0.179	0.179	13.93	998	11.86	4000	
Ce	140	1	He	0.045	0.045	18.35	3223	15.89	4000	
Tl	205	1	He	0.002	0.002	72.18	566	14.34	3500	
Pb	208	1	He	0.009	0.009	10.17	1604	4.72	4000	
U	238	1	He	-0.005	-0.005	-8.21	570	5.94	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	642884	0.29	683823	94.01	80	120	
Ge (IS)	72	1	He	367840	0.06	390615	94.17	80	120	
In-115 (IS)	115	1	He	3365847	0.54	3613234	93.15	80	120	
Tb-159 (IS)	159	1	He	7926841	0.84	8473761	93.55	80	120	
Bi-209 (IS)	209	1	He	5652708	0.95	6042462	93.55	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:11:49-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.028	-0.028	-267.99	9	173.21	100	
Na	23	1	He	-130.086	-130.086	-0.14	111403	0.51	75000	
Mg	24	1	He	-14.317	-14.317	-1.93	11337	4.97	125000	
Al	27	1	He	9.939	9.939	4.49	10355	4.17	4000	
K	39	1	He	-10.171	-10.171	-7.88	151665	0.83	100000	
Ca	44	1	He	-28.677	-28.677	-5.52	1518	9.92	250000	
V	51	1	He	0.006	0.006	70.88	2358	2.79	4000	
Cr	52	1	He	0.013	0.013	15.29	2817	1.51	4000	
Mn	55	1	He	0.410	0.410	10.98	5598	9.85	4000	
Fe	56	1	He	15.481	15.481	3.54	272991	3.30	40000	
Co	59	1	He	0.010	0.010	4.00	583	1.71	4000	
Ni	60	1	He	0.042	0.042	52.87	1187	13.80	4000	
[Cu]	63	1	He	-1.223	-1.223	-0.87	8136	2.40	4000	
Cu	65	1	He	-1.162	-1.162	-0.58	3767	1.71	4000	
Zn	66	1	He	0.483	0.483	17.61	5475	5.89	4000	
As	75	1	He	0.004	0.004	79.86	114	5.99	4000	
Se	78	1	He	-0.017	-0.017	-668.08	171	14.52	4000	
Sr	88	1	He	-0.679	-0.679	-0.29	1372	3.51	4000	
Mo	95	1	He	-0.024	-0.024	-17.66	272	14.30	4000	
Ag	107	1	He	-0.005	-0.005	-12.91	210	8.84	100	
Cd	111	1	He	0.000	0.000	-2433.48	23	65.46	3500	
Sn	118	1	He	-0.043	-0.043	-16.72	612	13.36	4000	
Sb	123	1	He	-0.024	-0.024	-9.34	293	9.71	4000	
Ba	137	1	He	0.089	0.089	8.20	562	6.28	4000	
Ce	140	1	He	0.023	0.023	14.10	1836	10.06	4000	
Tl	205	1	He	0.002	0.002	58.65	541	9.75	3500	
Pb	208	1	He	0.006	0.006	25.83	1408	8.89	4000	
U	238	1	He	-0.006	-0.006	-14.20	433	16.06	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	646989	0.19	683823	94.61	80	120	
Ge (IS)	72	1	He	373828	0.86	390615	95.70	80	120	
In-115 (IS)	115	1	He	3387198	1.24	3613234	93.74	80	120	
Tb-159 (IS)	159	1	He	7939652	0.49	8473761	93.70	80	120	
Bi-209 (IS)	209	1	He	5668497	0.15	6042462	93.81	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	090_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:14:23-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.117	1.794	10414	2.00	50	100.2	89.5	110.49	
Na	23	1	He	1182.802	0.814	5019777	1.17	1250	94.6	89.5	110.49	
Mg	24	1	He	1287.277	0.561	2714225	0.70	1250	103.0	89.5	110.49	
Al	27	1	He	57.216	2.375	58537	1.97	50	114.4	89.5	110.49	>+\-10%
K	39	1	He	1305.661	1.833	2603705	1.84	1250	104.5	89.5	110.49	
Ca	44	1	He	2528.074	0.063	250580	0.48	2500	101.1	89.5	110.49	
V	51	1	He	49.838	0.322	810008	0.49	50	99.7	89.5	110.49	
Cr	52	1	He	49.463	0.665	949353	0.52	50	98.9	89.5	110.49	
Mn	55	1	He	50.728	1.104	636022	1.44	50	101.5	89.5	110.49	
Fe	56	1	He	519.461	1.011	8876514	0.71	500	103.9	89.5	110.49	
Co	59	1	He	50.135	2.707	1457242	2.80	50	100.3	89.5	110.49	
Ni	60	1	He	50.518	0.769	374213	0.47	50	101.0	89.5	110.49	
Cu	65	1	He	49.071	1.767	485171	1.26	50	98.1	89.5	110.49	
Zn	66	1	He	51.651	0.513	190377	0.23	50	103.3	89.5	110.49	
As	75	1	He	49.921	0.781	116088	0.95	50	99.8	89.5	110.49	
Se	78	1	He	49.412	0.290	10489	0.34	50	98.8	89.5	110.49	
Sr	88	1	He	47.397	1.068	786886	0.47	50	94.8	89.5	110.49	
Mo	95	1	He	50.264	0.585	466749	0.53	50	100.5	89.5	110.49	
Ag	107	1	He	49.705	0.504	1395593	0.83	50	99.4	89.5	110.49	
Cd	111	1	He	49.799	1.061	238744	0.24	50	99.6	89.5	110.49	
Sn	118	1	He	49.870	1.331	558813	0.87	50	99.7	89.5	110.49	
Sb	123	1	He	49.867	1.882	564313	1.04	50	99.7	89.5	110.49	
Ba	137	1	He	50.330	0.880	251074	0.82	50	100.7	89.5	110.49	
Ce	140	1	He	50.872	1.028	3297953	0.47	50	101.7	89.5	110.49	
Tl	205	1	He	49.371	1.278	2871270	1.29	50	98.7	89.5	110.49	
Pb	208	1	He	50.048	1.659	3839324	1.10	50	100.1	89.5	110.49	
U	238	1	He	49.805	2.861	3858094	1.08	50	99.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656423	0.46	683823	95.99	80	120	
Ge (IS)	72	1	He	373592	0.31	390615	95.64	80	120	
In-115 (IS)	115	1	He	3444816	0.89	3613234	95.34	80	120	
Tb-159 (IS)	159	1	He	8080219	1.88	8473761	95.36	80	120	
Bi-209 (IS)	209	1	He	5711186	0.93	6042462	94.52	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	091_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:16:49-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.012	-198.4	12	41.7	0.5	
Na	23	1	He	-131.344	-0.6	106355	0.5	110	
Mg	24	1	He	-15.892	-1.7	8077	4.5	110	
Al	27	1	He	5.091	7.1	5478	5.1	10	
K	39	1	He	-10.888	-18.3	149785	0.8	110	
Ca	44	1	He	-32.697	-0.7	1128	1.6	110	
V	51	1	He	0.005	167.5	2330	4.4	2	
Cr	52	1	He	0.001	817.4	2587	8.3	2	
Mn	55	1	He	0.207	10.0	3079	8.1	1	
Fe	56	1	He	8.486	3.6	154751	1.7	20	
Co	59	1	He	0.017	38.9	779	21.9	1	
Ni	60	1	He	0.038	43.7	1150	8.8	2	
Cu	65	1	He	-1.170	-2.6	3677	5.6	1	
Zn	66	1	He	0.052	25.7	3853	1.3	20	
As	75	1	He	0.022	34.9	154	10.5	1	
Se	78	1	He	0.065	168.0	185	12.3	2	
Sr	88	1	He	-0.697	-1.7	1095	15.6	2	
Mo	95	1	He	0.047	27.7	924	14.7	2	
Ag	107	1	He	0.027	46.7	1091	30.7	1	
Cd	111	1	He	0.011	82.7	78	55.9	1	
Sn	118	1	He	0.091	6.8	2102	4.9	2	
Sb	123	1	He	0.221	15.8	3041	14.6	1	
Ba	137	1	He	0.060	28.7	420	18.6	1	
Ce	140	1	He	0.021	33.6	1719	25.0	1	
Tl	205	1	He	0.021	11.1	1650	8.2	1	
Pb	208	1	He	0.022	31.4	2605	20.1	1	
U	238	1	He	0.024	0.9	2737	0.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	644797	2.49	683823	94.29	80	120	
Ge (IS)	72	1	He	367759	1.09	390615	94.15	80	120	
In-115 (IS)	115	1	He	3407049	1.81	3613234	94.29	80	120	
Tb-159 (IS)	159	1	He	7947387	0.13	8473761	93.79	80	120	
Bi-209 (IS)	209	1	He	5615034	1.12	6042462	92.93	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-8-a@20
Data File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:19:23-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3202
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.167	1.167	3.89	287	4.19	100	
Na	23	1	He	3697.590	3697.590	1.06	16078734	1.52	75000	
Mg	24	1	He	12134.137	12134.137	2.16	28144237	2.46	125000	
Al	27	1	He	35198.434	35198.434	0.76	39880593	0.90	4000	>LDR
K	39	1	He	5227.391	5227.391	0.79	11045237	0.12	100000	
Ca	44	1	He	13644.415	13644.415	0.98	1486902	1.29	250000	
V	51	1	He	113.455	113.455	0.84	2053087	1.49	4000	
Cr	52	1	He	31.879	31.879	0.68	683343	0.05	4000	
Mn	55	1	He	1233.706	1233.706	0.94	17233899	0.38	4000	
Fe	56	1	He	43274.738	43274.738	1.32	823418030	0.70	40000	>LDR
Co	59	1	He	14.837	14.837	0.81	481145	0.22	4000	
Ni	60	1	He	22.004	22.004	0.56	182323	0.35	4000	
[Cu]	63	1	He	54.056	54.056	0.74	1238101	1.19	4000	
Cu	65	1	He	54.649	54.649	1.14	600668	1.23	4000	
Zn	66	1	He	94.870	94.870	0.28	351971	0.34	4000	
As	75	1	He	19.685	19.685	0.94	46556	1.23	4000	
Se	78	1	He	1.498	1.498	4.94	494	3.07	4000	
Sr	88	1	He	207.978	207.978	1.89	3319790	1.45	4000	
Mo	95	1	He	3.717	3.717	0.48	34047	0.94	4000	
Ag	107	1	He	0.158	0.158	4.00	4656	3.22	100	
Cd	111	1	He	0.190	0.190	10.23	912	9.90	3500	
Sn	118	1	He	2.445	2.445	1.43	27697	1.81	4000	
Sb	123	1	He	1.141	1.141	2.81	13117	2.58	4000	
Ba	137	1	He	261.663	261.663	1.12	1270072	0.73	4000	
Ce	140	1	He	78.446	78.446	1.86	4950508	2.09	4000	
Tl	205	1	He	0.420	0.420	1.05	24723	1.66	3500	
Pb	208	1	He	15.003	15.003	1.44	1113378	0.36	4000	
U	238	1	He	6.661	6.661	1.54	513134	0.65	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	732005	0.66	683823	107.05	80	120	
Ge (IS)	72	1	He	379422	0.31	390615	97.13	80	120	
In-115 (IS)	115	1	He	3353190	0.50	3613234	92.80	80	120	
Tb-159 (IS)	159	1	He	8020579	1.52	8473761	94.65	80	120	
Bi-209 (IS)	209	1	He	5522043	1.08	6042462	91.39	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-9-a@20
Data File Name	093SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:21:48-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3203
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.790	0.790	13.87	191	12.85	100	
Na	23	1	He	948.042	948.042	1.06	4429326	1.26	75000	
Mg	24	1	He	7804.442	7804.442	1.51	17371747	1.17	125000	
Al	27	1	He	23169.904	23169.904	0.25	25172357	0.37	4000	>LDR
K	39	1	He	5163.543	5163.543	1.12	10463918	0.86	100000	
Ca	44	1	He	9533.656	9533.656	0.22	997581	0.44	250000	
V	51	1	He	90.733	90.733	0.95	1574759	0.62	4000	
Cr	52	1	He	23.870	23.870	0.27	491321	0.14	4000	
Mn	55	1	He	542.149	542.149	0.66	7262386	0.52	4000	
Fe	56	1	He	34377.508	34377.508	1.02	627240348	0.72	40000	
Co	59	1	He	10.712	10.712	1.03	333172	0.95	4000	
Ni	60	1	He	15.435	15.435	1.83	122916	1.53	4000	
[Cu]	63	1	He	84.477	84.477	1.85	1835664	2.01	4000	
Cu	65	1	He	84.222	84.222	0.42	878980	0.39	4000	
Zn	66	1	He	104.609	104.609	0.97	386311	0.37	4000	
As	75	1	He	11.133	11.133	0.68	26280	0.53	4000	
Se	78	1	He	1.200	1.200	7.09	430	4.71	4000	
Sr	88	1	He	150.857	150.857	0.44	2420943	0.51	4000	
Mo	95	1	He	1.522	1.522	1.19	14285	0.95	4000	
Ag	107	1	He	0.095	0.095	3.18	2953	3.11	100	
Cd	111	1	He	0.608	0.608	1.48	2871	1.16	3500	
Sn	118	1	He	2.755	2.755	1.25	31193	1.31	4000	
Sb	123	1	He	0.839	0.839	1.39	9824	1.10	4000	
Ba	137	1	He	174.020	174.020	0.58	848042	0.43	4000	
Ce	140	1	He	62.029	62.029	1.29	3929833	1.41	4000	
Tl	205	1	He	0.290	0.290	1.39	17261	1.18	3500	
Pb	208	1	He	12.096	12.096	0.66	907554	0.54	4000	
U	238	1	He	6.221	6.221	0.52	481486	0.93	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	701892	0.36	683823	102.64	80	120	
Ge (IS)	72	1	He	378068	0.90	390615	96.79	80	120	
In-115 (IS)	115	1	He	3366351	0.39	3613234	93.17	80	120	
Tb-159 (IS)	159	1	He	8056705	0.41	8473761	95.08	80	120	
Bi-209 (IS)	209	1	He	5581204	0.31	6042462	92.37	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-10-a@20
Data File Name	094SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:24:13-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3204
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.757	0.757	24.45	183	22.34	100	
Na	23	1	He	2381.344	2381.344	1.47	10124921	0.73	75000	
Mg	24	1	He	7562.870	7562.870	0.66	16783512	0.36	125000	
Al	27	1	He	21205.648	21205.648	0.86	22966297	0.12	4000	>LDR
K	39	1	He	5322.884	5322.884	1.30	10747335	0.49	100000	
Ca	44	1	He	11336.446	11336.446	0.70	1181654	0.53	250000	
V	51	1	He	85.738	85.738	0.41	1483649	1.03	4000	
Cr	52	1	He	20.574	20.574	1.07	422534	0.09	4000	
Mn	55	1	He	522.517	522.517	0.81	6977791	0.90	4000	
Fe	56	1	He	30046.351	30046.351	0.94	546510058	0.05	40000	
Co	59	1	He	9.638	9.638	0.86	298884	0.21	4000	
Ni	60	1	He	12.920	12.920	0.29	102729	0.98	4000	
[Cu]	63	1	He	40.965	40.965	1.06	905249	0.21	4000	
Cu	65	1	He	41.787	41.787	1.04	442782	0.86	4000	
Zn	66	1	He	66.071	66.071	1.12	243663	0.43	4000	
As	75	1	He	20.585	20.585	1.86	48160	1.28	4000	
Se	78	1	He	1.037	1.037	12.03	392	5.98	4000	
Sr	88	1	He	161.200	161.200	1.37	2617088	1.48	4000	
Mo	95	1	He	2.295	2.295	1.10	21550	0.21	4000	
Ag	107	1	He	0.097	0.097	5.77	3040	4.09	100	
Cd	111	1	He	0.170	0.170	4.39	828	3.28	3500	
Sn	118	1	He	2.090	2.090	1.07	24213	1.73	4000	
Sb	123	1	He	0.675	0.675	2.49	8116	2.09	4000	
Ba	137	1	He	165.730	165.730	1.74	817258	0.73	4000	
Ce	140	1	He	53.800	53.800	0.07	3449442	0.98	4000	
Tl	205	1	He	0.239	0.239	2.35	14250	1.81	3500	
Pb	208	1	He	10.354	10.354	1.03	777601	0.27	4000	
U	238	1	He	4.130	4.130	0.38	318032	0.44	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	699734	0.97	683823	102.33	80	120	
Ge (IS)	72	1	He	375416	0.73	390615	96.11	80	120	
In-115 (IS)	115	1	He	3406779	1.05	3613234	94.29	80	120	
Tb-159 (IS)	159	1	He	8007435	0.50	8473761	94.50	80	120	
Bi-209 (IS)	209	1	He	5586298	1.28	6042462	92.45	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-11-a@20
Data File Name	095SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:26:39-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3205
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.964	0.964	14.22	232	12.04	100	
Na	23	1	He	1089.824	1089.824	2.69	5051965	0.90	75000	
Mg	24	1	He	8476.977	8476.977	2.96	19076730	1.60	125000	
Al	27	1	He	26041.178	26041.178	0.29	28616670	1.62	4000	>LDR
K	39	1	He	5189.538	5189.538	2.19	10634490	1.03	100000	
Ca	44	1	He	10041.536	10041.536	1.53	1062370	0.24	250000	
V	51	1	He	93.438	93.438	2.08	1639980	0.97	4000	
Cr	52	1	He	27.145	27.145	2.34	564665	1.58	4000	
Mn	55	1	He	573.879	573.879	1.16	7774829	0.57	4000	
Fe	56	1	He	36035.738	36035.738	2.80	664866445	1.27	40000	>LDR
Co	59	1	He	11.998	11.998	1.49	377371	0.77	4000	
Ni	60	1	He	16.198	16.198	2.67	130397	1.22	4000	
[Cu]	63	1	He	117.074	117.074	2.30	2558926	0.74	4000	
Cu	65	1	He	116.657	116.657	1.92	1225052	1.15	4000	
Zn	66	1	He	107.533	107.533	1.53	397671	1.08	4000	
As	75	1	He	10.703	10.703	1.28	25312	0.88	4000	
Se	78	1	He	1.359	1.359	13.58	464	7.98	4000	
Sr	88	1	He	166.854	166.854	2.01	2685467	0.45	4000	
Mo	95	1	He	1.514	1.514	3.75	14260	1.96	4000	
Ag	107	1	He	0.126	0.126	6.32	3796	4.37	100	
Cd	111	1	He	0.321	0.321	7.43	1530	6.45	3500	
Sn	118	1	He	2.325	2.325	4.25	26579	3.33	4000	
Sb	123	1	He	0.694	0.694	7.59	8249	5.40	4000	
Ba	137	1	He	219.295	219.295	1.47	1072378	0.92	4000	
Ce	140	1	He	69.282	69.282	2.72	4404124	1.71	4000	
Tl	205	1	He	0.304	0.304	1.10	18081	0.62	3500	
Pb	208	1	He	12.886	12.886	1.25	963567	0.82	4000	
U	238	1	He	6.751	6.751	2.50	521924	1.63	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	709953	1.60	683823	103.82	80	120	
Ge (IS)	72	1	He	378701	0.44	390615	96.95	80	120	
In-115 (IS)	115	1	He	3378608	1.87	3613234	93.51	80	120	
Tb-159 (IS)	159	1	He	8050500	1.68	8473761	95.01	80	120	
Bi-209 (IS)	209	1	He	5563007	1.17	6042462	92.07	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-12-a@20
Data File Name	096SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:29:04-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3206
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.893	0.893	7.91	213	6.81	100	
Na	23	1	He	2390.603	2390.603	2.53	10167754	1.97	75000	
Mg	24	1	He	8313.977	8313.977	0.63	18457021	0.20	125000	
Al	27	1	He	25796.625	25796.625	1.05	27956313	1.30	4000	>LDR
K	39	1	He	6362.577	6362.577	1.59	12818225	0.99	100000	
Ca	44	1	He	10282.843	10282.843	0.83	1072888	0.25	250000	
V	51	1	He	80.609	80.609	0.71	1395887	1.28	4000	
Cr	52	1	He	22.507	22.507	0.92	462259	0.45	4000	
Mn	55	1	He	571.245	571.245	0.22	7633040	0.49	4000	
Fe	56	1	He	32602.191	32602.191	1.41	593343781	0.83	40000	
Co	59	1	He	13.199	13.199	1.22	409423	0.81	4000	
Ni	60	1	He	15.915	15.915	1.42	126392	0.87	4000	
[Cu]	63	1	He	132.204	132.204	1.17	2845744	0.70	4000	
Cu	65	1	He	134.530	134.530	0.59	1390963	0.17	4000	
Zn	66	1	He	74.713	74.713	0.80	276148	0.38	4000	
As	75	1	He	9.205	9.205	0.48	21681	0.20	4000	
Se	78	1	He	1.401	1.401	8.95	471	5.99	4000	
Sr	88	1	He	147.713	147.713	1.25	2377949	0.83	4000	
Mo	95	1	He	2.472	2.472	1.44	22971	1.14	4000	
Ag	107	1	He	0.107	0.107	8.64	3269	7.21	100	
Cd	111	1	He	0.227	0.227	6.31	1092	5.97	3500	
Sn	118	1	He	2.345	2.345	0.65	26787	0.14	4000	
Sb	123	1	He	0.738	0.738	1.22	8735	1.08	4000	
Ba	137	1	He	167.796	167.796	1.75	820181	1.17	4000	
Ce	140	1	He	59.090	59.090	0.13	3755097	0.46	4000	
Tl	205	1	He	0.266	0.266	0.23	15952	0.42	3500	
Pb	208	1	He	13.486	13.486	0.99	1018371	0.14	4000	
U	238	1	He	3.837	3.837	0.91	298815	0.42	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	700139	0.59	683823	102.39	80	120	
Ge (IS)	72	1	He	376911	0.42	390615	96.49	80	120	
In-115 (IS)	115	1	He	3376701	0.58	3613234	93.45	80	120	
Tb-159 (IS)	159	1	He	8097420	0.58	8473761	95.56	80	120	
Bi-209 (IS)	209	1	He	5618293	1.13	6042462	92.98	80	120	

Sample Report

Sample Table

Sample Name	440-144969-a-1-a@20
Data File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:31:29-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3207
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.428	0.428	23.22	110	19.87	100	
Na	23	1	He	279.725	279.725	0.70	1744214	0.41	75000	
Mg	24	1	He	9939.869	9939.869	0.51	21933602	0.43	125000	
Al	27	1	He	21436.040	21436.040	1.07	23099352	1.18	4000	>LDR
K	39	1	He	5929.049	5929.049	1.09	11890575	1.18	100000	
Ca	44	1	He	13049.223	13049.223	2.04	1352653	2.14	250000	
V	51	1	He	84.611	84.611	0.60	1456758	0.64	4000	
Cr	52	1	He	43.714	43.714	0.47	890162	0.58	4000	
Mn	55	1	He	592.523	592.523	0.43	7872611	0.50	4000	
Fe	56	1	He	36307.621	36307.621	0.61	657078783	0.65	40000	>LDR
Co	59	1	He	12.542	12.542	0.26	386862	0.37	4000	
Ni	60	1	He	23.402	23.402	1.07	184359	1.10	4000	
[Cu]	63	1	He	38.358	38.358	0.28	845607	0.24	4000	
Cu	65	1	He	39.109	39.109	0.81	413338	0.75	4000	
Zn	66	1	He	115.847	115.847	0.97	420469	0.61	4000	
As	75	1	He	16.437	16.437	1.44	38121	1.47	4000	
Se	78	1	He	1.223	1.223	4.02	427	1.89	4000	
Sr	88	1	He	60.143	60.143	0.73	974566	0.72	4000	
Mo	95	1	He	1.423	1.423	3.40	13420	3.32	4000	
Ag	107	1	He	0.237	0.237	1.83	6841	1.14	100	
Cd	111	1	He	0.714	0.714	6.88	3376	5.57	3500	
Sn	118	1	He	3.439	3.439	1.77	38746	0.48	4000	
Sb	123	1	He	1.997	1.997	1.65	22667	0.59	4000	
Ba	137	1	He	287.744	287.744	1.05	1405111	0.63	4000	
Ce	140	1	He	49.429	49.429	1.00	3138247	0.89	4000	
Tl	205	1	He	0.226	0.226	2.22	13317	2.21	3500	
Pb	208	1	He	66.569	66.569	0.71	4984812	0.35	4000	
U	238	1	He	1.218	1.218	1.75	93245	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	696180	0.11	683823	101.81	80	120	
Ge (IS)	72	1	He	371923	0.50	390615	95.21	80	120	
In-115 (IS)	115	1	He	3373681	1.38	3613234	93.37	80	120	
Tb-159 (IS)	159	1	He	7906594	0.77	8473761	93.31	80	120	
Bi-209 (IS)	209	1	He	5575018	0.98	6042462	92.26	80	120	

Sample Report

Sample Table

Sample Name	440-145041-a-1-b@20
Data File Name	098SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:33:54-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3208
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.670	0.670	15.23	164	13.19	100	
Na	23	1	He	1099.692	1099.692	0.94	5035335	1.83	75000	
Mg	24	1	He	9139.479	9139.479	1.15	20334463	0.65	125000	
Al	27	1	He	23930.859	23930.859	1.05	25996830	0.79	4000	>LDR
K	39	1	He	5033.987	5033.987	1.76	10204883	1.13	100000	
Ca	44	1	He	13972.010	13972.010	2.02	1459607	1.16	250000	
V	51	1	He	68.978	68.978	0.48	1197734	0.80	4000	
Cr	52	1	He	50.323	50.323	0.41	1032681	0.90	4000	
Mn	55	1	He	512.637	512.637	0.77	6866547	0.26	4000	
Fe	56	1	He	32756.147	32756.147	0.73	597656527	1.40	40000	
Co	59	1	He	12.144	12.144	0.78	377667	1.30	4000	
Ni	60	1	He	31.335	31.335	0.82	248539	0.36	4000	
[Cu]	63	1	He	43.485	43.485	0.25	961776	0.81	4000	
Cu	65	1	He	44.194	44.194	0.59	468798	0.50	4000	
Zn	66	1	He	177.258	177.258	1.28	649205	0.69	4000	
As	75	1	He	10.247	10.247	2.22	24094	1.83	4000	
Se	78	1	He	0.996	0.996	8.92	385	3.12	4000	
Sr	88	1	He	102.205	102.205	1.89	1652699	1.45	4000	
Mo	95	1	He	2.054	2.054	5.15	19205	4.58	4000	
Ag	107	1	He	0.362	0.362	2.65	10318	3.02	100	
Cd	111	1	He	1.000	1.000	4.31	4734	3.93	3500	
Sn	118	1	He	4.314	4.314	1.00	48485	0.64	4000	
Sb	123	1	He	2.430	2.430	1.20	27552	0.80	4000	
Ba	137	1	He	716.770	716.770	2.31	3511018	2.28	4000	
Ce	140	1	He	45.663	45.663	2.66	2908355	2.81	4000	
Tl	205	1	He	0.199	0.199	1.96	11947	3.18	3500	
Pb	208	1	He	53.097	53.097	0.73	4013498	0.58	4000	
U	238	1	He	1.151	1.151	1.87	89341	0.11	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	701867	1.03	683823	102.64	80	120	
Ge (IS)	72	1	He	376499	1.88	390615	96.39	80	120	
In-115 (IS)	115	1	He	3384100	0.46	3613234	93.66	80	120	
Tb-159 (IS)	159	1	He	8010950	1.83	8473761	94.54	80	120	
Bi-209 (IS)	209	1	He	5627189	0.71	6042462	93.13	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	099SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:36:18-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.039	-0.039	-42.25	7	50.03	100	
Na	23	1	He	-132.601	-132.601	-0.12	101345	0.56	75000	
Mg	24	1	He	-11.277	-11.277	-8.88	17419	11.47	125000	
Al	27	1	He	16.644	16.644	15.19	16933	14.63	4000	
K	39	1	He	-10.325	-10.325	-2.59	150204	0.18	100000	
Ca	44	1	He	-23.874	-23.874	-5.41	1963	6.17	250000	
V	51	1	He	0.021	0.021	23.13	2579	2.85	4000	
Cr	52	1	He	0.018	0.018	61.64	2895	6.99	4000	
Mn	55	1	He	0.416	0.416	12.78	5626	11.33	4000	
Fe	56	1	He	25.984	25.984	11.25	446067	10.73	40000	
Co	59	1	He	0.010	0.010	9.70	600	4.84	4000	
Ni	60	1	He	0.055	0.055	23.62	1271	7.60	4000	
[Cu]	63	1	He	-1.227	-1.227	-0.98	7985	2.63	4000	
Cu	65	1	He	-1.159	-1.159	-2.39	3764	7.09	4000	
Zn	66	1	He	0.503	0.503	8.17	5472	2.60	4000	
As	75	1	He	0.001	0.001	447.10	105	6.36	4000	
Se	78	1	He	-0.058	-0.058	-60.21	160	4.72	4000	
Sr	88	1	He	-0.678	-0.678	-0.51	1389	4.03	4000	
Mo	95	1	He	-0.023	-0.023	-5.59	287	5.07	4000	
Ag	107	1	He	-0.002	-0.002	-85.75	292	11.98	100	
Cd	111	1	He	0.001	0.001	316.87	29	53.30	3500	
Sn	118	1	He	-0.046	-0.046	-10.29	582	10.25	4000	
Sb	123	1	He	-0.027	-0.027	-7.13	259	7.09	4000	
Ba	137	1	He	0.326	0.326	18.97	1731	17.34	4000	
Ce	140	1	He	0.028	0.028	7.13	2171	6.69	4000	
Tl	205	1	He	-0.001	-0.001	-206.65	421	14.65	3500	
Pb	208	1	He	0.040	0.040	17.97	3994	13.71	4000	
U	238	1	He	-0.008	-0.008	-8.28	350	14.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	641946	0.34	683823	93.88	80	120	
Ge (IS)	72	1	He	368841	0.38	390615	94.43	80	120	
In-115 (IS)	115	1	He	3398324	1.33	3613234	94.05	80	120	
Tb-159 (IS)	159	1	He	8003422	0.48	8473761	94.45	80	120	
Bi-209 (IS)	209	1	He	5725980	0.16	6042462	94.76	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	100SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:38:52-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.039	-0.039	-71.09	7	86.65	100	
Na	23	1	He	-132.360	-132.360	-0.25	103841	1.12	75000	
Mg	24	1	He	-13.841	-13.841	-1.14	12407	2.56	125000	
Al	27	1	He	10.203	10.203	5.34	10703	5.11	4000	
K	39	1	He	-11.166	-11.166	-1.87	151024	0.21	100000	
Ca	44	1	He	-27.951	-27.951	-7.36	1600	12.43	250000	
V	51	1	He	0.012	0.012	43.82	2476	3.56	4000	
Cr	52	1	He	0.009	0.009	26.51	2764	1.69	4000	
Mn	55	1	He	0.284	0.284	4.44	4076	3.87	4000	
Fe	56	1	He	15.835	15.835	2.38	281145	2.24	40000	
Co	59	1	He	0.008	0.008	23.21	546	10.18	4000	
Ni	60	1	He	0.028	0.028	32.24	1094	6.05	4000	
[Cu]	63	1	He	-1.251	-1.251	-0.63	7644	2.00	4000	
Cu	65	1	He	-1.183	-1.183	-1.01	3597	3.22	4000	
Zn	66	1	He	0.463	0.463	7.74	5410	2.02	4000	
As	75	1	He	0.003	0.003	210.61	111	11.50	4000	
Se	78	1	He	0.086	0.086	87.08	192	7.79	4000	
Sr	88	1	He	-0.703	-0.703	-0.53	1010	6.37	4000	
Mo	95	1	He	-0.025	-0.025	-16.31	268	14.16	4000	
Ag	107	1	He	-0.005	-0.005	-29.44	200	21.67	100	
Cd	111	1	He	0.000	0.000	1115.85	26	39.85	3500	
Sn	118	1	He	-0.053	-0.053	-6.03	520	6.11	4000	
Sb	123	1	He	-0.029	-0.029	-7.34	249	9.50	4000	
Ba	137	1	He	0.121	0.121	10.84	740	9.31	4000	
Ce	140	1	He	0.019	0.019	14.07	1611	11.65	4000	
Tl	205	1	He	-0.002	-0.002	-37.30	354	10.36	3500	
Pb	208	1	He	0.017	0.017	14.14	2221	7.55	4000	
U	238	1	He	-0.008	-0.008	-4.44	309	8.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	652104	0.11	683823	95.36	80	120	
Ge (IS)	72	1	He	374340	0.51	390615	95.83	80	120	
In-115 (IS)	115	1	He	3481400	0.84	3613234	96.35	80	120	
Tb-159 (IS)	159	1	He	8064950	0.37	8473761	95.18	80	120	
Bi-209 (IS)	209	1	He	5750714	0.58	6042462	95.17	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	101_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:41:26-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.029	2.030	10272	1.73	50	98.1	89.5	110.49	
Na	23	1	He	1175.936	1.479	5035090	0.93	1250	94.1	89.5	110.49	
Mg	24	1	He	1267.190	0.692	2694597	0.83	1250	101.4	89.5	110.49	
Al	27	1	He	57.776	1.488	59600	1.74	50	115.6	89.5	110.49	>+\-10%
K	39	1	He	1287.327	0.881	2590836	1.27	1250	103.0	89.5	110.49	
Ca	44	1	He	2502.193	0.597	250106	0.59	2500	100.1	89.5	110.49	
V	51	1	He	49.605	0.464	812901	0.91	50	99.2	89.5	110.49	
Cr	52	1	He	49.203	0.253	952200	0.31	50	98.4	89.5	110.49	
Mn	55	1	He	50.464	0.193	637933	0.51	50	100.9	89.5	110.49	
Fe	56	1	He	515.588	0.707	8883596	1.13	500	103.1	89.5	110.49	
Co	59	1	He	49.962	2.172	1464257	2.46	50	99.9	89.5	110.49	
Ni	60	1	He	49.858	0.908	372392	0.98	50	99.7	89.5	110.49	
Cu	65	1	He	48.783	0.601	486427	0.86	50	97.6	89.5	110.49	
Zn	66	1	He	51.294	1.336	190123	1.04	50	102.6	89.5	110.49	
As	75	1	He	49.647	1.515	116083	1.30	50	99.3	89.5	110.49	
Se	78	1	He	48.978	0.473	10455	0.49	50	98.0	89.5	110.49	
Sr	88	1	He	46.807	0.838	785338	1.24	50	93.6	89.5	110.49	
Mo	95	1	He	49.554	1.242	464913	0.73	50	99.1	89.5	110.49	
Ag	107	1	He	49.229	0.803	1396593	1.46	50	98.5	89.5	110.49	
Cd	111	1	He	48.823	0.616	236503	1.09	50	97.6	89.5	110.49	
Sn	118	1	He	49.552	0.970	561022	0.74	50	99.1	89.5	110.49	
Sb	123	1	He	49.495	1.497	565917	0.90	50	99.0	89.5	110.49	
Ba	137	1	He	49.716	1.350	250564	0.28	50	99.4	89.5	110.49	
Ce	140	1	He	50.337	0.335	3297447	1.64	50	100.7	89.5	110.49	
Tl	205	1	He	48.871	1.210	2852066	0.73	50	97.7	89.5	110.49	
Pb	208	1	He	49.741	0.598	3852119	0.60	50	99.5	89.5	110.49	
U	238	1	He	49.894	0.366	3879671	1.17	50	99.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661846	0.44	683823	96.79	80	120	
Ge (IS)	72	1	He	375645	0.61	390615	96.17	80	120	
In-115 (IS)	115	1	He	3480679	1.60	3613234	96.33	80	120	
Tb-159 (IS)	159	1	He	8108264	1.53	8473761	95.69	80	120	
Bi-209 (IS)	209	1	He	5765344	1.11	6042462	95.41	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	102_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:43:53-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.055	-50.7	3	173.2	0.5	
Na	23	1	He	-134.079	-0.2	96737	0.6	110	
Mg	24	1	He	-15.851	-0.9	8200	3.3	110	
Al	27	1	He	5.518	5.7	5930	5.1	10	
K	39	1	He	-11.501	-1.1	149290	0.4	110	
Ca	44	1	He	-34.146	-1.9	993	6.7	110	
V	51	1	He	0.004	551.2	2321	13.6	2	
Cr	52	1	He	0.010	39.3	2764	2.4	2	
Mn	55	1	He	0.187	14.7	2845	11.8	1	
Fe	56	1	He	8.862	4.6	161728	4.1	20	
Co	59	1	He	0.015	14.4	730	8.1	1	
Ni	60	1	He	0.026	35.6	1069	6.1	2	
Cu	65	1	He	-1.204	-2.2	3374	7.6	1	
Zn	66	1	He	0.091	30.5	4000	3.1	20	
As	75	1	He	0.013	27.2	133	6.6	1	
Se	78	1	He	0.042	222.1	180	11.0	2	
Sr	88	1	He	-0.706	-1.3	939	17.3	2	
Mo	95	1	He	0.028	23.9	742	6.7	2	
Ag	107	1	He	0.021	41.6	923	28.5	1	
Cd	111	1	He	0.011	24.7	74	17.0	1	
Sn	118	1	He	0.081	20.5	1970	8.4	2	
Sb	123	1	He	0.198	16.6	2742	11.7	1	
Ba	137	1	He	0.047	18.3	356	13.7	1	
Ce	140	1	He	0.018	13.7	1486	11.2	1	
Tl	205	1	He	0.017	20.5	1442	14.1	1	
Pb	208	1	He	0.023	19.3	2696	13.1	1	
U	238	1	He	0.018	7.5	2338	4.3	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647267	0.34	683823	94.65	80	120	
Ge (IS)	72	1	He	368461	0.59	390615	94.33	80	120	
In-115 (IS)	115	1	He	3370556	2.18	3613234	93.28	80	120	
Tb-159 (IS)	159	1	He	8003055	0.13	8473761	94.45	80	120	
Bi-209 (IS)	209	1	He	5656546	0.44	6042462	93.61	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	103_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:46:27-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL BP CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.976	23.345	216	21.89	1	97.6	50	150	
Na	23	1	He	73.654	1.664	866558	0.13	200	36.8	50	150	>+/-50%
Mg	24	1	He	189.216	0.769	430207	0.21	200	94.6	50	150	
Al	27	1	He	25.219	2.784	25794	2.25	20	126.1	50	150	
K	39	1	He	192.527	0.420	526463	0.40	200	96.3	50	150	
Ca	44	1	He	942.866	1.698	95303	1.48	1000	94.3	50	150	
V	51	1	He	2.009	0.286	34534	0.57	2	100.4	50	150	
Cr	52	1	He	1.956	1.251	39691	1.19	2	97.8	50	150	
Mn	55	1	He	2.196	1.059	27806	1.38	2	109.8	50	150	
Fe	56	1	He	46.123	1.316	792595	0.85	40	115.3	50	150	
Co	59	1	He	1.988	1.580	57563	1.88	2	99.4	50	150	
Ni	60	1	He	2.122	1.400	16424	1.08	2	106.1	50	150	
Cu	65	1	He	0.815	8.075	22563	2.23	2	40.8	50	150	>+/-50%
Zn	66	1	He	20.650	1.058	78819	0.93	20	103.3	50	150	
As	75	1	He	2.134	1.329	5092	1.12	2	106.7	50	150	
Se	78	1	He	1.925	14.139	579	10.04	2	96.2	50	150	
Sr	88	1	He	1.225	2.302	32590	0.17	2	61.2	50	150	
Mo	95	1	He	1.996	0.836	19072	1.08	2	99.8	50	150	
Ag	107	1	He	1.929	1.776	54627	0.31	2	96.4	50	150	
Cd	111	1	He	1.966	2.823	9473	1.40	2	98.3	50	150	
Sn	118	1	He	20.220	1.876	227837	0.58	20	101.1	50	150	
Sb	123	1	He	1.959	0.515	22784	1.86	2	97.9	50	150	
Ba	137	1	He	2.057	1.846	10414	0.87	2	102.9	50	150	
Ce	140	1	He	1.961	1.996	127822	0.84	2	98.0	50	150	
Tl	205	1	He	1.903	1.046	112221	1.22	2	95.1	50	150	
Pb	208	1	He	2.083	0.995	163539	0.60	2	104.1	50	150	
U	238	1	He	1.905	0.733	150011	1.35	2	95.2	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650502	0.55	683823	95.13	80	120	
Ge (IS)	72	1	He	375822	0.24	390615	96.21	80	120	
In-115 (IS)	115	1	He	3454429	1.45	3613234	95.60	80	120	
Tb-159 (IS)	159	1	He	8160643	0.74	8473761	96.30	80	120	
Bi-209 (IS)	209	1	He	5812367	0.94	6042462	96.19	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	104ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:49:02-07:00
Sample Type	ICSA
Dilution	1
Comment	BP CHK A
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.061	-15.676	2	86.60	-1	1	
Na	23	1	He	101451.067	1.587	369854696	0.80	100000	100000	
Mg	24	1	He	98913.951	1.425	200081765	0.66	100000	100000	
Al	27	1	He	98673.363	0.444	97652798	1.18	100000	100000	
K	39	1	He	100782.565	1.516	182923788	1.39	100000	100000	
Ca	44	1	He	94683.096	0.357	8987322	1.06	100000	100000	
V	51	1	He	0.031	47.554	2730	9.35	-4	4	
Cr	52	1	He	1.276	1.149	26331	0.41	-4	4	
Mn	55	1	He	0.445	8.509	5959	8.38	-2	2	
Co	59	1	He	0.040	11.061	1430	9.03	-2	2	
Ni	60	1	He	0.452	6.332	4121	5.23	-4	4	
Cu	65	1	He	-0.356	-2.327	11245	0.46	-4	4	
Zn	66	1	He	1.229	6.587	7896	4.43	-40	40	
As	75	1	He	0.094	11.367	311	8.03	-2	2	
Se	78	1	He	0.084	195.100	185	17.02	-4	4	
Sr	88	1	He	-0.057	-9.556	10544	0.84	-2	2	
Mo	95	1	He	2102.354	0.891	17785377	0.48	2000	2000	
Ag	107	1	He	0.029	1.627	1048	2.23	-2	2	
Cd	111	1	He	0.765	6.106	3366	5.34	-2	2	
Sn	118	1	He	0.042	24.560	1437	7.98	-20	20	
Sb	123	1	He	0.093	10.754	1482	6.83	-4	4	
Ba	137	1	He	0.133	4.365	720	4.04	-2	2	
Ce	140	1	He	0.028	17.340	2001	15.34	-2	2	
Tl	205	1	He	0.006	21.069	731	8.73	-2	2	
Pb	208	1	He	0.229	4.291	16221	3.68	-2	2	
U	238	1	He	-0.002	-209.004	764	32.44	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	639372	0.83	683823	93.50	80	120	
Ge (IS)	72	1	He	361032	0.97	390615	92.43	80	120	
In-115 (IS)	115	1	He	3141747	1.17	3613234	86.95	80	120	
Tb-159 (IS)	159	1	He	7557253	0.26	8473761	89.18	80	120	
Bi-209 (IS)	209	1	He	5012380	0.38	6042462	82.95	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	105ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:51:30-07:00
Sample Type	ICSB
Dilution	1
Comment	BP CHK B
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	19.021	2.253	3873	1.68	20	95.1	79.5	120.49	
Na	23	1	He	102585.613	1.452	375378687	1.15	101000	101.6	79.5	120.49	
Mg	24	1	He	99147.207	0.978	201299708	0.48	101000	98.2	79.5	120.49	
Al	27	1	He	98693.397	0.464	98029496	0.53	101000	97.7	79.5	120.49	
K	39	1	He	101956.787	0.987	185738357	0.98	101000	100.9	79.5	120.49	
Ca	44	1	He	97428.315	0.952	9281387	0.45	101000	96.5	79.5	120.49	
V	51	1	He	19.849	1.611	316709	1.06	20	99.2	79.5	120.49	
Cr	52	1	He	20.323	0.788	382829	0.35	20	101.6	79.5	120.49	
Mn	55	1	He	19.922	1.095	244493	0.65	20	99.6	79.5	120.49	
Fe	56	1	He	96661.305	1.266	1612405163	0.78	101000	95.7	79.5	120.49	
Co	59	1	He	18.712	1.049	531884	0.48	20	93.6	79.5	120.49	
Ni	60	1	He	18.953	1.354	137792	1.04	20	94.8	79.5	120.49	
Cu	65	1	He	17.786	0.906	181245	0.37	20	88.9	79.5	120.49	
Zn	66	1	He	18.603	0.631	68672	0.98	20	93.0	79.5	120.49	
As	75	1	He	19.803	0.470	44631	0.55	20	99.0	79.5	120.49	
Se	78	1	He	18.810	0.888	3969	0.34	20	94.1	79.5	120.49	
Sr	88	1	He	20.137	0.636	310627	0.46	20	100.7	79.5	120.49	
Mo	95	1	He	2148.001	0.168	18124077	0.10	2020	106.3	79.5	120.49	
Ag	107	1	He	19.195	0.403	490420	0.49	20	96.0	79.5	120.49	
Cd	111	1	He	19.790	0.629	86316	0.45	20	99.0	79.5	120.49	
Sn	118	1	He	20.569	0.376	210246	0.44	20	102.8	79.5	120.49	
Sb	123	1	He	20.843	0.275	214869	0.14	20	104.2	79.5	120.49	
Ba	137	1	He	20.853	1.057	94690	1.06	20	104.3	79.5	120.49	
Ce	140	1	He	20.458	0.431	1206629	0.30	20	102.3	79.5	120.49	
Tl	205	1	He	18.275	0.746	1005148	0.39	20	91.4	79.5	120.49	
Pb	208	1	He	20.279	0.546	1374210	0.61	20	101.4	79.5	120.49	
U	238	1	He	19.549	0.083	1432717	0.82	20	97.7	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	641724	0.56	683823	93.84	80	120	
Ge (IS)	72	1	He	361583	0.67	390615	92.57	80	120	
In-115 (IS)	115	1	He	3133345	0.18	3613234	86.72	80	120	
Tb-159 (IS)	159	1	He	7638966	0.77	8473761	90.15	80	120	
Bi-209 (IS)	209	1	He	5042877	0.11	6042462	83.46	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	106SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:53:58-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.034	-0.034	-118.34	8	107.84	100	
Na	23	1	He	-87.045	-87.045	-9.20	275408	11.89	75000	
Mg	24	1	He	19.296	19.296	40.41	81795	20.90	125000	
Al	27	1	He	37.025	37.025	20.64	38262	21.44	4000	
K	39	1	He	25.587	25.587	29.32	221619	7.30	100000	
Ca	44	1	He	1.530	1.530	436.84	4508	15.54	250000	
V	51	1	He	-0.003	-0.003	-80.69	2251	2.52	4000	
Cr	52	1	He	0.006	0.006	118.20	2732	4.70	4000	
Mn	55	1	He	0.079	0.079	12.30	1538	7.97	4000	
Fe	56	1	He	44.940	44.940	15.74	784236	16.49	40000	
Co	59	1	He	0.005	0.005	23.69	472	8.36	4000	
Ni	60	1	He	0.042	0.042	35.62	1210	10.06	4000	
[Cu]	63	1	He	-1.127	-1.127	-2.42	10224	6.30	4000	
Cu	65	1	He	-1.052	-1.052	-1.70	4901	4.49	4000	
Zn	66	1	He	0.447	0.447	4.60	5423	0.44	4000	
As	75	1	He	0.007	0.007	103.79	124	15.39	4000	
Se	78	1	He	0.078	0.078	117.35	193	10.60	4000	
Sr	88	1	He	-0.732	-0.732	-0.49	544	11.85	4000	
Mo	95	1	He	1.925	1.925	4.10	18601	3.88	4000	
Ag	107	1	He	0.019	0.019	28.86	882	19.14	100	
Cd	111	1	He	0.007	0.007	29.60	59	18.19	3500	
Sn	118	1	He	-0.037	-0.037	-24.69	697	14.02	4000	
Sb	123	1	He	-0.009	-0.009	-27.28	474	4.57	4000	
Ba	137	1	He	0.027	0.027	55.25	269	29.29	4000	
Ce	140	1	He	0.008	0.008	34.98	933	22.45	4000	
Tl	205	1	He	0.019	0.019	6.94	1583	5.91	3500	
Pb	208	1	He	0.011	0.011	19.24	1816	9.43	4000	
U	238	1	He	0.001	0.001	96.42	1048	9.46	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	659639	0.97	683823	96.46	80	120	
Ge (IS)	72	1	He	379384	1.43	390615	97.12	80	120	
In-115 (IS)	115	1	He	3490123	1.56	3613234	96.59	80	120	
Tb-159 (IS)	159	1	He	8161914	0.99	8473761	96.32	80	120	
Bi-209 (IS)	209	1	He	5793554	0.86	6042462	95.88	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	107SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:56:32-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.041	-0.041	-37.45	7	50.03	100	
Na	23	1	He	-110.979	-110.979	-1.99	192260	4.42	75000	
Mg	24	1	He	-0.789	-0.789	-174.09	41269	7.10	125000	
Al	27	1	He	17.821	17.821	6.45	19300	6.25	4000	
K	39	1	He	3.450	3.450	37.11	186841	1.35	100000	
Ca	44	1	He	-16.833	-16.833	-2.54	2808	1.72	250000	
V	51	1	He	-0.003	-0.003	-157.15	2338	3.94	4000	
Cr	52	1	He	-0.003	-0.003	-229.14	2664	4.38	4000	
Mn	55	1	He	0.054	0.054	16.19	1277	8.63	4000	
Fe	56	1	He	21.150	21.150	3.48	389564	3.32	40000	
Co	59	1	He	0.002	0.002	20.64	377	3.19	4000	
Ni	60	1	He	0.016	0.016	61.92	1054	6.82	4000	
[Cu]	63	1	He	-1.197	-1.197	-1.33	9142	3.23	4000	
Cu	65	1	He	-1.144	-1.144	-1.44	4161	4.17	4000	
Zn	66	1	He	0.444	0.444	19.63	5564	5.51	4000	
As	75	1	He	-0.003	-0.003	-57.14	101	4.54	4000	
Se	78	1	He	0.082	0.082	121.06	200	11.04	4000	
Sr	88	1	He	-0.726	-0.726	-0.40	646	8.07	4000	
Mo	95	1	He	0.576	0.576	5.49	6039	5.85	4000	
Ag	107	1	He	0.001	0.001	88.45	397	9.69	100	
Cd	111	1	He	0.003	0.003	98.36	41	38.32	3500	
Sn	118	1	He	-0.048	-0.048	-21.03	589	19.98	4000	
Sb	123	1	He	-0.021	-0.021	-6.61	348	3.99	4000	
Ba	137	1	He	0.039	0.039	4.52	334	3.05	4000	
Ce	140	1	He	0.003	0.003	20.91	607	8.64	4000	
Tl	205	1	He	0.005	0.005	6.10	793	2.62	3500	
Pb	208	1	He	0.006	0.006	28.52	1429	8.79	4000	
U	238	1	He	-0.006	-0.006	-27.29	499	25.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684279	0.49	683823	100.07	80	120	
Ge (IS)	72	1	He	390088	0.45	390615	99.87	80	120	
In-115 (IS)	115	1	He	3558325	0.95	3613234	98.48	80	120	
Tb-159 (IS)	159	1	He	8276414	0.49	8473761	97.67	80	120	
Bi-209 (IS)	209	1	He	5811842	0.74	6042462	96.18	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	108_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:59:07-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.118	3.551	10671	2.60	50	98.2	89.5	110.49	
Na	23	1	He	1194.841	1.659	5296247	1.69	1250	95.6	89.5	110.49	
Mg	24	1	He	1266.933	0.542	2794170	1.04	1250	101.4	89.5	110.49	
Al	27	1	He	64.144	2.292	68575	2.04	50	128.3	89.5	110.49	>+\-10%
K	39	1	He	1303.066	1.622	2717471	0.81	1250	104.2	89.5	110.49	
Ca	44	1	He	2533.983	0.424	262638	0.87	2500	101.4	89.5	110.49	
V	51	1	He	50.003	1.169	849789	0.38	50	100.0	89.5	110.49	
Cr	52	1	He	49.580	1.085	995055	0.04	50	99.2	89.5	110.49	
Mn	55	1	He	50.384	1.437	660523	0.37	50	100.8	89.5	110.49	
Fe	56	1	He	521.654	2.163	9320854	1.55	500	104.3	89.5	110.49	
Co	59	1	He	51.190	1.030	1555836	0.05	50	102.4	89.5	110.49	
Ni	60	1	He	50.046	1.105	387658	0.09	50	100.1	89.5	110.49	
Cu	65	1	He	48.758	1.453	504204	0.43	50	97.5	89.5	110.49	
Zn	66	1	He	51.007	1.165	197725	0.71	50	102.0	89.5	110.49	
As	75	1	He	49.372	0.262	120722	0.47	50	98.7	89.5	110.49	
Se	78	1	He	49.379	0.838	11022	1.16	50	98.8	89.5	110.49	
Sr	88	1	He	47.498	1.339	818857	0.21	50	95.0	89.5	110.49	
Mo	95	1	He	50.620	0.971	488131	0.40	50	101.2	89.5	110.49	
Ag	107	1	He	49.875	1.506	1454156	0.20	50	99.8	89.5	110.49	
Cd	111	1	He	49.645	2.230	247147	1.18	50	99.3	89.5	110.49	
Sn	118	1	He	49.971	1.119	581511	0.91	50	99.9	89.5	110.49	
Sb	123	1	He	49.747	1.593	584633	0.86	50	99.5	89.5	110.49	
Ba	137	1	He	49.803	1.606	257991	0.67	50	99.6	89.5	110.49	
Ce	140	1	He	51.104	0.970	3440598	0.71	50	102.2	89.5	110.49	
Tl	205	1	He	49.153	2.138	2926437	2.45	50	98.3	89.5	110.49	
Pb	208	1	He	49.755	0.742	3915390	0.22	50	99.5	89.5	110.49	
U	238	1	He	49.641	0.995	3937680	1.57	50	99.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	686449	1.08	683823	100.38	80	120	
Ge (IS)	72	1	He	392819	0.46	390615	100.56	80	120	
In-115 (IS)	115	1	He	3577536	1.33	3613234	99.01	80	120	
Tb-159 (IS)	159	1	He	8270881	0.59	8473761	97.61	80	120	
Bi-209 (IS)	209	1	He	5858340	0.58	6042462	96.95	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:01:33-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-62.7	9	43.3	0.5	
Na	23	1	He	-119.323	-0.6	156158	1.5	110	
Mg	24	1	He	-5.991	-13.8	29330	5.4	110	
Al	27	1	He	12.382	1.4	13236	2.2	10	CCB Main CR1 Failed
K	39	1	He	-2.227	-27.1	171873	1.3	110	
Ca	44	1	He	-25.476	-3.2	1887	4.0	110	
V	51	1	He	0.001	1547.1	2350	7.0	2	
Cr	52	1	He	0.002	131.5	2691	2.1	2	
Mn	55	1	He	0.050	16.7	1193	8.1	1	
Fe	56	1	He	14.280	2.6	261321	1.9	20	
Co	59	1	He	0.011	54.5	651	27.6	1	
Ni	60	1	He	0.029	45.5	1129	9.3	2	
Cu	65	1	He	-1.180	-1.0	3717	3.2	1	
Zn	66	1	He	0.096	36.5	4179	3.6	20	
As	75	1	He	0.009	109.1	128	17.0	1	
Se	78	1	He	0.095	54.3	199	6.5	2	
Sr	88	1	He	-0.721	-1.3	720	20.5	2	
Mo	95	1	He	0.348	6.3	3805	6.1	2	
Ag	107	1	He	0.028	42.4	1159	28.2	1	
Cd	111	1	He	0.009	60.7	68	36.9	1	
Sn	118	1	He	0.060	23.4	1815	9.9	2	
Sb	123	1	He	0.223	5.5	3153	5.8	1	
Ba	137	1	He	0.049	6.8	381	5.8	1	
Ce	140	1	He	0.011	53.3	1089	33.2	1	
Tl	205	1	He	0.019	30.0	1552	18.9	1	
Pb	208	1	He	0.019	33.4	2442	20.0	1	
U	238	1	He	0.017	16.6	2312	8.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	668888	0.93	683823	97.82	80	120	
Ge (IS)	72	1	He	383299	1.00	390615	98.13	80	120	
In-115 (IS)	115	1	He	3512218	1.41	3613234	97.20	80	120	
Tb-159 (IS)	159	1	He	8172278	2.22	8473761	96.44	80	120	
Bi-209 (IS)	209	1	He	5770806	1.05	6042462	95.50	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	110_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:04:09-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.061	-29.2	2	173.2	0.5	
Na	23	1	He	-122.303	-0.2	147081	0.8	110	
Mg	24	1	He	-8.312	-2.4	24808	1.8	110	
Al	27	1	He	10.278	1.5	11230	1.7	10	CCB Main CR1 Failed
K	39	1	He	-3.460	-13.2	172186	0.7	110	
Ca	44	1	He	-27.613	-2.4	1701	4.3	110	
V	51	1	He	-0.017	-47.7	2089	6.9	2	
Cr	52	1	He	-0.009	-15.5	2530	1.3	2	
Mn	55	1	He	0.036	19.0	1029	8.9	1	
Fe	56	1	He	11.575	1.5	217679	1.6	20	
Co	59	1	He	0.006	46.4	490	16.0	1	
Ni	60	1	He	0.014	91.3	1029	9.4	2	
Cu	65	1	He	-1.219	-1.2	3390	4.4	1	
Zn	66	1	He	0.058	47.7	4076	2.7	20	
As	75	1	He	-0.005	-192.0	96	25.3	1	
Se	78	1	He	-0.017	-1190.3	177	24.0	2	
Sr	88	1	He	-0.722	-0.2	708	3.3	2	
Mo	95	1	He	0.216	4.2	2577	3.9	2	
Ag	107	1	He	0.003	54.0	440	9.9	1	
Cd	111	1	He	0.001	507.1	32	113.5	1	
Sn	118	1	He	-0.025	-15.2	848	4.7	2	
Sb	123	1	He	0.045	21.4	1112	10.9	1	
Ba	137	1	He	0.033	12.9	303	6.7	1	
Ce	140	1	He	0.002	55.9	509	14.7	1	
Tl	205	1	He	0.003	28.7	659	6.9	1	
Pb	208	1	He	0.005	24.1	1363	7.1	1	
U	238	1	He	-0.004	-26.8	686	11.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	679356	0.34	683823	99.35	80	120	
Ge (IS)	72	1	He	386920	0.17	390615	99.05	80	120	
In-115 (IS)	115	1	He	3549919	0.86	3613234	98.25	80	120	
Tb-159 (IS)	159	1	He	8239592	1.57	8473761	97.24	80	120	
Bi-209 (IS)	209	1	He	5828754	0.54	6042462	96.46	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326257/1-a
Data File Name	111_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:06:43-07:00
Sample Type	MB
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.051	-46.9	4	114.6	0.5	
Na	23	1	He	-118.892	-0.6	159368	1.3	110	
Mg	24	1	He	-8.575	-2.4	24106	1.4	110	
Al	27	1	He	8.456	5.9	9260	5.3	10	
K	39	1	He	-5.371	-13.1	167554	0.3	110	
Ca	44	1	He	97.129	4.2	14195	2.7	110	
V	51	1	He	0.017	47.3	2642	4.9	2	
Cr	52	1	He	0.057	7.5	3804	2.5	2	
Mn	55	1	He	0.094	8.2	1768	5.1	1	
Fe	56	1	He	9.141	3.5	173689	2.9	20	
Co	59	1	He	0.002	68.2	376	10.4	1	
Ni	60	1	He	-0.020	-61.6	763	12.8	2	
Cu	65	1	He	-1.164	-1.1	3914	3.6	1	
Zn	66	1	He	0.312	18.5	4964	3.9	20	
As	75	1	He	0.001	780.1	110	24.2	1	
Se	78	1	He	0.050	219.5	189	12.6	2	
Sr	88	1	He	-0.631	-0.6	2248	3.1	2	
Mo	95	1	He	0.409	3.1	4424	2.9	2	
Ag	107	1	He	0.000	-647.3	344	15.1	1	
Cd	111	1	He	-0.001	-277.5	20	72.7	1	
Sn	118	1	He	-0.027	-31.4	832	11.9	2	
Sb	123	1	He	0.008	19.5	688	2.0	1	
Ba	137	1	He	0.069	12.9	486	10.0	1	
Ce	140	1	He	0.000	65.4	416	4.6	1	
Tl	205	1	He	-0.001	-7.4	400	1.7	1	
Pb	208	1	He	0.009	6.0	1678	3.1	1	
U	238	1	He	-0.008	-4.9	356	8.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	675550	0.50	683823	98.79	80	120	
Ge (IS)	72	1	He	382088	0.43	390615	97.82	80	120	
In-115 (IS)	115	1	He	3550879	0.80	3613234	98.27	80	120	
Tb-159 (IS)	159	1	He	8218045	0.50	8473761	96.98	80	120	
Bi-209 (IS)	209	1	He	5849770	1.11	6042462	96.81	80	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326257/2-a
Data File Name	112_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:09:17-07:00
Sample Type	LCS
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	78.317	78.317	2.401	17133	2.41	80	97.9	85	115	
Na	23	1	He	1947.360	1947.360	1.282	8297568	1.35	2000	97.4	85	115	
Mg	24	1	He	1951.925	1951.925	0.457	4312851	0.24	2000	97.6	85	115	
Al	27	1	He	85.336	85.336	1.033	91760	0.86	80	106.7	85	115	
K	39	1	He	2029.412	2029.412	0.701	4162041	0.72	2000	101.5	85	115	
Ca	44	1	He	3930.669	3930.669	0.665	407869	0.90	4000	98.3	85	115	
V	51	1	He	79.920	79.920	0.409	1366785	0.52	80	99.9	85	115	
Cr	52	1	He	79.122	79.122	1.391	1598041	1.42	80	98.9	85	115	
Mn	55	1	He	79.298	79.298	0.585	1046946	0.40	80	99.1	85	115	
Fe	56	1	He	808.341	808.341	0.434	14542917	0.37	800	101.0	85	115	
Co	59	1	He	79.892	79.892	0.978	2445871	0.91	80	99.9	85	115	
Ni	60	1	He	78.671	78.671	0.710	613357	0.90	80	98.3	85	115	
Cu	65	1	He	77.483	77.483	0.418	797896	0.62	80	96.9	85	115	
Zn	66	1	He	79.235	79.235	1.402	304842	1.41	80	99.0	85	115	
As	75	1	He	79.263	79.263	0.796	193643	0.27	80	99.1	85	115	
Se	78	1	He	77.123	77.123	2.366	17101	1.36	80	96.4	85	115	
Sr	88	1	He	76.205	76.205	1.461	1320742	0.10	80	95.3	85	115	
Mo	95	1	He	78.384	78.384	1.442	764122	0.12	80	98.0	85	115	
Ag	107	1	He	80.362	80.362	1.487	2369499	0.85	80	100.5	85	115	
Cd	111	1	He	78.363	78.363	0.832	394576	0.74	80	98.0	85	115	
Sn	118	1	He	78.027	78.027	1.427	917618	0.51	80	97.5	85	115	
Sb	123	1	He	80.095	80.095	1.461	951623	0.47	80	100.1	85	115	
Ba	137	1	He	78.583	78.583	1.310	411635	0.52	80	98.2	85	115	
Ce	140	1	He	79.524	79.524	0.909	5414571	0.65	80	99.4	85	115	
Tl	205	1	He	75.723	75.723	0.236	4638748	0.22	80	94.7	85	115	
Pb	208	1	He	78.337	78.337	0.844	6294244	0.13	80	97.9	85	115	
U	238	1	He	77.150	77.150	2.639	6296166	2.27	80	96.4	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	691459	0.24	683823	101.12	80	120	
Ge (IS)	72	1	He	392640	1.00	390615	100.52	80	120	
In-115 (IS)	115	1	He	3618234	1.47	3613234	100.14	80	120	
Tb-159 (IS)	159	1	He	8510820	0.38	8473761	100.44	80	120	
Bi-209 (IS)	209	1	He	5982233	0.94	6042462	99.00	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-c
Data File Name	113SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:11:40-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4507
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.004	0.004	1023.92	16	53.90	100	
Na	23	1	He	154865.385	154865.385	1.23	573794253	1.21	75000	>LDR
Mg	24	1	He	4324.650	4324.650	0.48	8934394	0.58	125000	
Al	27	1	He	14.207	14.207	24.19	14694	23.31	4000	
K	39	1	He	2581.568	2581.568	0.83	4931245	0.98	100000	
Ca	44	1	He	34155.720	34155.720	1.11	3299234	1.33	250000	
V	51	1	He	0.080	0.080	15.34	3554	5.73	4000	
Cr	52	1	He	0.277	0.277	4.48	7842	3.01	4000	
Mn	55	1	He	141.184	141.184	0.53	1752125	0.75	4000	
Fe	56	1	He	244.631	244.631	1.86	4146694	1.65	40000	
Co	59	1	He	0.124	0.124	8.29	3864	7.86	4000	
Ni	60	1	He	3.299	3.299	1.25	25025	1.08	4000	
[Cu]	63	1	He	-0.988	-0.988	-0.66	12802	0.79	4000	
Cu	65	1	He	-0.900	-0.900	-4.14	6268	5.44	4000	
Zn	66	1	He	1.047	1.047	3.00	7357	1.61	4000	
As	75	1	He	3.546	3.546	2.95	8174	2.62	4000	
Se	78	1	He	0.177	0.177	25.34	207	4.12	4000	
Sr	88	1	He	1824.319	1824.319	1.92	28385407	0.35	4000	
Mo	95	1	He	34.799	34.799	1.13	307774	0.78	4000	
Ag	107	1	He	0.051	0.051	26.19	1702	22.14	100	
Cd	111	1	He	0.044	0.044	13.88	222	11.36	3500	
Sn	118	1	He	0.158	0.158	3.70	2729	2.17	4000	
Sb	123	1	He	0.062	0.062	7.15	1216	4.85	4000	
Ba	137	1	He	6.368	6.368	2.07	30345	0.34	4000	
Ce	140	1	He	0.047	0.047	12.17	3254	12.40	4000	
Tl	205	1	He	0.069	0.069	6.12	4422	5.10	3500	
Pb	208	1	He	0.070	0.070	7.48	5894	5.77	4000	
U	238	1	He	1.390	1.390	0.68	107123	0.22	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650102	0.23	683823	95.07	80	120	
Ge (IS)	72	1	He	366014	0.47	390615	93.70	80	120	
In-115 (IS)	115	1	He	3279817	1.90	3613234	90.77	80	120	
Tb-159 (IS)	159	1	He	7966262	0.53	8473761	94.01	80	120	
Bi-209 (IS)	209	1	He	5354585	0.66	6042462	88.62	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-d ms
Data File Name	114SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:14:07-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4508
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	74.579	74.579	2.38	15504	1.40	100	
Na	23	1	He	162120.926	162120.926	1.30	607111638	0.80	75000	>LDR
Mg	24	1	He	6407.914	6407.914	1.12	13360802	0.58	125000	
Al	27	1	He	87.837	87.837	2.42	89756	2.93	4000	
K	39	1	He	4678.528	4678.528	1.48	8892326	1.02	100000	
Ca	44	1	He	39234.830	39234.830	0.76	3830112	1.09	250000	
V	51	1	He	80.347	80.347	0.78	1305843	0.91	4000	
Cr	52	1	He	77.593	77.593	1.10	1489325	0.55	4000	
Mn	55	1	He	220.734	220.734	0.97	2768510	0.34	4000	
Fe	56	1	He	1012.554	1012.554	0.44	17309208	0.73	40000	
Co	59	1	He	76.708	76.708	0.68	2231816	0.85	4000	
Ni	60	1	He	76.397	76.397	1.35	566034	0.40	4000	
[Cu]	63	1	He	73.743	73.743	1.54	1504445	2.21	4000	
Cu	65	1	He	73.535	73.535	0.73	720388	0.35	4000	
Zn	66	1	He	76.434	76.434	1.01	274249	0.25	4000	
As	75	1	He	83.674	83.674	0.61	190557	0.15	4000	
Se	78	1	He	73.552	73.552	0.57	15213	0.20	4000	
Sr	88	1	He	1957.555	1957.555	1.28	30923179	1.14	4000	
Mo	95	1	He	115.376	115.376	0.28	1034814	0.23	4000	
Ag	107	1	He	78.179	78.179	2.33	2121284	2.42	100	
Cd	111	1	He	75.167	75.167	0.10	348275	0.29	3500	
Sn	118	1	He	78.927	78.927	0.40	854160	0.43	4000	
Sb	123	1	He	80.160	80.160	0.24	876426	0.28	4000	
Ba	137	1	He	85.297	85.297	1.00	411158	1.15	4000	
Ce	140	1	He	78.637	78.637	1.27	4926829	1.08	4000	
Tl	205	1	He	71.442	71.442	0.51	4086513	1.13	3500	
Pb	208	1	He	79.081	79.081	0.82	5602029	0.42	4000	
U	238	1	He	77.624	77.624	1.95	5914631	0.95	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	657138	0.96	683823	96.10	80	120	
Ge (IS)	72	1	He	366016	0.75	390615	93.70	80	120	
In-115 (IS)	115	1	He	3329199	0.22	3613234	92.14	80	120	
Tb-159 (IS)	159	1	He	7946896	1.11	8473761	93.78	80	120	
Bi-209 (IS)	209	1	He	5274149	0.64	6042462	87.28	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-e msd
Data File Name	115SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:16:27-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4509
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	76.703	76.703	1.28	15922	2.03	100	
Na	23	1	He	159059.865	159059.865	0.05	594728456	1.05	75000	>LDR
Mg	24	1	He	6337.985	6337.985	1.22	13194105	1.10	125000	
Al	27	1	He	87.814	87.814	1.62	89589	2.50	4000	
K	39	1	He	4623.263	4623.263	0.32	8775423	0.80	100000	
Ca	44	1	He	38642.329	38642.329	1.49	3765927	0.95	250000	
V	51	1	He	79.244	79.244	3.08	1285617	2.06	4000	
Cr	52	1	He	77.633	77.633	1.85	1487856	2.54	4000	
Mn	55	1	He	220.869	220.869	1.77	2765519	0.81	4000	
Fe	56	1	He	1005.374	1005.374	0.77	17157950	0.27	40000	
Co	59	1	He	76.675	76.675	0.65	2227289	1.37	4000	
Ni	60	1	He	77.161	77.161	0.91	570768	0.33	4000	
[Cu]	63	1	He	74.383	74.383	2.07	1514680	2.37	4000	
Cu	65	1	He	74.074	74.074	0.35	724393	0.82	4000	
Zn	66	1	He	77.138	77.138	0.72	276600	0.90	4000	
As	75	1	He	84.194	84.194	0.91	191641	1.08	4000	
Se	78	1	He	72.676	72.676	1.08	15026	1.66	4000	
Sr	88	1	He	1934.505	1934.505	0.95	30236041	0.81	4000	
Mo	95	1	He	116.737	116.737	0.80	1035927	0.60	4000	
Ag	107	1	He	79.340	79.340	1.35	2129840	0.22	100	
Cd	111	1	He	76.113	76.113	1.13	348912	0.39	3500	
Sn	118	1	He	80.601	80.601	0.84	863005	0.54	4000	
Sb	123	1	He	81.986	81.986	0.63	886907	0.83	4000	
Ba	137	1	He	87.504	87.504	1.01	417314	0.39	4000	
Ce	140	1	He	80.973	80.973	1.37	5019303	0.54	4000	
Tl	205	1	He	73.047	73.047	0.96	4167903	1.05	3500	
Pb	208	1	He	79.943	79.943	0.46	5668227	0.23	4000	
U	238	1	He	78.329	78.329	0.82	5954288	0.85	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656066	1.03	683823	95.94	80	120	
Ge (IS)	72	1	He	365820	0.92	390615	93.65	80	120	
In-115 (IS)	115	1	He	3294185	1.39	3613234	91.17	80	120	
Tb-159 (IS)	159	1	He	7927044	0.13	8473761	93.55	80	120	
Bi-209 (IS)	209	1	He	5278839	0.52	6042462	87.36	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-f pds
Data File Name	116SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:18:47-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4510
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	76.081	76.081	1.63	15579	2.11	100	
Na	23	1	He	155121.920	155121.920	0.72	572130733	0.91	75000	>LDR
Mg	24	1	He	6222.698	6222.698	0.95	12778994	0.76	125000	
Al	27	1	He	85.717	85.717	2.23	86252	1.25	4000	
K	39	1	He	4491.340	4491.340	1.43	8413961	1.33	100000	
Ca	44	1	He	38100.224	38100.224	2.03	3662654	1.39	250000	
V	51	1	He	76.732	76.732	0.88	1228303	1.45	4000	
Cr	52	1	He	75.692	75.692	0.55	1430930	1.05	4000	
Mn	55	1	He	215.475	215.475	1.65	2661705	2.01	4000	
Fe	56	1	He	1004.230	1004.230	2.07	16904393	1.14	40000	
Co	59	1	He	74.840	74.840	0.47	2144458	1.09	4000	
Ni	60	1	He	75.270	75.270	1.47	549282	1.82	4000	
[Cu]	63	1	He	71.152	71.152	0.87	1430550	0.97	4000	
Cu	65	1	He	72.055	72.055	1.42	695460	1.31	4000	
Zn	66	1	He	75.851	75.851	1.30	268526	0.66	4000	
As	75	1	He	82.490	82.490	1.24	185351	1.79	4000	
Se	78	1	He	71.462	71.462	1.09	14588	1.97	4000	
Sr	88	1	He	1854.906	1854.906	0.77	29150940	1.31	4000	
Mo	95	1	He	111.799	111.799	0.86	997509	0.67	4000	
Ag	107	1	He	76.998	76.998	0.65	2078382	1.28	100	
Cd	111	1	He	73.153	73.153	0.37	337192	1.25	3500	
Sn	118	1	He	77.645	77.645	0.56	835997	1.78	4000	
Sb	123	1	He	78.369	78.369	0.23	852454	1.55	4000	
Ba	137	1	He	83.058	83.058	0.68	398330	2.08	4000	
Ce	140	1	He	76.411	76.411	2.09	4761890	0.76	4000	
Tl	205	1	He	71.285	71.285	1.00	4016565	1.30	3500	
Pb	208	1	He	76.688	76.688	0.13	5413675	1.04	4000	
U	238	1	He	76.462	76.462	0.60	5740296	1.94	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647190	1.56	683823	94.64	80	120	
Ge (IS)	72	1	He	361112	1.23	390615	92.45	80	120	
In-115 (IS)	115	1	He	3312061	1.42	3613234	91.66	80	120	
Tb-159 (IS)	159	1	He	7828752	1.83	8473761	92.39	80	120	
Bi-209 (IS)	209	1	He	5255723	1.17	6042462	86.98	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-3-c
Data File Name	117SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:21:08-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4511
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.034	0.034	105.47	22	34.66	100	
Na	23	1	He	158432.358	158432.358	1.01	597846767	1.71	75000	>LDR
Mg	24	1	He	5594.261	5594.261	0.26	11758216	0.91	125000	
Al	27	1	He	9.602	9.602	0.69	10252	0.79	4000	
K	39	1	He	2715.456	2715.456	0.85	5273712	1.50	100000	
Ca	44	1	He	23296.662	23296.662	0.90	2293074	0.59	250000	
V	51	1	He	0.134	0.134	11.92	4508	5.35	4000	
Cr	52	1	He	0.397	0.397	2.28	10290	1.46	4000	
Mn	55	1	He	96.437	96.437	0.43	1219051	1.09	4000	
Fe	56	1	He	206.376	206.376	1.07	3564835	1.29	40000	
Co	59	1	He	0.077	0.077	14.09	2576	11.64	4000	
Ni	60	1	He	0.557	0.557	3.78	5050	2.57	4000	
[Cu]	63	1	He	-0.737	-0.737	-2.69	18088	2.91	4000	
Cu	65	1	He	-0.651	-0.651	-4.17	8798	3.37	4000	
Zn	66	1	He	3.563	3.563	1.09	16505	1.71	4000	
As	75	1	He	13.208	13.208	1.44	30610	0.96	4000	
Se	78	1	He	0.141	0.141	108.94	202	15.60	4000	
Sr	88	1	He	345.817	345.817	0.79	5526302	1.27	4000	
Mo	95	1	He	58.924	58.924	1.12	533853	0.33	4000	
Ag	107	1	He	0.058	0.058	35.27	1922	27.73	100	
Cd	111	1	He	0.054	0.054	25.09	278	21.65	3500	
Sn	118	1	He	0.208	0.208	7.53	3351	5.69	4000	
Sb	123	1	He	0.039	0.039	9.85	990	3.25	4000	
Ba	137	1	He	2.449	2.449	4.16	12044	4.35	4000	
Ce	140	1	He	0.053	0.053	17.98	3697	14.80	4000	
Tl	205	1	He	0.048	0.048	10.10	3176	7.52	3500	
Pb	208	1	He	0.074	0.074	17.31	6249	14.06	4000	
U	238	1	He	7.169	7.169	1.28	548594	0.32	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	662085	0.71	683823	96.82	80	120	
Ge (IS)	72	1	He	371408	0.89	390615	95.08	80	120	
In-115 (IS)	115	1	He	3361809	1.32	3613234	93.04	80	120	
Tb-159 (IS)	159	1	He	7968844	1.12	8473761	94.04	80	120	
Bi-209 (IS)	209	1	He	5393895	1.04	6042462	89.27	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-3-c sd@5
Data File Name	118SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:23:37-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	4512
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.004	-0.004	-983.10	14	53.28	100	
Na	23	1	He	32633.431	32633.431	2.18	125593008	1.80	75000	
Mg	24	1	He	1171.091	1171.091	1.40	2534216	0.96	125000	
Al	27	1	He	3.090	3.090	9.55	3635	8.08	4000	
K	39	1	He	538.494	538.494	1.63	1204515	1.29	100000	
Ca	44	1	He	4656.082	4656.082	0.70	469209	0.50	250000	
V	51	1	He	0.010	0.010	93.96	2524	6.14	4000	
Cr	52	1	He	0.071	0.071	11.51	4075	3.77	4000	
Mn	55	1	He	20.106	20.106	1.41	258657	0.98	4000	
Fe	56	1	He	42.995	42.995	1.56	764961	1.19	40000	
Co	59	1	He	0.027	0.027	19.17	1132	13.77	4000	
Ni	60	1	He	0.171	0.171	5.51	2210	3.43	4000	
[Cu]	63	1	He	-0.888	-0.888	-2.60	15295	3.17	4000	
Cu	65	1	He	-0.847	-0.847	-4.03	7014	4.51	4000	
Zn	66	1	He	1.134	1.134	6.35	8052	2.77	4000	
As	75	1	He	2.619	2.619	2.48	6371	2.97	4000	
Se	78	1	He	0.023	0.023	405.22	184	10.69	4000	
Sr	88	1	He	66.511	66.511	0.96	1125250	0.80	4000	
Mo	95	1	He	11.691	11.691	0.34	111531	0.04	4000	
Ag	107	1	He	0.013	0.013	24.88	726	12.77	100	
Cd	111	1	He	0.013	0.013	22.90	91	16.90	3500	
Sn	118	1	He	0.114	0.114	16.88	2431	8.72	4000	
Sb	123	1	He	-0.002	-0.002	-167.70	559	7.51	4000	
Ba	137	1	He	0.535	0.535	2.94	2860	2.46	4000	
Ce	140	1	He	0.013	0.013	10.31	1272	6.91	4000	
Tl	205	1	He	0.015	0.015	15.22	1378	10.20	3500	
Pb	208	1	He	0.028	0.028	11.48	3120	7.76	4000	
U	238	1	He	1.432	1.432	2.13	114505	0.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	672707	0.43	683823	98.37	80	120	
Ge (IS)	72	1	He	384477	0.56	390615	98.43	80	120	
In-115 (IS)	115	1	He	3526392	0.35	3613234	97.60	80	120	
Tb-159 (IS)	159	1	He	8268372	1.32	8473761	97.58	80	120	
Bi-209 (IS)	209	1	He	5785316	0.90	6042462	95.74	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	119_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:26:10-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	47.743	1.945	10192	1.81	50	95.5	89.5	110.49	
Na	23	1	He	1224.374	2.309	5316079	1.81	1250	97.9	89.5	110.49	
Mg	24	1	He	1272.675	1.860	2757104	1.73	1250	101.8	89.5	110.49	
Al	27	1	He	51.891	1.446	54578	1.14	50	103.8	89.5	110.49	
K	39	1	He	1280.076	2.364	2625681	1.91	1250	102.4	89.5	110.49	
Ca	44	1	He	2509.155	0.649	255526	0.83	2500	100.4	89.5	110.49	
V	51	1	He	49.411	0.458	825000	0.73	50	98.8	89.5	110.49	
Cr	52	1	He	48.930	0.654	964794	0.42	50	97.9	89.5	110.49	
Mn	55	1	He	50.144	0.705	645838	0.45	50	100.3	89.5	110.49	
Fe	56	1	He	501.816	1.115	8809469	0.82	500	100.4	89.5	110.49	
Co	59	1	He	50.217	1.097	1499420	0.89	50	100.4	89.5	110.49	
Ni	60	1	He	49.367	1.049	375690	0.90	50	98.7	89.5	110.49	
Cu	65	1	He	48.476	0.575	492570	0.28	50	97.0	89.5	110.49	
Zn	66	1	He	50.849	0.370	192959	0.86	50	101.7	89.5	110.49	
As	75	1	He	48.931	0.218	117109	0.59	50	97.9	89.5	110.49	
Se	78	1	He	48.795	2.546	10661	1.73	50	97.6	89.5	110.49	
Sr	88	1	He	47.751	1.504	801276	0.30	50	95.5	89.5	110.49	
Mo	95	1	He	49.867	0.955	468113	0.71	50	99.7	89.5	110.49	
Ag	107	1	He	49.699	1.165	1410589	0.49	50	99.4	89.5	110.49	
Cd	111	1	He	49.518	1.494	239989	1.15	50	99.0	89.5	110.49	
Sn	118	1	He	49.993	2.103	566250	0.59	50	100.0	89.5	110.49	
Sb	123	1	He	49.954	1.769	571454	0.53	50	99.9	89.5	110.49	
Ba	137	1	He	50.465	0.887	254501	1.14	50	100.9	89.5	110.49	
Ce	140	1	He	51.265	0.553	3359948	1.10	50	102.5	89.5	110.49	
Tl	205	1	He	49.525	1.178	2902791	0.56	50	99.0	89.5	110.49	
Pb	208	1	He	49.327	1.239	3875558	1.15	50	98.7	89.5	110.49	
U	238	1	He	49.644	1.264	3876741	0.38	50	99.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	674335	0.29	683823	98.61	80	120	
Ge (IS)	72	1	He	384504	0.81	390615	98.44	80	120	
In-115 (IS)	115	1	He	3482634	1.64	3613234	96.39	80	120	
Tb-159 (IS)	159	1	He	8143232	0.88	8473761	96.10	80	120	
Bi-209 (IS)	209	1	He	5848967	0.46	6042462	96.80	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	120_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:28:37-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.004	1778.7	16	89.2	0.5	
Na	23	1	He	-87.951	-2.8	269974	3.4	110	
Mg	24	1	He	-13.817	-3.1	12516	7.0	110	
Al	27	1	He	2.983	2.3	3433	2.9	10	
K	39	1	He	-5.827	-23.1	161649	1.2	110	
Ca	44	1	He	-29.161	-3.8	1490	7.3	110	
V	51	1	He	-0.002	-392.7	2262	5.7	2	
Cr	52	1	He	-0.002	-258.6	2564	3.7	2	
Mn	55	1	He	0.074	9.0	1469	5.7	1	
Fe	56	1	He	3.757	2.7	76780	2.2	20	
Co	59	1	He	0.022	10.6	947	6.9	1	
Ni	60	1	He	0.030	36.9	1112	7.8	2	
Cu	65	1	He	-1.147	-2.3	3958	6.9	1	
Zn	66	1	He	0.070	45.6	3999	2.2	20	
As	75	1	He	0.026	26.3	167	10.4	1	
Se	78	1	He	0.152	76.8	207	11.1	2	
Sr	88	1	He	-0.539	-3.4	3734	8.6	2	
Mo	95	1	He	0.125	7.4	1683	5.4	2	
Ag	107	1	He	0.034	44.1	1325	33.5	1	
Cd	111	1	He	0.013	38.5	87	27.7	1	
Sn	118	1	He	0.141	17.2	2722	10.3	2	
Sb	123	1	He	0.218	7.6	3079	6.0	1	
Ba	137	1	He	0.048	10.2	373	7.8	1	
Ce	140	1	He	0.015	28.3	1358	21.6	1	
Tl	205	1	He	0.025	12.1	1907	9.6	1	
Pb	208	1	He	0.024	17.6	2763	11.8	1	
U	238	1	He	0.040	4.2	4043	3.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655179	0.86	683823	95.81	80	120	
Ge (IS)	72	1	He	375456	0.78	390615	96.12	80	120	
In-115 (IS)	115	1	He	3497201	1.24	3613234	96.79	80	120	
Tb-159 (IS)	159	1	He	8118781	0.51	8473761	95.81	80	120	
Bi-209 (IS)	209	1	He	5729221	1.26	6042462	94.82	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	121_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:31:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.027	403.0	20	109.3	0.5	
Na	23	1	He	-98.782	-0.9	226166	1.1	110	
Mg	24	1	He	-14.625	-0.7	10681	2.3	110	
Al	27	1	He	2.590	4.5	2988	3.3	10	
K	39	1	He	-7.553	-16.0	156091	0.9	110	
Ca	44	1	He	-30.775	-3.3	1313	7.5	110	
V	51	1	He	-0.010	-87.3	2105	5.8	2	
Cr	52	1	He	-0.006	-100.4	2447	4.7	2	
Mn	55	1	He	0.054	21.5	1206	12.5	1	
Fe	56	1	He	3.249	3.4	67119	3.2	20	
Co	59	1	He	0.011	42.3	610	20.6	1	
Ni	60	1	He	0.019	79.9	1014	10.3	2	
Cu	65	1	He	-1.209	-1.1	3313	3.4	1	
Zn	66	1	He	0.078	73.4	3983	4.9	20	
As	75	1	He	0.009	23.2	124	4.4	1	
Se	78	1	He	0.086	88.3	191	7.5	2	
Sr	88	1	He	-0.600	-1.4	2666	5.7	2	
Mo	95	1	He	0.053	13.8	986	6.6	2	
Ag	107	1	He	0.010	38.0	632	18.0	1	
Cd	111	1	He	0.004	33.0	46	15.2	1	
Sn	118	1	He	0.026	52.4	1390	10.6	2	
Sb	123	1	He	0.034	14.0	947	5.2	1	
Ba	137	1	He	0.039	13.1	322	7.8	1	
Ce	140	1	He	0.005	5.9	694	2.5	1	
Tl	205	1	He	0.008	4.9	908	3.5	1	
Pb	208	1	He	0.009	10.5	1658	4.9	1	
U	238	1	He	0.006	28.6	1410	9.1	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	645454	0.58	683823	94.39	80	120	
Ge (IS)	72	1	He	371228	0.69	390615	95.04	80	120	
In-115 (IS)	115	1	He	3425024	0.50	3613234	94.79	80	120	
Tb-159 (IS)	159	1	He	8079071	1.03	8473761	95.34	80	120	
Bi-209 (IS)	209	1	He	5737387	1.24	6042462	94.95	80	120	

P/A Factor Tuning Report

===Current Sample===
Sample Name: Blank
Data File: 001SMPL.d
Acquired: 04/25/2016 05:37:58

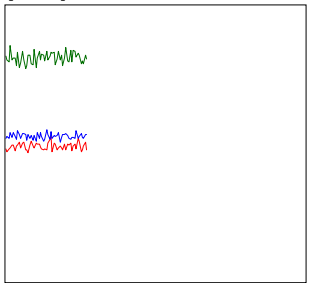
===Detector Parameters and P/A Factors===
Discriminator: 5 mV
AnalogHV: 1749 V
PulseHV: 1073 V

Acquired: 04/25/2016 04:50:05

Mass[u]	Element	P/A Factor
6		0.083539
9		0.098363
24		0.115410
27		0.121387
39		0.123346
45		0.124908
48		0.126448
51		0.128714
52		0.134245
55		0.137423
59		0.144308
60		0.147481
65		0.151150
66		0.150573
72		0.147581
75		0.146878
95		0.146897
96		0.148513
98		0.148618
99		0.151701
100		0.150672
101		0.153009
102		0.151892
104		0.155625
105		0.159429
106		0.160754
108		0.160886
110		0.162162
111		0.163461
114		0.161968
115		0.161792
118		0.161750
121		0.161823
138		0.164095
193		0.178196
205		0.180186
208		0.181152
209		0.181068
232		0.180959
238		0.180452

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	10000	4766	4900.3	2.72
59	10000	6409	6460.8	2.44
89	20000	10697	10545.8	1.96
140	20000	10607	10667.6	2.48
205	10000	8054	8111.2	2.50
156/140	1	0.933 %	0.883 %	12.91
70/140	5	2.367 %	2.376 %	9.54
115	2000	936	938.4	5.03
60	1000	573	609.0	5.19

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.55
RF Power	1600	W	Carrier Gas	0.65	L/min	S/C Temp	2	℃	Plasma Gas	15.0
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas	0.9

Lenses Parameters

Extract 1	0.0	V	Omega Bias	-65	V	Cell Entrance	-32	V	Deflect	14.6	V
Extract 2	-145.0	V	Omega Lens	7.4	V	Cell Exit	-58	V	Plate Bias	-50	V

Cell Parameters

Use Gas	false		H2 Flow	0.0	mL/min	OctP Bias	-8.0	V	Energy Discrimination	5.0	V
He Flow	0.0	mL/min	3rd Gas Flow	0	%	OctP RF	150	V			

Qpole Parameters

Mass Gain	132	Axis Gain	1.0008	QP Bias	-3.0 V
Mass Offset	129	Axis Offset	0.12		

Torch Axis Parameters

Torch H	-0.3	mm	Torch V	0.1	mm

EM Parameters

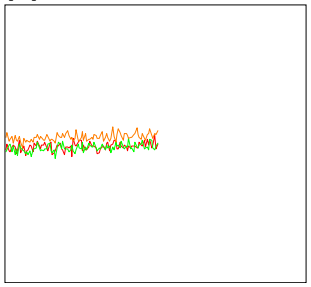
Discriminator	5.0	mV	Analog HV	1749	V	Pulse HV	1073	V

Meters

IF/BK Press	2.53E+2	Pa	Internal Temp	33.4	℃	Reflected Power	8	W
Analyzer Press	1.62E-4	Pa	Inlet Temp	27.0	℃			

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	5000	2492	2445.8	3.02
89	5000	2502	2423.9	2.91
140	10000	5218	5346.1	2.87
205	10000	5461	5239.4	2.61
156/140	1	0.613 %	0.582 %	26.60
70/140	2	1.495 %	1.313 %	14.89
51	100	36	38.5	23.33
56	5000	3224	3262.6	3.31
75	20	5	3.1	74.93
78	50	13	12.5	37.81

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.55
RF Power	1600	W	Carrier Gas	0.65	L/min	S/C Temp	2	°C	Plasma Gas	15.0
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas	0.9

Lenses Parameters

Extract 1	0.0	V	Omega Bias	-65	V	Cell Entrance	-32	V	Deflect	1.2	V
Extract 2	-145.0	V	Omega Lens	7.4	V	Cell Exit	-70	V	Plate Bias	-60	V

Cell Parameters

Use Gas	true		H2 Flow	0.0	mL/min	OctP Bias	-18.0	V	Energy Discrimination	4.0	V
He Flow	4.0	mL/min	3rd Gas Flow	0	%	OctP RF	150	V			

Qpole Parameters

Mass Gain	132	Axis Gain	1.0008	QP Bias	-14.0	V
Mass Offset	129	Axis Offset	0.12			

Torch Axis Parameters

Torch H	-0.3	mm	Torch V	0.1	mm

EM Parameters

Discriminator	5.0	mV	Analog HV	1749	V	Pulse HV	1073	V

Meters

IF/BK Press	2.53E+2	Pa	Internal Temp	32.8	°C	Reflected Power	8	W
Analyzer Press	2.84E-4	Pa	Inlet Temp	27.0	°C			

200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160425-1LL.b
Report Comment
Instrument Name ICPMS05 JP12091608

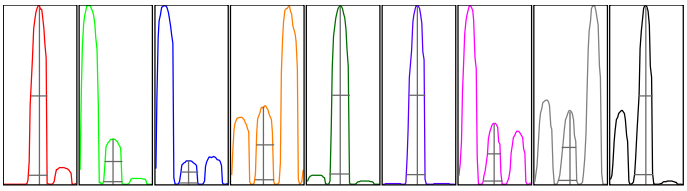
[No Gas]

Mass	Count (Actual)
9	82899
24	391151
25	51703
26	60542
59	475522
115	731139
206	175122
207	151768
208	368509

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.59	5.00	
24	0.33	5.00	
25	0.41	5.00	
26	0.47	5.00	
59	0.59	5.00	
115	0.34	5.00	
206	0.48	5.00	
207	0.57	5.00	
208	0.44	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	83625	82968	83015	82488	82397
24	389955	391353	391781	392884	389780
25	51772	51686	52029	51536	51492
26	60382	60891	60772	60188	60478
59	471755	476033	476187	479380	474253
115	726836	731627	732665	731848	732718
206	173839	175347	175702	175940	174780
207	150515	151427	152085	151984	152832
208	366136	367992	370316	368511	369587

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	13344	9.00	8.9 - 9.1		0.782	0.900	
24	61384	23.90	23.9 - 24.1		0.771	0.900	
25	8103	24.90	24.9 - 25.1		0.782	0.900	
26	9397	25.85	25.9 - 26.1	[F]	0.780	0.900	
59	73473	58.90	58.9 - 59.1		0.789	0.900	
115	121495	114.95	114.9 - 115.1		0.782	0.900	
206	32097	206.00	205.9 - 206.1		0.775	0.900	
207	27967	207.00	206.9 - 207.1		0.761	0.900	
208	68290	208.00	207.9 - 208.1		0.757	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	14.6 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-50 V
Omega Bias	-65 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V

200.8 Tune Check Sample Report

OctP RF	150 V	H2 Flow	0.0 mL/min
Use Gas	false	3rd Gas Flow	0 %

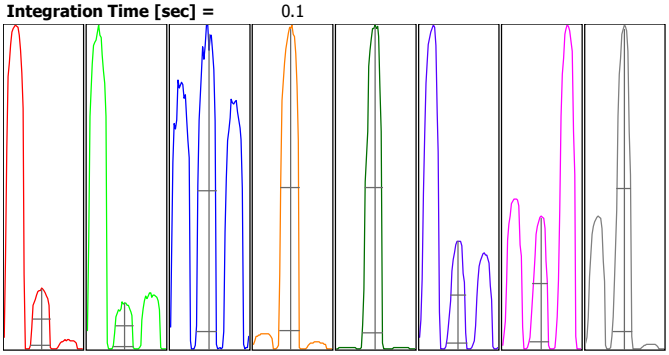
[He]

Mass	Count (Actual)
24	15276
25	2186
26	2726
59	174671
115	212252
206	109536
207	95540
208	231321

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	0.87	5.00	
25	1.97	5.00	
26	1.78	5.00	
59	0.54	5.00	
115	0.85	5.00	
206	1.01	5.00	
207	0.65	5.00	
208	0.61	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	15273	15241	15127	15492	15249
25	2140	2170	2223	2157	2239
26	2683	2765	2712	2789	2683
59	174870	173063	175264	174721	175435
115	210518	211348	210989	214261	214144
206	108120	109491	109071	109846	111150
207	94692	95195	95762	95717	96335
208	228930	231998	231510	231510	232654

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	2483	23.950	23.9 - 24.1		0.751	0.900	
25	360	24.950	24.9 - 25.1		0.768	0.900	
26	432	26.000	25.9 - 26.1		0.761	0.900	
59	27497	58.950	58.9 - 59.1		0.786	0.900	
115	36275	115.000	114.9 - 115.1		0.764	0.900	
206	20531	206.000	205.9 - 206.1		0.763	0.900	
207	18034	207.000	206.9 - 207.1		0.736	0.900	
208	44145	208.000	207.9 - 208.1		0.737	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.0 mL/min	Energy Discrimination	4.0 V
OctP RF	150 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160425-1LL.b
Report Comment
Instrument Name ICPMS05 JP12091608

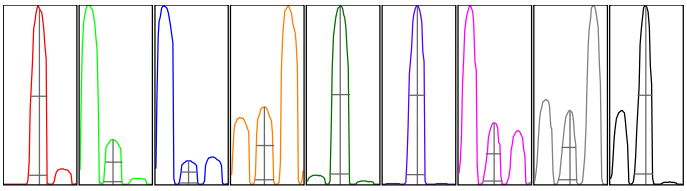
[No Gas]

Mass	Count (Actual)
9	83263
24	388114
25	50983
26	59761
59	480227
115	736222
206	176861
207	153373
208	371041

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.77	5.00	
24	0.86	5.00	
25	0.78	5.00	
26	1.11	5.00	
59	0.98	5.00	
115	0.96	5.00	
206	0.75	5.00	
207	0.76	5.00	
208	0.96	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	82215	83369	83865	83670	83196
24	382541	387546	389876	390714	389891
25	50408	50958	50832	51324	51390
26	58838	59329	60474	60116	60049
59	473380	477536	484894	482620	482705
115	726700	730787	742564	741926	739133
206	175041	176098	178455	177650	177060
207	151689	153262	154974	153474	153466
208	367205	368709	376280	370261	372752

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	13444	9.00	8.9 - 9.1		0.782	0.900	
24	60954	23.90	23.9 - 24.1		0.770	0.900	
25	8002	24.90	24.9 - 25.1		0.782	0.900	
26	9302	25.90	25.9 - 26.1		0.780	0.900	
59	74125	58.90	58.9 - 59.1		0.790	0.900	
115	121695	114.95	114.9 - 115.1		0.782	0.900	
206	32276	206.00	205.9 - 206.1		0.772	0.900	
207	28072	207.00	206.9 - 207.1		0.763	0.900	
208	68290	208.00	207.9 - 208.1		0.760	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	14.6 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-50 V
Omega Bias	-65 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V

200.8 Tune Check Sample Report

OctP RF	150 V	H2 Flow	0.0 mL/min
Use Gas	false	3rd Gas Flow	0 %

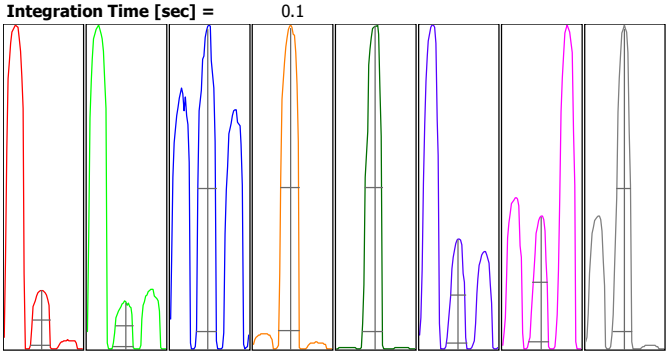
[He]

Mass	Count (Actual)
24	15211
25	2189
26	2757
59	175792
115	213474
206	109018
207	95118
208	229903

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	1.62	5.00	
25	4.50	5.00	
26	1.71	5.00	
59	0.78	5.00	
115	0.94	5.00	
206	0.86	5.00	
207	0.77	5.00	
208	0.71	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	14861	15276	15128	15252	15538
25	2043	2171	2203	2212	2317
26	2721	2826	2782	2739	2715
59	174870	177310	174376	175183	177221
115	212370	212517	211946	213647	216887
206	108806	109327	107636	109087	110232
207	94732	95760	94261	94848	95990
208	229978	230313	227589	229522	232113

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	2456	23.950	23.9 - 24.1		0.748	0.900	
25	355	25.000	24.9 - 25.1		0.777	0.900	
26	452	25.950	25.9 - 26.1		0.756	0.900	
59	27595	58.950	58.9 - 59.1		0.786	0.900	
115	36445	115.000	114.9 - 115.1		0.765	0.900	
206	20377	206.000	205.9 - 206.1		0.758	0.900	
207	17916	207.000	206.9 - 207.1		0.742	0.900	
208	43666	208.000	207.9 - 208.1		0.739	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.0 mL/min	Energy Discrimination	4.0 V
OctP RF	150 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

METALS BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144937-2

SDG No.:

Batch Number: 326042 Batch Start Date: 04/22/16 17:22 Batch Analyst: Em, Kimsirey 1

Batch Method: 200.2 Batch End Date: 04/22/16 19:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME HCl 00317	ME HNO3 00327	ME ICPMS CAL 00027
MB 440-326042/1		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	
LCS 440-326042/2		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-3	DBMW-1-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-144937-B-3 MS	DBMW-1-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-3 MSD	DBMW-1-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-1	MCF-06C-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-144937-B-2	AA-20-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	

Batch Notes	
Batch Comment	Spike ICPMS:200 uL
Lot # of Nitric Acid	0000129810 HCl 4115100
Pipette ID	100
Digestion Tube/Cup ID	1509104

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: ~~Zoe Diermier~~ Jeremy Stockley	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate									Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	AN	AD	CL									X	
MCF-06C-20160419	4/19/16	0810	G	W	Y	N	X	X	X										
AA-20-20160419	4/19/16	0935	G	W	Y	N	X	X	X										
DBMW-1-20160419	4/19/16	1050	G	W	Y	Y	X	X	X										MS/MSD
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															

440-144937 Chain of Custody

4/20/16

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed: 6589 2840 6903			
Relinquished by:	Date/Time: 4/19/16 1420	Company GES	Received by:	Date/Time: 4-19-16 1420	Company Aecom	
Relinquished by:	Date/Time: 4/19/16 1430	Company Aecom	Received by:	Date/Time: 4/19/16 1430	Company TA	
Relinquished by:	Date/Time: 4-19-16 1600	Company TA	Received by:	Date/Time: 4/20/16 9:50	Company TAI	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: (5) 4.3/4.1 3.8/3.6 3.5/3.3 3.9/3.7			

4.1 TALIAS

IR 78

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-144937-2

Login Number: 144937
List Number: 1
Creator: Avila, Stephanie 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-144940-1

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/10/2016 4:56 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/10/2016

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-144940-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.3º C, 3.6º C, 3.7º C and 4.1º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

PERCHLORATE (IC)
Samples DBMW-5-20160419 (440-144940-1), DBMW-4-20160419-EB (440-144940-2) and DBMW-4-20160419 (440-144940-3) were analyzed for perchlorate (IC) in accordance with EPA Method 314.0. The samples were analyzed on 04/28/2016 and 05/03/2016.

Perchlorate failed the recovery criteria high for the MS and MSD of sample 440-144516-7 in batch 440-327714.

Perchlorate failed the recovery criteria low for the MS and MSD of sample 440-144937-3 in batch 440-327049.

Samples DBMW-5-20160419 (440-144940-1)[100X] and DBMW-4-20160419 (440-144940-3)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL DISSOLVED SOLIDS
Samples DBMW-5-20160419 (440-144940-1), DBMW-4-20160419-EB (440-144940-2) and DBMW-4-20160419 (440-144940-3) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 04/25/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CHLORATE
Samples DBMW-5-20160419 (440-144940-1), DBMW-4-20160419-EB (440-144940-2) and DBMW-4-20160419 (440-144940-3) were analyzed for chlorate in accordance with EPA Method 300.1B. The samples were analyzed on 04/23/2016 and 04/24/2016.

Samples DBMW-5-20160419 (440-144940-1)[1000X] and DBMW-4-20160419 (440-144940-3)[500X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS
Samples DBMW-5-20160419 (440-144940-1), DBMW-4-20160419-EB (440-144940-2) and DBMW-4-20160419 (440-144940-3) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/21/2016.

Chloride was detected in method blank MB 440-325445/51 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

The continuing calibration blank (CCB) for analytical batch 440-325445 contained Chloride above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Bromide failed the recovery criteria high for the MSD of sample 440-144993-8 in batch 440-325445.

Samples DBMW-5-20160419 (440-144940-1)[10X], DBMW-5-20160419 (440-144940-1)[500X], DBMW-4-20160419 (440-144940-3)[20X] and DBMW-4-20160419 (440-144940-3)[500X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Client Sample ID: DBMW-5-20160419 — Lab Sample ID: 440-144940-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	2.9	J	5.0	2.5	mg/L	10		300.0	Total/NA
Chloride	1200	B	250	130	mg/L	500		300.0	Total/NA
Chlorate	97000		20000	10000	ug/L	1000		300.1B	Total/NA
Perchlorate	6900		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	5500		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DBMW-4-20160419-EB — Lab Sample ID: 440-144940-2

No Detections.

Client Sample ID: DBMW-4-20160419 — Lab Sample ID: 440-144940-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	B	250	130	mg/L	500		300.0	Total/NA
Chlorate	77000		10000	5000	ug/L	500		300.1B	Total/NA
Perchlorate	6000		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	5700		100	50	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Client Sample ID: DBMW-5-20160419 — Lab Sample ID: 440-144940-1

Date Collected: 04/19/16 09:30 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.9	J	5.0	2.5	mg/L			04/21/16 12:23	10
Chloride	1200	B	250	130	mg/L			04/21/16 12:41	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	97000		20000	10000	ug/L			04/23/16 15:54	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/23/16 15:54*	*1000*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	6900		400	95	ug/L			04/28/16 15:29	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5500		100	50	mg/L			04/25/16 13:01	1

Client Sample ID: DBMW-4-20160419-EB — Lab Sample ID: 440-144940-2

Date Collected: 04/19/16 11:30 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/21/16 12:06	1
Chloride	ND		0.50	0.25	mg/L			04/21/16 22:07	1

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/24/16 09:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*103*		*90 - 115*		*04/24/16 09:12*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/03/16 01:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/25/16 13:01	1

Client Sample ID: DBMW-4-20160419 — Lab Sample ID: 440-144940-3

Date Collected: 04/19/16 11:00 — **Matrix: Water**
Date Received: 04/20/16 09:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		10	5.0	mg/L			04/21/16 12:58	20
Chloride	1100	B	250	130	mg/L			04/21/16 13:16	500

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Client Sample ID: DBMW-4-20160419

Lab Sample ID: 440-144940-3

Date Collected: 04/19/16 11:00
Matrix: Water
Date Received: 04/20/16 09:50

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	77000		10000	5000	ug/L			04/23/16 12:01	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*103*		*90 - 115*		*04/23/16 12:01*	*500*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	6000		400	95	ug/L			04/28/16 16:03	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5700		100	50	mg/L			04/25/16 13:01	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units	Method
Bromide	0.50	0.25	mg/L	300.0
Chloride	0.50	0.25	mg/L	300.0

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	RL	MDL	Units	Method
Chlorate	20	10	ug/L	300.1B

Method: 314.0 - Perchlorate (IC)

Analyte	RL	MDL	Units	Method
Perchlorate	4.0	0.95	ug/L	314.0

General Chemistry

Analyte	RL	MDL	Units	Method
Total Dissolved Solids	10	5.0	mg/L	SM 2540C

Surrogate Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Method: 300.1B - Disinfection By-Products, (IC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		ɔacetic ac							
Lab Sample ID	**Client Sample ID**	**(90-115)**							
440-144940-1	DBMW-5-20160419	104							
440-144940-2	DBMW-4-20160419-EB	103							
440-144940-3	DBMW-4-20160419	103							
440-145185-A-1 MS	Matrix Spike	104							
440-145185-A-1 MSD	Matrix Spike Duplicate	105							
440-145185-A-2 MS	Matrix Spike	106							
440-145185-A-2 MSD	Matrix Spike Duplicate	104							
LCS 440-326094/4	Lab Control Sample	105							
MB 440-326094/5	Method Blank	104							
MRL 440-326094/3	Lab Control Sample	106							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-325445/51 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/21/16 06:31	1
Chloride	0.284	J	0.50	0.25	mg/L			04/21/16 06:31	1

Lab Sample ID: LCS 440-325445/52 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.04		mg/L		101	90 - 110
Chloride	5.00	4.85		mg/L		97	90 - 110

Lab Sample ID: 440-144993-A-8 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND	F1	5.00	5.99		mg/L		120	80 - 120
Chloride	67	B	5.00	72.7	4	mg/L		111	80 - 120

Lab Sample ID: 440-144993-A-8 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325445

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND	F1	5.00	6.04	F1	mg/L		121	80 - 120	1	20
Chloride	67	B	5.00	71.8	4	mg/L		92	80 - 120	1	20

Lab Sample ID: MB 440-325715/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325715

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			04/21/16 17:58	1

Lab Sample ID: LCS 440-325715/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325715

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.52		mg/L		90	90 - 110

Lab Sample ID: 280-82204-B-5 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325715

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	37		50.0	77.4		mg/L		82	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-82204-B-5 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325715

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	37		50.0	77.5		mg/L		82	80 - 120	0	20

Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 440-326094/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/23/16 10:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/23/16 10:22*	*1*

Lab Sample ID: LCS 440-326094/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	100	98.0		ug/L		98	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: MRL 440-326094/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	20.0	19.0	J	ug/L		95	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: 440-145185-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	220		200	426		ug/L		101	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: 440-145185-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	220		200	424		ug/L		100	75 - 125	0	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-145185-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	250		200	437		ug/L		95	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: 440-145185-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	250		200	446		ug/L		100	75 - 125	2	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-327049/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/28/16 08:33	1

Lab Sample ID: LCS 440-327049/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.7		ug/L		99	85 - 115

Lab Sample ID: MRL 440-327049/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.84	J	ug/L		96	75 - 125

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 440-144937-C-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	9000		25.0	8560	4	ug/L		-1647	80 - 120

Lab Sample ID: 440-144937-C-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	9000		25.0	8640	4	ug/L		-1332	80 - 120	1	20

Lab Sample ID: MB 440-327714/36 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327714

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/02/16 18:40	1

Lab Sample ID: LCS 440-327714/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327714

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.5		ug/L		98	85 - 115

Lab Sample ID: 440-144516-A-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327714

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	450000		25.0	477000	4	ug/L		95936	80 - 120

Lab Sample ID: 440-144516-A-7 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327714

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	450000		25.0	465000	4	ug/L		47070	80 - 120	3	20

Lab Sample ID: INF 440-327049/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water
Analysis Batch: 327049

Analyte	Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	23.1		ug/L		93	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-326343/1
Matrix: Water
Analysis Batch: 326343

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/25/16 13:01	1

Lab Sample ID: LCS 440-326343/2
Matrix: Water
Analysis Batch: 326343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: 440-144937-C-3 DU
Matrix: Water
Analysis Batch: 326343

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	6000			6110		mg/L				2	5

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

HPLC/IC

Analysis Batch: 325445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144940-1	DBMW-5-20160419	Total/NA	Water	300.0	
440-144940-1	DBMW-5-20160419	Total/NA	Water	300.0	
440-144940-2	DBMW-4-20160419-EB	Total/NA	Water	300.0	
440-144940-3	DBMW-4-20160419	Total/NA	Water	300.0	
440-144940-3	DBMW-4-20160419	Total/NA	Water	300.0	
440-144993-A-8 MS	Matrix Spike	Total/NA	Water	300.0	
440-144993-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 440-325445/52	Lab Control Sample	Total/NA	Water	300.0	
MB 440-325445/51	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 325715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-82204-B-5 MS	Matrix Spike	Total/NA	Water	300.0	
280-82204-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-144940-2	DBMW-4-20160419-EB	Total/NA	Water	300.0	
LCS 440-325715/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-325715/6	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 326094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144940-1	DBMW-5-20160419	Total/NA	Water	300.1B	
440-144940-2	DBMW-4-20160419-EB	Total/NA	Water	300.1B	
440-144940-3	DBMW-4-20160419	Total/NA	Water	300.1B	
440-145185-A-1 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145185-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
440-145185-A-2 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145185-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
LCS 440-326094/4	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-326094/5	Method Blank	Total/NA	Water	300.1B	
MRL 440-326094/3	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 327049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-C-3 MS	Matrix Spike	Total/NA	Water	314.0	
440-144937-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
440-144940-1	DBMW-5-20160419	Total/NA	Water	314.0	
440-144940-3	DBMW-4-20160419	Total/NA	Water	314.0	
INF 440-327049/4	Lab Control Sample		Water	314.0	
LCS 440-327049/2	Lab Control Sample	Total/NA	Water	314.0	
MB 440-327049/3	Method Blank	Total/NA	Water	314.0	
MRL 440-327049/5	Lab Control Sample	Total/NA	Water	314.0	

Analysis Batch: 327714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144516-A-7 MS	Matrix Spike	Total/NA	Water	314.0	
440-144516-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
440-144940-2	DBMW-4-20160419-EB	Total/NA	Water	314.0	
LCS 440-327714/37	Lab Control Sample	Total/NA	Water	314.0	
MB 440-327714/36	Method Blank	Total/NA	Water	314.0	

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

General Chemistry

Analysis Batch: 326343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-C-3 DU	Duplicate	Total/NA	Water	SM 2540C	
440-144940-1	DBMW-5-20160419	Total/NA	Water	SM 2540C	
440-144940-2	DBMW-4-20160419-EB	Total/NA	Water	SM 2540C	
440-144940-3	DBMW-4-20160419	Total/NA	Water	SM 2540C	
LCS 440-326343/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-326343/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Client Sample ID: DBMW-5-20160419 — Lab Sample ID: 440-144940-1

Date Collected: 04/19/16 09:30
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	325445	04/21/16 12:23	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325445	04/21/16 12:41	NTN	TAL IRV
Total/NA	Analysis	300.1B		1000	326094	04/23/16 15:54	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 15:29	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326343	04/25/16 13:01	XL	TAL IRV

Client Sample ID: DBMW-4-20160419-EB — Lab Sample ID: 440-144940-2

Date Collected: 04/19/16 11:30
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	325445	04/21/16 12:06	NTN	TAL IRV
Total/NA	Analysis	300.0		1	325715	04/21/16 22:07	NTN	TAL IRV
Total/NA	Analysis	300.1B		1	326094	04/24/16 09:12	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327714	05/03/16 01:25	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326343	04/25/16 13:01	XL	TAL IRV

Client Sample ID: DBMW-4-20160419 — Lab Sample ID: 440-144940-3

Date Collected: 04/19/16 11:00
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	325445	04/21/16 12:58	NTN	TAL IRV
Total/NA	Analysis	300.0		500	325445	04/21/16 13:16	NTN	TAL IRV
Total/NA	Analysis	300.1B		500	326094	04/23/16 12:01	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327049	04/28/16 16:03	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326343	04/25/16 13:01	XL	TAL IRV

Laboratory References:
TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-144940-1	DBMW-5-20160419	Water	04/19/16 09:30	04/20/16 09:50
440-144940-2	DBMW-4-20160419-EB	Water	04/19/16 11:30	04/20/16 09:50
440-144940-3	DBMW-4-20160419	Water	04/19/16 11:00	04/20/16 09:50

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-8 Analysis Batch Number: 325445

Lab Sample ID: MB 440-325445/51 Client Sample ID:

Date Analyzed: 04/21/16 06:31 Lab File ID: 440-0072079-051.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.18	Peak Tail	hmuadmuen go	04/22/16 09:47

Lab Sample ID: CCB 440-325445/57 Client Sample ID:

Date Analyzed: 04/21/16 08:17 Lab File ID: 440-0072079-057.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.18	Incomplete Integration	nguyennt	04/21/16 17:08

Lab Sample ID: CCB 440-325445/81 Client Sample ID:

Date Analyzed: 04/21/16 15:19 Lab File ID: 440-0072079-081.d GC Column: AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.23	Incomplete Integration	nguyennt	04/21/16 17:11

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 308526

Lab Sample ID: ICV 440-308526/8 Client Sample ID:

Date Analyzed: 01/28/16 11:30 Lab File ID: 20160128a0008.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.62	Baseline Smoothing	zakhrabovy	01/28/16 12:06

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326094

Lab Sample ID: MRL 440-326094/3 Client Sample ID:

Date Analyzed: 04/23/16 09:16 Lab File ID: 201604230001a003.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.47	Incomplete Integration	zakhrabov y	04/23/16 12:23

Lab Sample ID: CCV 440-326094/28 Client Sample ID:

Date Analyzed: 04/23/16 23:05 Lab File ID: 201604230001a028.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.30	Baseline Smoothing	zakhrabov y	04/24/16 05:15

Lab Sample ID: CCV 440-326094/40 Client Sample ID:

Date Analyzed: 04/24/16 05:53 Lab File ID: 201604230001a040.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.26	Baseline Smoothing	zakhrabov y	04/24/16 06:33

Lab Sample ID: 440-144940-2 Client Sample ID: DBMW-4-20160419-EB

Date Analyzed: 04/24/16 09:12 Lab File ID: 201604230001a046.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichloroacetic acid(Surr)	13.45	Isomers	zakhrabov y	04/24/16 10:11

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326094

Lab Sample ID: CCV 440-326094/47 Client Sample ID:

Date Analyzed: 04/24/16 09:45 Lab File ID: 201604230001a047.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.26	Baseline Smoothing	zakhrabovy	04/24/16 10:35

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Analysis Batch Number: 327049

Lab Sample ID: LCS 440-327049/2 Client Sample ID:

Date Analyzed: 04/28/16 08:16 Lab File ID: 20160428_2.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.07	Incomplete Integration	hoangch	04/28/16 08:51
Perchlorate	12.07	Incomplete Integration	hoangch	04/28/16 08:51

Lab Sample ID: 440-144937-C-3 MS Client Sample ID:

Date Analyzed: 04/28/16 10:26 Lab File ID: 20160428_10.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.03	Incomplete Integration	hoangch	04/28/16 10:48

Lab Sample ID: 440-144937-C-3 MSD Client Sample ID:

Date Analyzed: 04/28/16 10:43 Lab File ID: 20160428_11.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.06	Incomplete Integration	hoangch	04/28/16 11:07

Lab Sample ID: CCV 440-327049/26 Client Sample ID:

Date Analyzed: 04/28/16 14:55 Lab File ID: 20160428_26.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.00	Incomplete Integration	hoangch	04/28/16 15:23

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Analysis Batch Number: 327714

Lab Sample ID: LCS 440-327714/37 Client Sample ID:

Date Analyzed: 05/02/16 18:57 Lab File ID: 20160502_37.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.48	Incomplete Integration	hoangch	05/03/16 09:29

Lab Sample ID: 440-144516-A-7 MSD Client Sample ID:

Date Analyzed: 05/02/16 19:47 Lab File ID: 20160502_40.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.48	Incomplete Integration	hoangch	05/03/16 09:30

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WC3001ICV_00023	06/30/16	01/28/16	Di Water, Lot 20160128	100 mL	WC2CHLORATE_00003	0.4 mL	Chlorate	4.004 mg/L
.WC2CHLORATE_00003	12/31/16		Ultra Scientific, Lot P01208		(Purchased Reagent)		Chlorate	1001 mg/L
WC3001LCS_00034	07/28/16	01/28/16	Di Water, Lot 20160128	100 mL	WC1BROMATE_00005	0.1 mL	Bromate	1.001 mg/L
					WC1CHLORATE_00006	0.4 mL	Chlorate	4 mg/L
					wcbromide_00008	0.1 mL	Bromide	10 mg/L
.WC1BROMATE_00005	11/26/16		O2Si, Lot 1075653		(Purchased Reagent)		Bromate	1001 mg/L
.WC1CHLORATE_00006	11/26/16		O2Si, Lot 1075652		(Purchased Reagent)		Chlorate	1000 mg/L
.wcbromide_00008	12/23/16		high purity, Lot 1427506		(Purchased Reagent)		Bromide	10000 ug/mL
WCCLO41st-10_00001	06/22/16	03/22/16	Di Water, Lot 03/22/16	100 mg/L	WCCLO4-1st_00001	1 mg/L	Perchlorate	10 mg/L
.WCCLO4-1st_00001	03/30/17		SPEX CERTIPREP, Lot 3-149CLO4-2Y		(Purchased Reagent)		Perchlorate	1000 mg/L
WCCLO4ICV10_00019	05/16/16	02/16/16	Di Water, Lot 02/16/2016	100 mL	WCCLO4ICV_00009	1 mL	Perchlorate	10.0002 mg/L
.WCCLO4ICV_00009	07/29/16	07/29/15	Di Water, Lot 07/29/2015	250 mL	WCCLO4ICVSOLI_00001	0.3078 g	Perchlorate	1000.02 mg/L
..WCCLO4ICVSOLI_00001	03/14/19		SPECTRUM, Lot XK0226		(Purchased Reagent)		Perchlorate	0.81223 g/g
WCDCA_00031	04/11/16	01/11/16	Di Water, Lot 20160111	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCDCA_00032	07/12/16	04/12/16	Di Water, Lot 20160412	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCICVANIONS_00059	04/02/16	03/02/16	Di Water, Lot 03/02/2016	100 mL	WCBROMIDE_00007	10 mL	Bromide	100 mg/L
					WCICNACLICV_00004	10 mL	Chloride	100 mg/L
.WCBROMIDE_00007	07/31/16		ERA, Lot 250714		(Purchased Reagent)		Bromide	1000 mg/L
.WCICNACLICV_00004	07/31/17		ENVIRONMENTAL RESOURCE ASSOCIATES, Lot 280615		(Purchased Reagent)		Chloride	1000 mg/L
WCLCSANIONS_00110	03/29/16	02/29/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00008	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
					wcfluoride_00004	10 mL	Fluoride	1000 mg/L
					wcsulfate_00006	10 mL	Sulfate	1000 mg/L
.wcbromide_00008	12/23/16		high purity, Lot 1427506		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
.wcfluoride_00004	01/30/17		ricca, Lot 1507D81		(Purchased Reagent)		Fluoride	10000 ug/mL
.wcsulfate_00006	04/15/17		high purity, Lot 1522216		(Purchased Reagent)		Sulfate	10000 ug/mL
WCLCSANIONS_00113	04/20/16	03/21/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
					wcfluoride_00004	10 mL	Fluoride	1000 mg/L
					wcsulfate_00006	10 mL	Sulfate	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
.wcfluoride_00004	01/30/17		ricca, Lot 1507D81		(Purchased Reagent)		Fluoride	10000 ug/mL
.wcsulfate_00006	04/15/17		high purity, Lot 1522216		(Purchased Reagent)		Sulfate	10000 ug/mL
WCLCSANIONS_00114	05/08/16	04/09/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
wctdslcs_00060	08/15/16	11/24/15	Di Water, Lot 20150215	1 L	WCNACLTDSLCS_00001	1 g	Total Dissolved Solids	1000 ppm
.WCNACLTDSLCS_00001	04/04/21	FISHER CHEMICAL, Lot 103358			(Purchased Reagent)		Total Dissolved Solids	1 g/g

Reagent

WC1BROMATE_00005

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062015-01-01
Lot No: 1075653
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Bromate, 100 mL 1,000 mg/L in H_2O

2629062
ID: WC1BROMATE_000(
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Bromate

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Bromate	BrO_3	7789-38-0	7085.48.1P	99.5	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

2030 Savage Road • Charleston, SC 29407
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Reagent

WC1CHLORATE_00006

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062014-01-01
Lot No: 1075652
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Chlorate, 100 mL 1,000 mg/L in H_2O

2629060
ID: WC1CHLORATE_00C
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Chlorate

ACCREDITED
ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Chlorate	ClO_3^-	N/A	7120.29.1P	99	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

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Reagent

WC2CHLORATE_00003

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Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 17025 • ISO GUIDE 34 • ISO 9001

ULTRAgrade™ Ion Chromatography Solution: 1000 µg/mL Chlorate in water
Catalog Number: ICC-011
Lot Number: P01208
Job Number: J00015342
Lot Issue Date: 11/14/2012
Expiration Date: 12/31/2016

2617385
ID: WC2CHLORATE_00C
Exp:12/31/16 Prpd:YZ Opn:05/28.
300.1 -Standard Chlorate

Starting Material:	Potassium Chlorate
Starting Material Purity:	99.999%
Starting Material Lot No.:	NT00423
Matrix:	low TOC water (< 50 ppb)

Certified Value: 1001 ± 5 µg/mL

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentrations were verified by our ISO 17025 accredited laboratory to be within ± 2.5%, when compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

Confirmation by Ion Chromatography (IC) vs. Second Source (CRM)

Confirmation by Inductively Coupled Plasma Spectroscopy (ICP / ICP-MS) vs. NIST SRM 3141a

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

A2LA ACCREDITED

ISO 17025:2005
Accredited
A2LA
Cert. No. 0851.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004

William J. Leary
Quality Assurance Manager

250 SMITH STREET N. KINGSTOWN, RHODE ISLAND 02852 USA WWW.ULTRASCI.COM

Reagent

WCBROMIDE_00007

Certificate of Analysis

PRODUCT:	1000 mg/L Bromide
CATALOG NUMBER:	046 -125 mL; 987 - 500 mL
LOT NUMBER:	250714
ISSUE DATE:	July 31, 2014
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Bromide (KBr)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9972 ± 0.0005 g/mL at 21.0°C and 766 mm Hg
TRACEABILITY[3]:	101%
NIST/SRM:	3184 Bromide
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2016**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcbromide_00010

Certificate of Analysis

Product Description:

Name:	Bromide	Source Material:	Sodium Bromide
Part Number:	**IC-BR-10M**	Material Purity:	99.5%
Lot Number:	**1521536**	Matrix:	H_2O

Certified Value:

Bromide 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3184 (lot number 020701) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of bromide, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

wcchloride_00001

Certificate of Analysis

Product Description:

Name:	Chloride	Source Material:	Sodium Chloride
Part Number:	**IC-CL-10M**	Material Purity:	99.3%
Lot Number:	**1417005**	Matrix:	H_2O

Certified Value:

Chloride 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3182 (lot number 060925) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of chloride, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

WCCLO4-1st_00001

3255268

ID WCCLO4-1st_00001

Exp 03/30/17 Prpd YZ

PERCHLORATE- 1000 PPM

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-CLO49-2Y **Lot No.** 3-149CLO4-2Y

Description: 1000 µg/mL Perchlorate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 0114A†

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Perchlorate, Lot# F10T022. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1003 µg/mL

Method: Evaporate to dryness. Ignite and weigh as KClO4.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.03	NO_3^-	<0.02
Cl^-	<0.05	PO_4^{-3}	<0.03
F^-	<0.005	SO_4^{-2}	<0.5
NO_2^-	<0.02		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: MAR - - 2016 Certifying Officer:

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Reagent

wcfluoride_00004

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Fluoride Standard, 10,000 ppm F^-

Lot Number: 1507D81 **Product Number:** 3174.10

Manufacture Date: JUL 23, 2015
Expiration Date: JAN 2017

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless to light yellow liquid	Passed
Fluoride (F)	9950-10050 ppm	10000 ppm

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3174.10-32	1 L natural poly	18 months
3174.10-1	4 L natural poly	18 months
3174.10-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

WCICNACLICV_00004

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Chloride
CATALOG NUMBER:	047 -125 mL; 988 - 500 mL
LOT NUMBER:	280615
ISSUE DATE:	July 28, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Chloride (NaCl)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9988 ± 0.0008 g/mL at 19.4°C and 745 mm Hg
TRACEABILITY[3]:	99.2%
NIST/SRM:	3182 Chloride
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009 — ACCREDITED — REFERENCE MATERIAL PRODUCER CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 — ACCREDITED — CHEMICAL TESTING LABORATORY CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcsulfate_00006

Certificate of Analysis

Product Description:

Name:	Sulfate	Source Material:	Sodium Sulfate
Part Number:	**IC-SS-10M**	Material Purity:	99%
Lot Number:	**1522216**	Matrix:	H_2O

Certified Value:

Sulfate 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3181 (lot number 080603) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of sulfate, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 440-0072079-052.d

Lab ID: LCS 440-325445/52 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	5.00	5.04	101	90-110	
Chloride	5.00	4.85	97	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160421002.d

Lab ID: LCS 440-325715/2 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Chloride	5.00	4.52	90	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 440-0072079-066.d

Lab ID: 440-144993-A-8 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	5.00	ND	5.99	120	80-120	
Chloride	5.00	67	72.7	111	80-120	4

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160421013.d

Lab ID: 280-82204-B-5 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Chloride	50.0	37	77.4	82	80-120	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 440-0072079-067.d

Lab ID: 440-144993-A-8 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Bromide	5.00	6.04	121	1	20	80-120	F1
Chloride	5.00	71.8	92	1	20	80-120	4

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160421014.d

Lab ID: 280-82204-B-5 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chloride	50.0	77.5	82	0	20	80-120	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab File ID: 440-0072079-051.d Lab Sample ID: MB 440-325445/51

Matrix: Water Date Extracted:

Instrument ID: IC-8 Date Analyzed: 04/21/2016 06:31

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-325445/52	440-0072079-052.d	04/21/2016 06:49
	CCB 440-325445/57	440-0072079-057.d	04/21/2016 08:17
	440-144993-A-8 MS	440-0072079-066.d	04/21/2016 10:55
	440-144993-A-8 MSD	440-0072079-067.d	04/21/2016 11:13
	CCB 440-325445/69	440-0072079-069.d	04/21/2016 11:48
DBMW-4-20160419-EB	440-144940-2	440-0072079-070.d	04/21/2016 12:06
DBMW-5-20160419	440-144940-1	440-0072079-071.d	04/21/2016 12:23
DBMW-5-20160419	440-144940-1	440-0072079-072.d	04/21/2016 12:41
DBMW-4-20160419	440-144940-3	440-0072079-073.d	04/21/2016 12:58
DBMW-4-20160419	440-144940-3	440-0072079-074.d	04/21/2016 13:16
	CCB 440-325445/81	440-0072079-081.d	04/21/2016 15:19

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab File ID: 20160421006.d Lab Sample ID: MB 440-325715/6

Matrix: Water Date Extracted:

Instrument ID: IC-9 Date Analyzed: 04/21/2016 17:58

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-325715/2	20160421002.d	04/21/2016 17:03
	280-82204-B-5 MS	20160421013.d	04/21/2016 20:00
	280-82204-B-5 MSD	20160421014.d	04/21/2016 20:14
	CCB 440-325715/19	20160421019.d	04/21/2016 21:23
DBMW-4-20160419-EB	440-144940-2	20160421021.d	04/21/2016 22:07

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-5-20160419
Lab Sample ID: 440-144940-1
Matrix: Water
Lab File ID: 440-0072079-071.d
Analysis Method: 300.0
Date Collected: 04/19/2016 09:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 12:23
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	2.9	J	5.0	2.5

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-071.d				
Lims ID:	440-144940-B-1				
Client ID:	DBMW-5-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 12:23:00	ALS Bottle#:	0	Worklist Smp#:	71
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	440-0072079-071				
Misc. Info.:	22641 440-144940-B-1				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:19		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.292	4.175	0.117	1521885092	138.7	E
4 Bromide	6.400	6.350	0.050	895339	0.2919	

QC Flag Legend

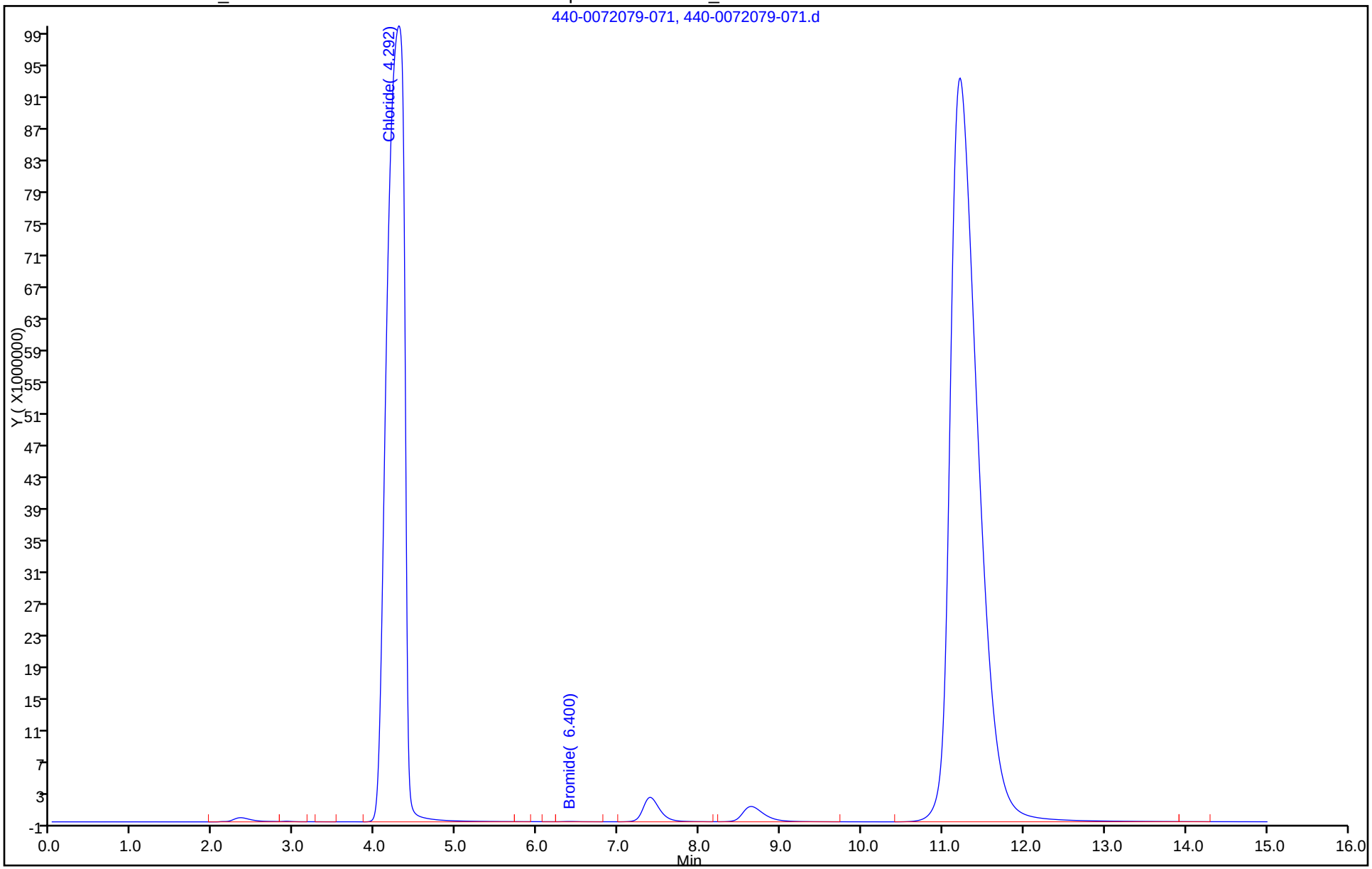
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:10:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-071.d				
Injection Date:	21-Apr-2016 12:23:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144940-B-1	Lab Sample ID:	440-144940-1	Worklist Smp#:	71
Client ID:	DBMW-5-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-5-20160419
Lab Sample ID: 440-144940-1
Matrix: Water
Lab File ID: 440-0072079-072.d
Analysis Method: 300.0
Date Collected: 04/19/2016 09:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 12:41
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1200	B	250	130

TestAmerica Irvine
Target Compound Quantitation Report

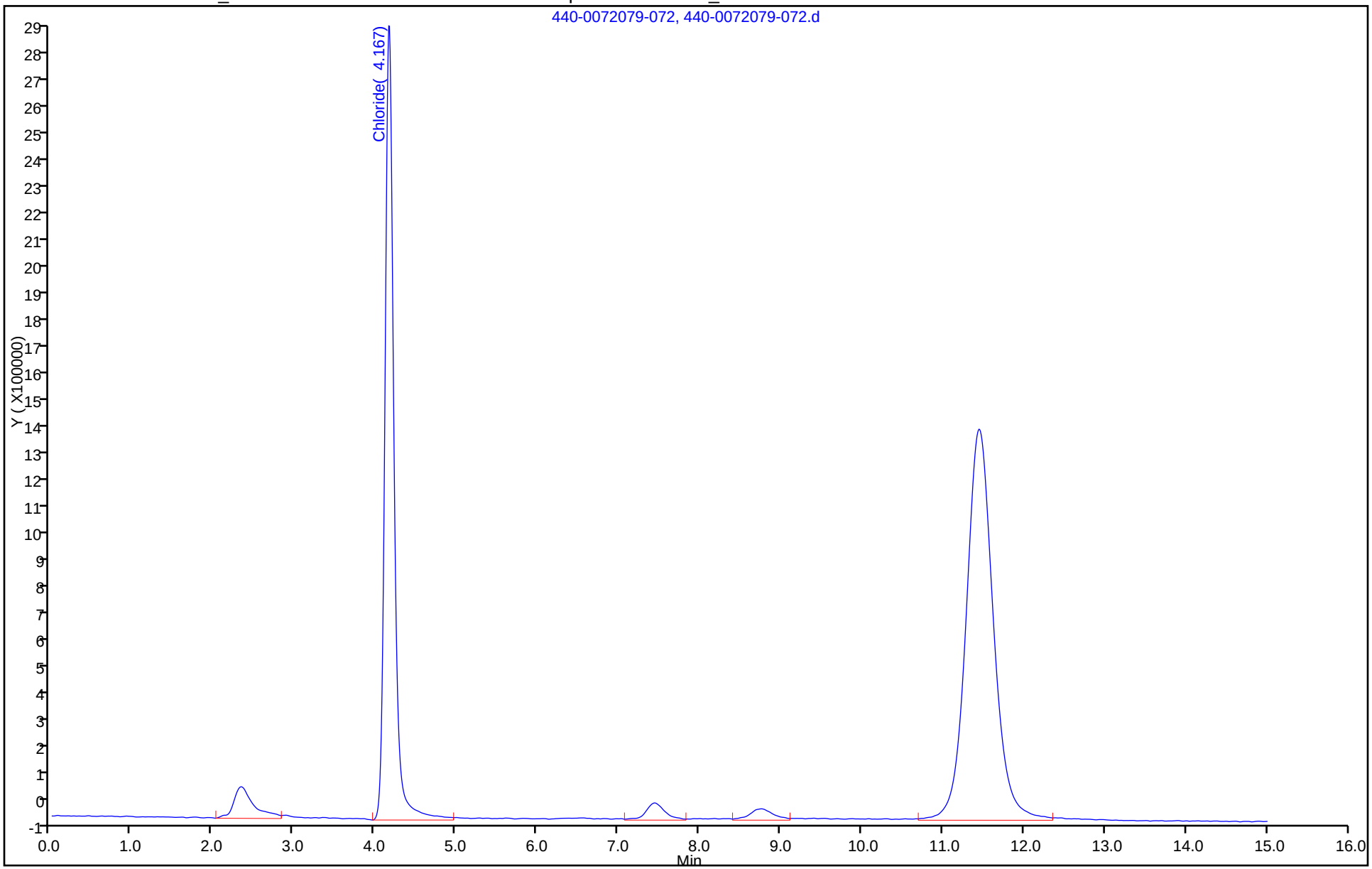
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-072.d				
Lims ID:	440-144940-B-1				
Client ID:	DBMW-5-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 12:41:00	ALS Bottle#:	0	Worklist Smp#:	72
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	440-0072079-072				
Misc. Info.:	18989 440-144940-B-1				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:23		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.167	4.175	-0.008	22686411	2.30	

Report Date: 21-Apr-2016 17:10:23 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-072.d				
Injection Date:	21-Apr-2016 12:41:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144940-B-1	Lab Sample ID:	440-144940-1	Worklist Smp#:	72
Client ID:	DBMW-5-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419-EB
Lab Sample ID: 440-144940-2
Matrix: Water
Lab File ID: 440-0072079-070.d
Analysis Method: 300.0
Date Collected: 04/19/2016 11:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 12:06
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-070.d				
Lims ID:	440-144940-B-2				
Client ID:	DBMW-4-20160419-EB				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 12:06:00	ALS Bottle#:	0	Worklist Smp#:	70
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-070				
Misc. Info.:	22783 440-144940-B-2				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 09:52:47	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK010				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:11		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.175	4.183	-0.008	1037520	0.3304	M

QC Flag Legend

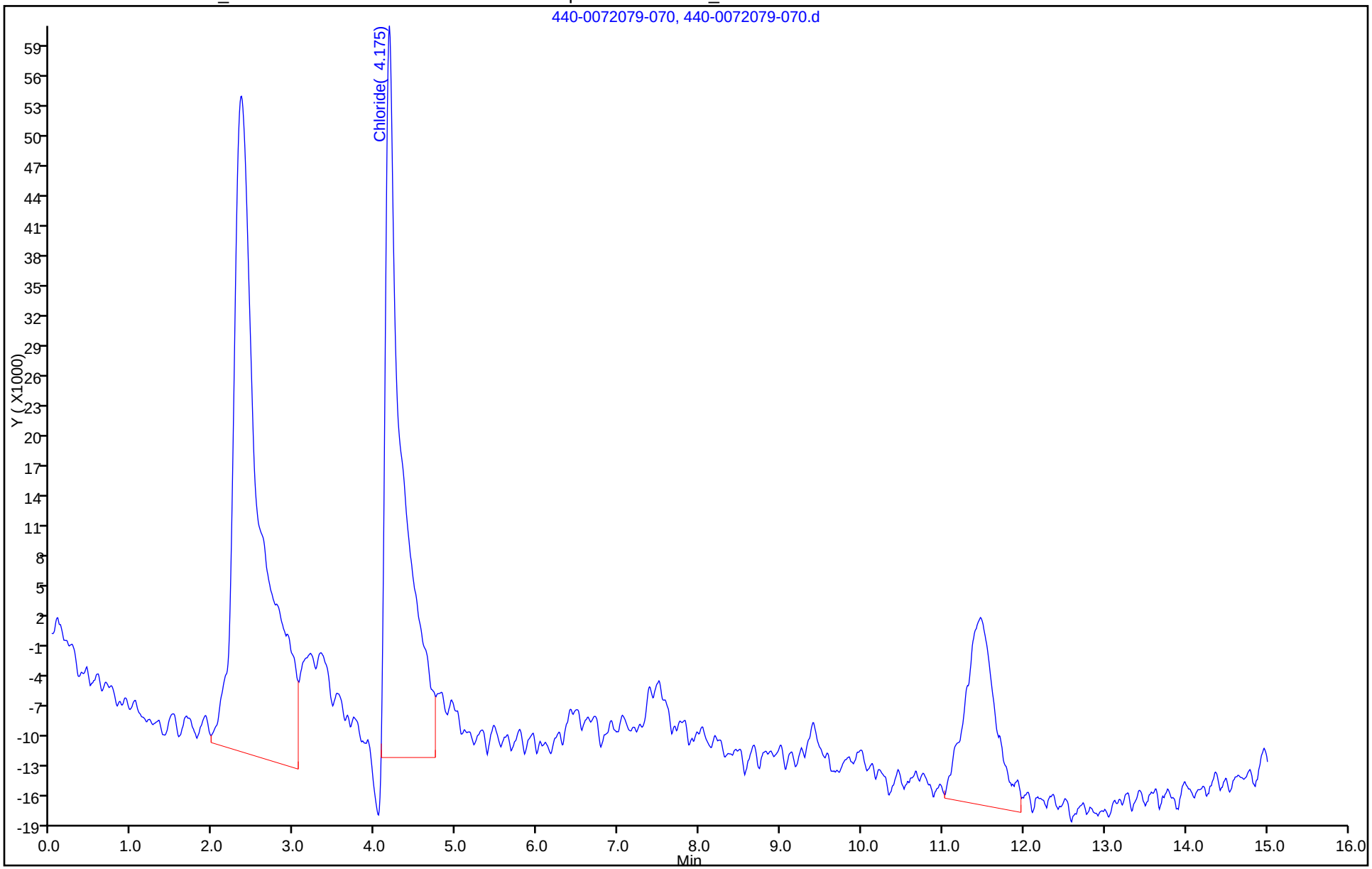
Review Flags

M - Manually Integrated

Report Date: 22-Apr-2016 09:52:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-070.d				
Injection Date:	21-Apr-2016 12:06:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144940-B-2	Lab Sample ID:	440-144940-2	Worklist Smp#:	70
Client ID:	DBMW-4-20160419-EB				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419-EB
Lab Sample ID: 440-144940-2
Matrix: Water
Lab File ID: 20160421021.d
Analysis Method: 300.0
Date Collected: 04/19/2016 11:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 22:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325715
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

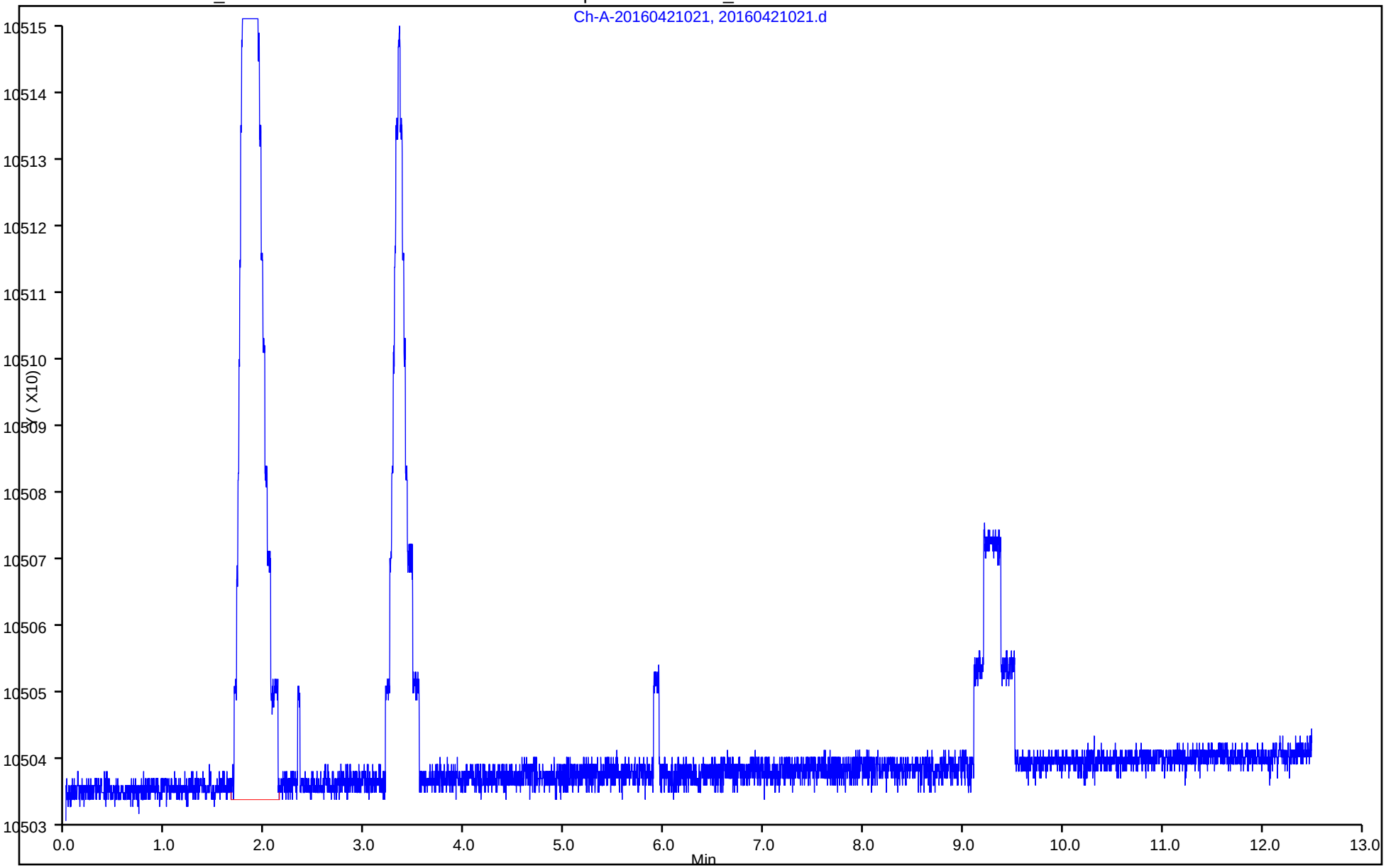
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421021.d				
Lims ID:	440-144940-B-2				
Client ID:	DBMW-4-20160419-EB				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 22:07:42	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072145-021				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 23:49:22	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 22:51:02		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags

Report Date: 21-Apr-2016 22:51:02 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421021.d				
Injection Date:	21-Apr-2016 22:07:42	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-144940-B-2	Lab Sample ID:	440-144940-2	Worklist Smp#:	21
Client ID:	DBMW-4-20160419-EB				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419
Lab Sample ID: 440-144940-3
Matrix: Water
Lab File ID: 440-0072079-073.d
Analysis Method: 300.0
Date Collected: 04/19/2016 11:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 12:58
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-073.d				
Lims ID:	440-144940-B-3				
Client ID:	DBMW-4-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 12:58:00	ALS Bottle#:	0	Worklist Smp#:	73
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	440-0072079-073				
Misc. Info.:	5106 440-144940-B-3				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:28		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.250	4.175	0.075	707150592	64.6	E
4 Bromide	6.433	6.350	0.083	598976	0.2218	

QC Flag Legend

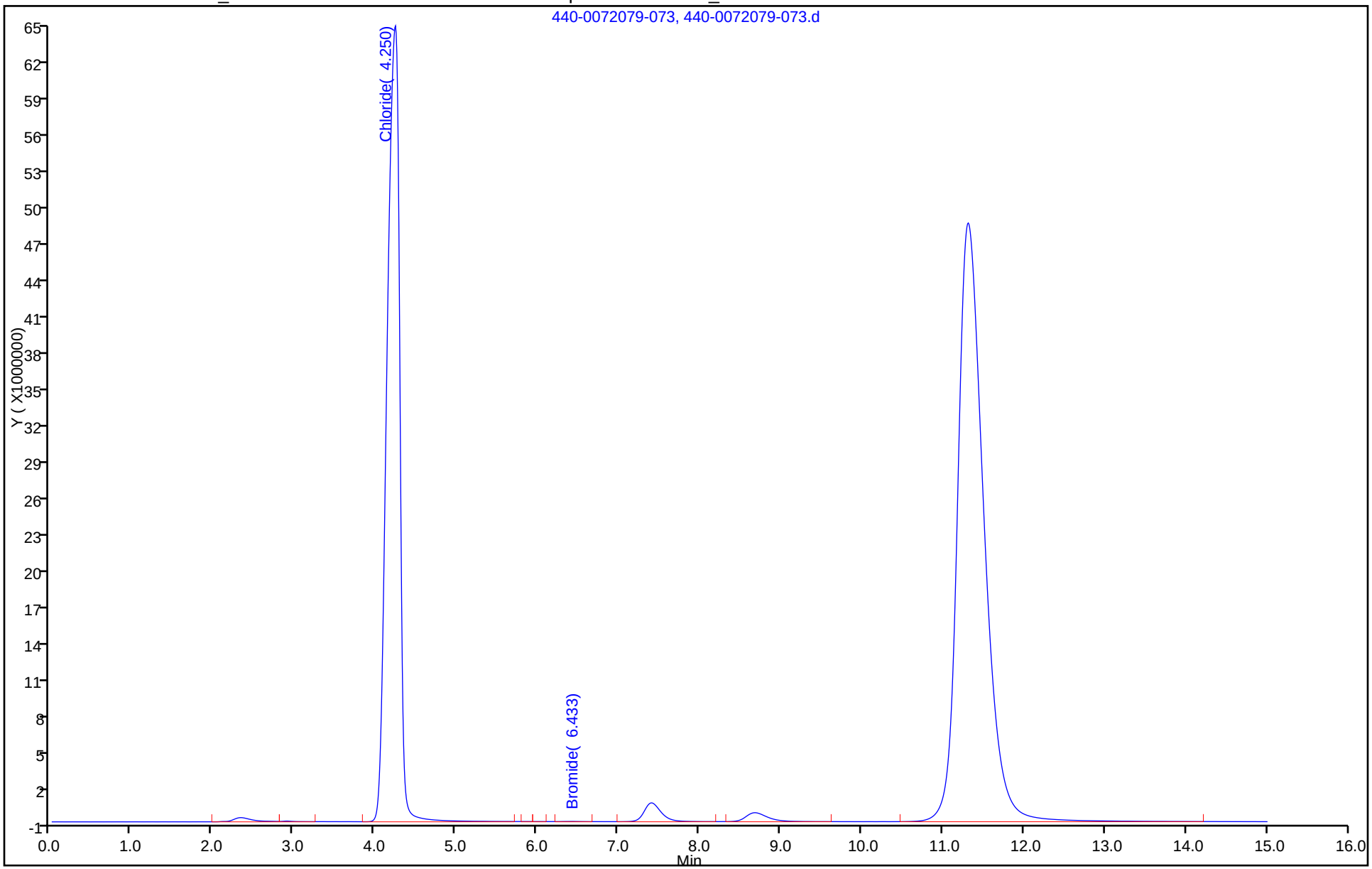
Processing Flags

E - Exceeded Maximum Amount

Report Date: 21-Apr-2016 17:10:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-073.d				
Injection Date:	21-Apr-2016 12:58:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144940-B-3	Lab Sample ID:	440-144940-3	Worklist Smp#:	73
Client ID:	DBMW-4-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419
Lab Sample ID: 440-144940-3
Matrix: Water
Lab File ID: 440-0072079-074.d
Analysis Method: 300.0
Date Collected: 04/19/2016 11:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 13:16
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1100	B	250	130

TestAmerica Irvine
Target Compound Quantitation Report

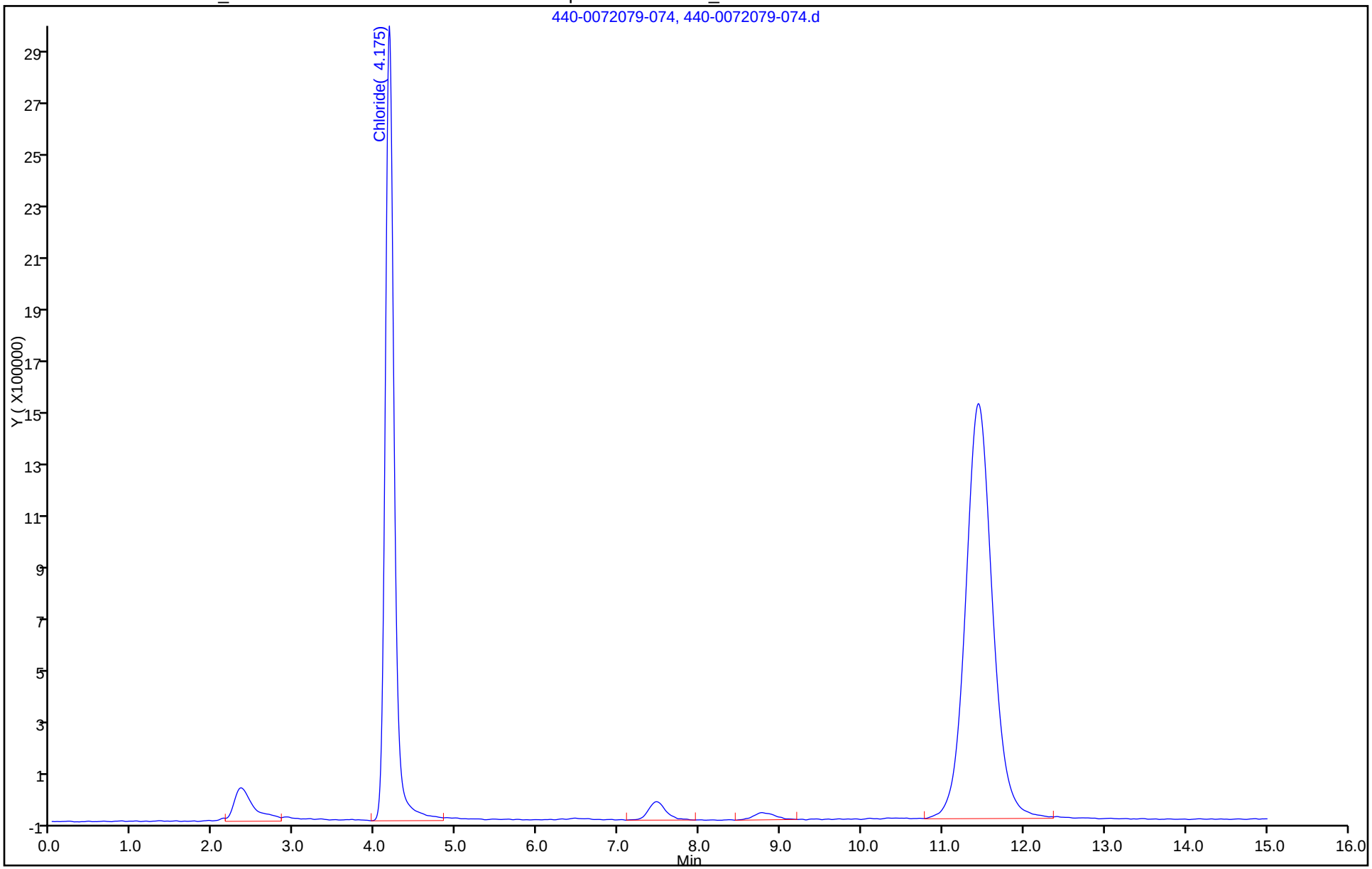
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-074.d				
Lims ID:	440-144940-B-3				
Client ID:	DBMW-4-20160419				
Sample Type:	Client				
Inject. Date:	21-Apr-2016 13:16:00	ALS Bottle#:	0	Worklist Smp#:	74
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	440-0072079-074				
Misc. Info.:	19494 440-144940-B-3				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:10:30		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.175	4.175	0.000	22636807	2.30	

Report Date: 21-Apr-2016 17:10:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-074.d				
Injection Date:	21-Apr-2016 13:16:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	440-144940-B-3	Lab Sample ID:	440-144940-3	Worklist Smp#:	74
Client ID:	DBMW-4-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 317525

SDG No.:

Instrument ID: IC-8 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/15/2016 11:42 Calibration End Date: 03/15/2016 14:14 Calibration ID: 13767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-317525/3	440-0070492-003.d
Level 2	STD1 440-317525/4	440-0070492-004.d
Level 3	STD2 440-317525/5	440-0070492-005.d
Level 4	STD3 440-317525/6	440-0070492-006.d
Level 5	STD4 440-317525/7	440-0070492-007.d
Level 6	STD5 440-317525/8	440-0070492-008.d
Level 7	STD6 440-317525/9	440-0070492-009.d
Level 8	STD7 440-317525/10	440-0070492-010.d
Level 9	STD8 440-317525/11	440-0070492-011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride		2.908	2.908	2.917	2.933	2.942	2.950	2.967	+++++		0.000 - 0.000	2.932
Chloride		4.183	4.183	4.192	4.192	4.200	4.208	+++++	+++++		0.000 - 0.000	4.193
Bromide		6.492	6.483	6.467	6.450	6.458	6.450	+++++	+++++		0.000 - 0.000	6.467
Sulfate		11.633	11.625	11.625	11.617	11.608	11.608	11.600	+++++		0.000 - 0.000	11.617

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 317525

SDG No.:

Instrument ID: IC-8 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/15/2016 11:42 Calibration End Date: 03/15/2016 14:14 Calibration ID: 13767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-317525/3	440-0070492-003.d
Level 2	STD1 440-317525/4	440-0070492-004.d
Level 3	STD2 440-317525/5	440-0070492-005.d
Level 4	STD3 440-317525/6	440-0070492-006.d
Level 5	STD4 440-317525/7	440-0070492-007.d
Level 6	STD5 440-317525/8	440-0070492-008.d
Level 7	STD6 440-317525/9	440-0070492-009.d
Level 8	STD7 440-317525/10	440-0070492-010.d
Level 9	STD8 440-317525/11	440-0070492-011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	16117673 +++++	14875310 16478869	14762705 17084732	15978052 17504077	Lin	-5218749.1	17411255.5							0.9990		0.9950
Chloride	10176973 +++++	9410238 10555071	9372187 11166891	10063886 +++++	Lin	-2593431.3	10989987.8							0.9980		0.9950
Bromide	4086918 +++++	4106818 4124709	4054397 4282429	4181881 +++++	Lin	-338813.25	4228685.30							0.9990		0.9950
Sulfate	7046209 +++++	7021224 7074566	7002009 7324163	7223246 7639195	Lin	-1950214.4	7539512.34							0.9980		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 317525

SDG No.:

Instrument ID: IC-8 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/15/2016 11:42 Calibration End Date: 03/15/2016 14:14 Calibration ID: 13767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-317525/3	440-0070492-003.d
Level 2	STD1 440-317525/4	440-0070492-004.d
Level 3	STD2 440-317525/5	440-0070492-005.d
Level 4	STD3 440-317525/6	440-0070492-006.d
Level 5	STD4 440-317525/7	440-0070492-007.d
Level 6	STD5 440-317525/8	440-0070492-008.d
Level 7	STD6 440-317525/9	440-0070492-009.d
Level 8	STD7 440-317525/10	440-0070492-010.d
Level 9	STD8 440-317525/11	440-0070492-011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin	247183034	7437655 341694645	14762705 525122303	79890258 +++++	161176734	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0
Chloride	Lin	158326060	4705119 223337827	9372187 +++++	50319430 +++++	101769732	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Bromide	Lin	61870634	2053409 85648577	4054397 +++++	20909407 +++++	40869176	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Sulfate	Lin	106118492	3510612 146483263	7002009 229175842	36116232 +++++	70462091	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0

Curve Type Legend:
Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-003.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	15-Mar-2016 11:42:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-003				
Misc. Info.:	3 std0				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:04	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				
First Level Reviewer: nickloffn		Date:	15-Mar-2016 16:16:04		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Reagents:

WCLCSANIONS_00110 Amount Added: 0.00 Units: mL

Report Date: 15-Mar-2016 16:17:07 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-003.d

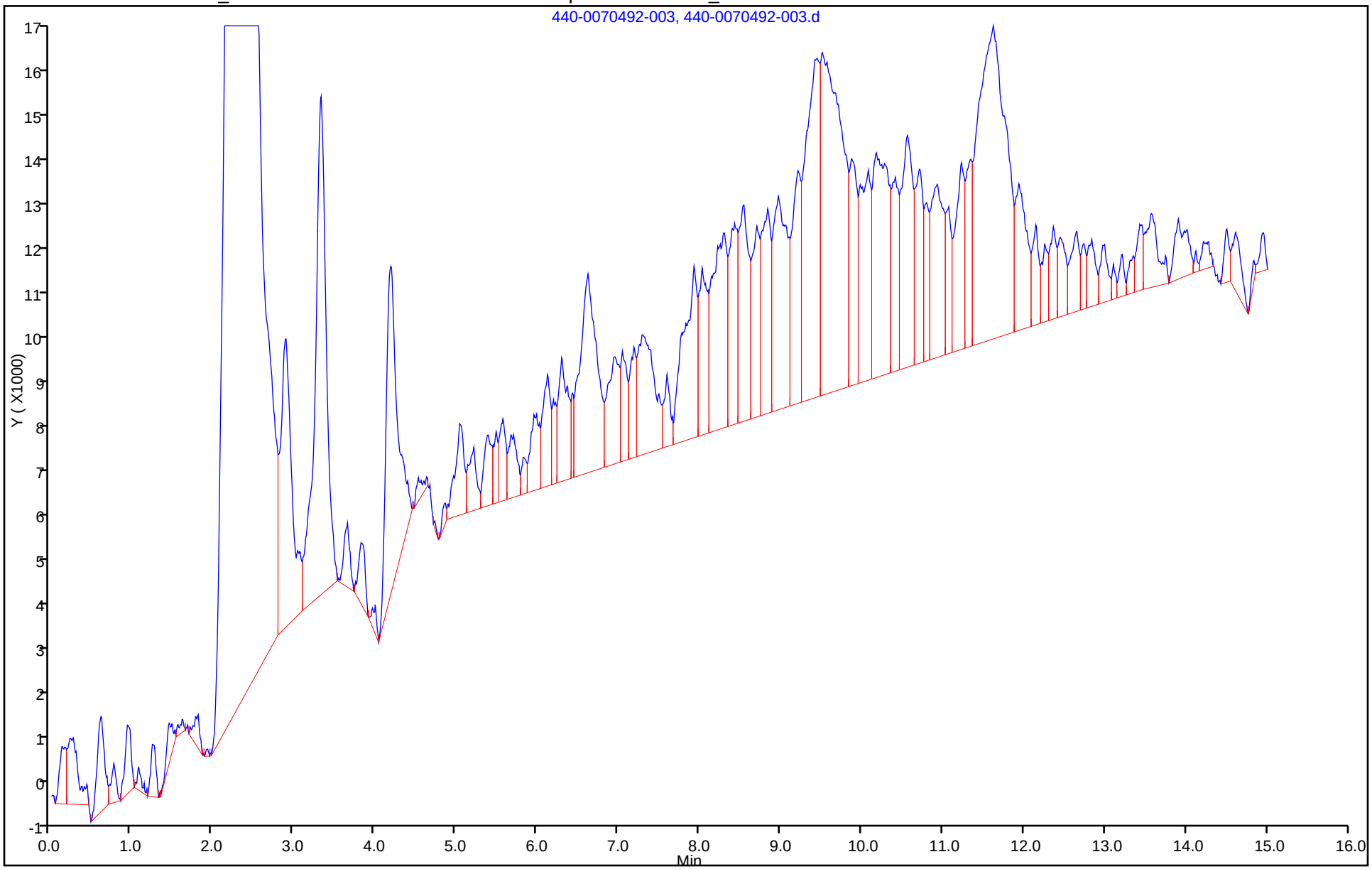
Injection Date: 15-Mar-2016 11:42:00 Instrument ID: IC-8 Operator ID:

Lims ID: std0 Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-004.d				
Lims ID:	std1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	15-Mar-2016 12:11:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-004				
Misc. Info.:	4 std1				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:10	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.942	-0.034	7437655	0.5000	0.7269	
	2 Chloride	4.183	4.200	-0.017	4705119	0.5000	0.6641	
	3 Nitrite as NO2	5.025	5.025	0.000	2925352	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	2925352	NC	NC	
	4 Bromide	6.492	6.458	0.034	2053409	0.5000	0.5657	
	5 Nitrate as NO3	7.583	7.500	0.083	2739100	NC	NC	
	10 Nitrate as N	7.583	7.500	0.083	2739100	NC	NC	
	11 Orthophosphorus as PO4	9.500	9.483	0.017	1313905	NC	NC	
	9 Orthophosphate as P	9.500	9.483	0.017	1313905	NC	NC	
	7 Sulfate	11.633	11.608	0.025	3510612	0.5000	0.7243	
S	8 Nitrate Nitrite as N					0.1522	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 5.00 Units: uL

Report Date: 15-Mar-2016 16:17:11 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-004.d

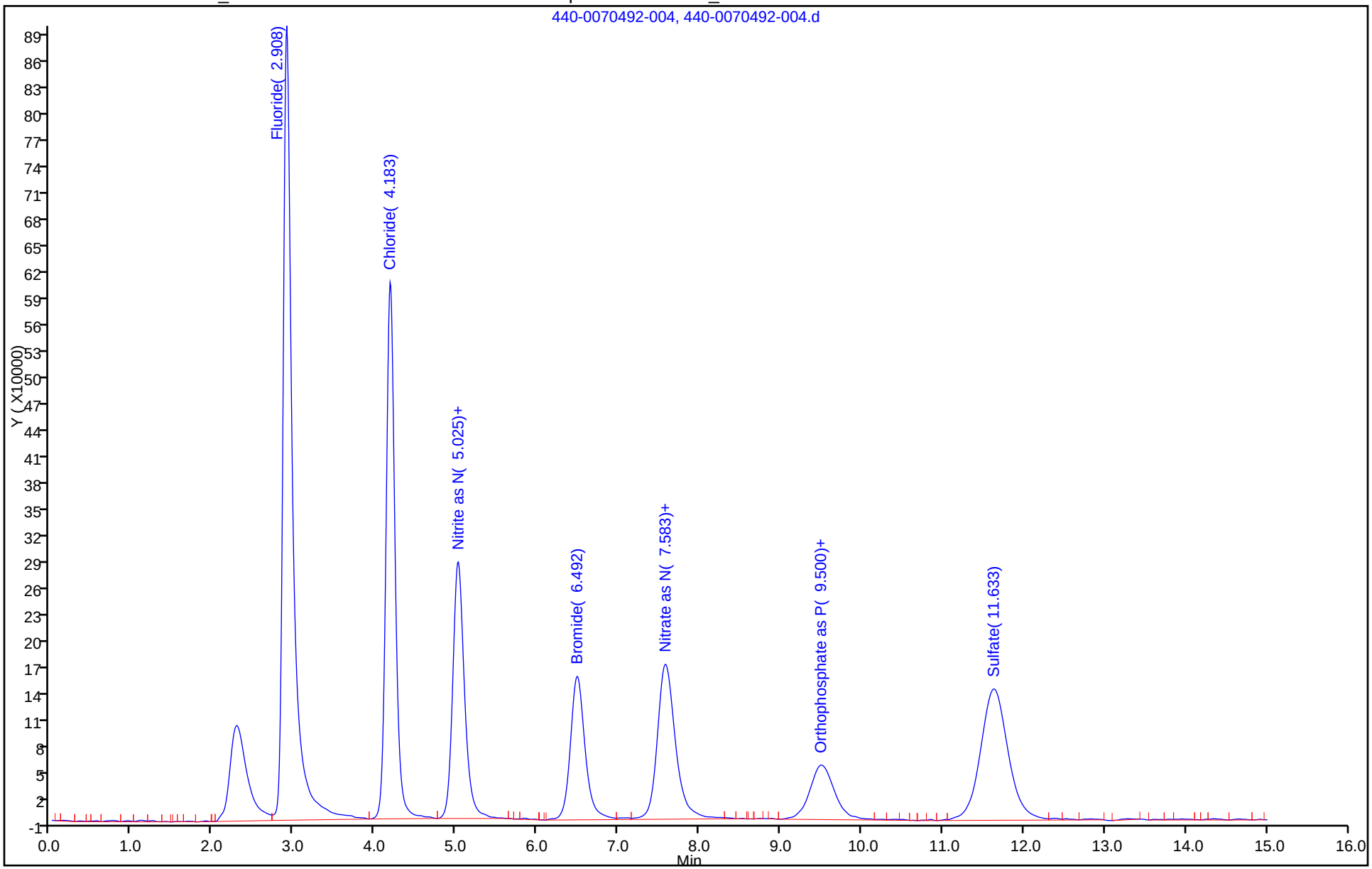
Injection Date: 15-Mar-2016 12:11:00 Instrument ID: IC-8 Operator ID:

Lims ID: std1 Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-005.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	15-Mar-2016 12:28:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-005				
Misc. Info.:	5 std2				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:12	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.942	-0.034	14762705	1.00	1.15	
	2 Chloride	4.183	4.200	-0.017	9372187	1.00	1.09	
	3 Nitrite as NO2	5.025	5.025	0.000	5867891	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	5867891	NC	NC	
	4 Bromide	6.483	6.458	0.025	4054397	1.00	1.04	
	5 Nitrate as NO3	7.575	7.500	0.075	5418296	NC	NC	
	10 Nitrate as N	7.575	7.500	0.075	5418296	NC	NC	
	11 Orthophosphorus as PO4	9.500	9.483	0.017	2587525	NC	NC	
	9 Orthophosphate as P	9.500	9.483	0.017	2587525	NC	NC	
	7 Sulfate	11.625	11.608	0.017	7002009	1.00	1.19	
S	8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 10.00 Units: uL

Report Date: 15-Mar-2016 16:17:13 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-005.d

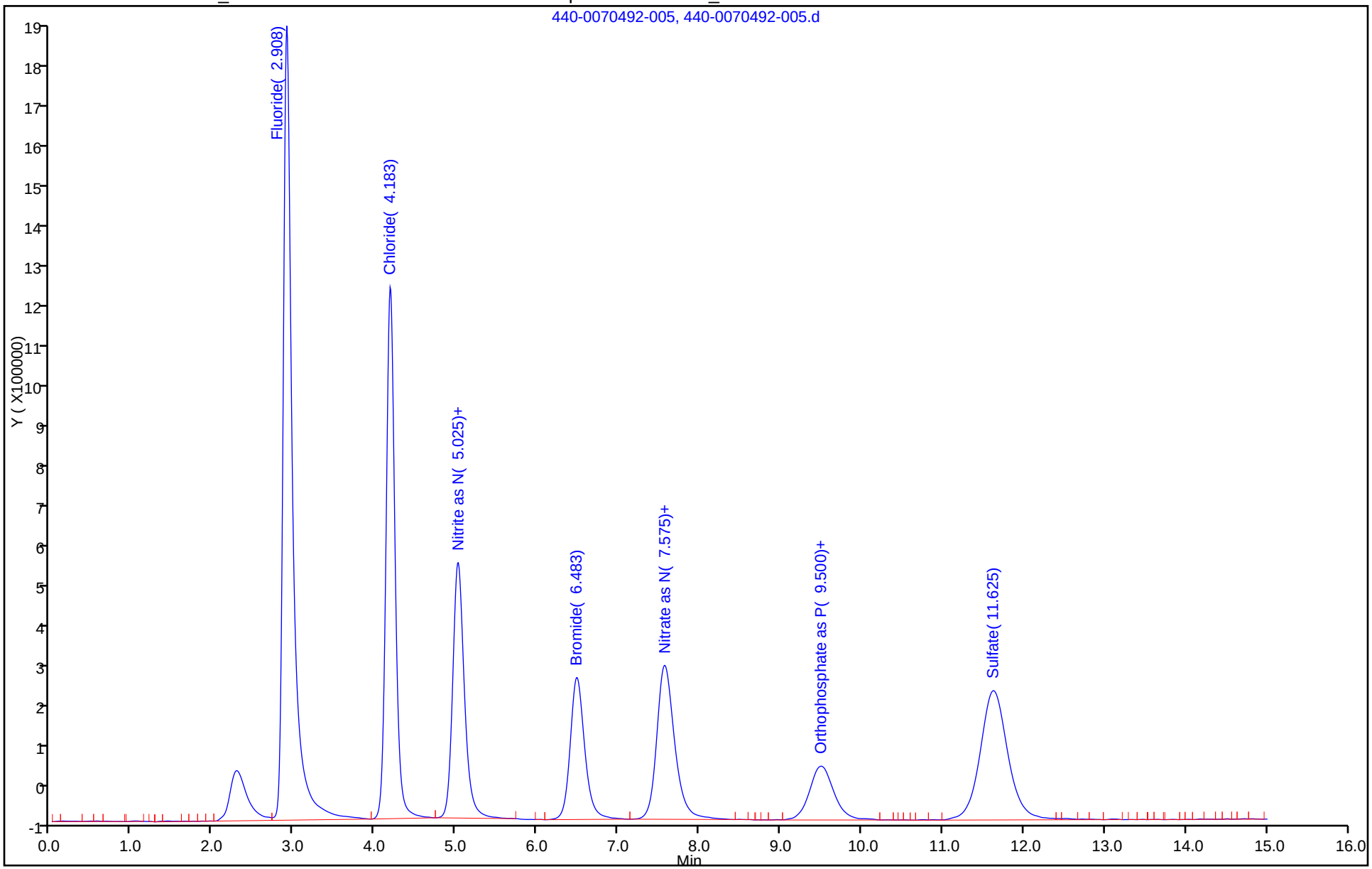
Injection Date: 15-Mar-2016 12:28:00 Instrument ID: IC-8 Operator ID:

Lims ID: std2 Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-006.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	15-Mar-2016 12:46:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-006				
Misc. Info.:	6 std3				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:15	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.917	2.942	-0.025	79890258	5.00	4.89	
	2 Chloride	4.192	4.200	-0.008	50319430	5.00	4.81	
	3 Nitrite as NO2	5.017	5.025	-0.008	31172745	NC	NC	
	12 Nitrite as N	5.017	5.025	-0.008	31172745	NC	NC	
	4 Bromide	6.467	6.458	0.009	20909407	5.00	5.02	
	5 Nitrate as NO3	7.525	7.500	0.025	28456109	NC	NC	
	10 Nitrate as N	7.525	7.500	0.025	28456109	NC	NC	
	11 Orthophosphorus as PO4	9.500	9.483	0.017	13434129	NC	NC	
	9 Orthophosphate as P	9.500	9.483	0.017	13434129	NC	NC	
	7 Sulfate	11.625	11.608	0.017	36116232	5.00	5.05	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 50.00 Units: uL

Report Date: 15-Mar-2016 16:17:17 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-006.d

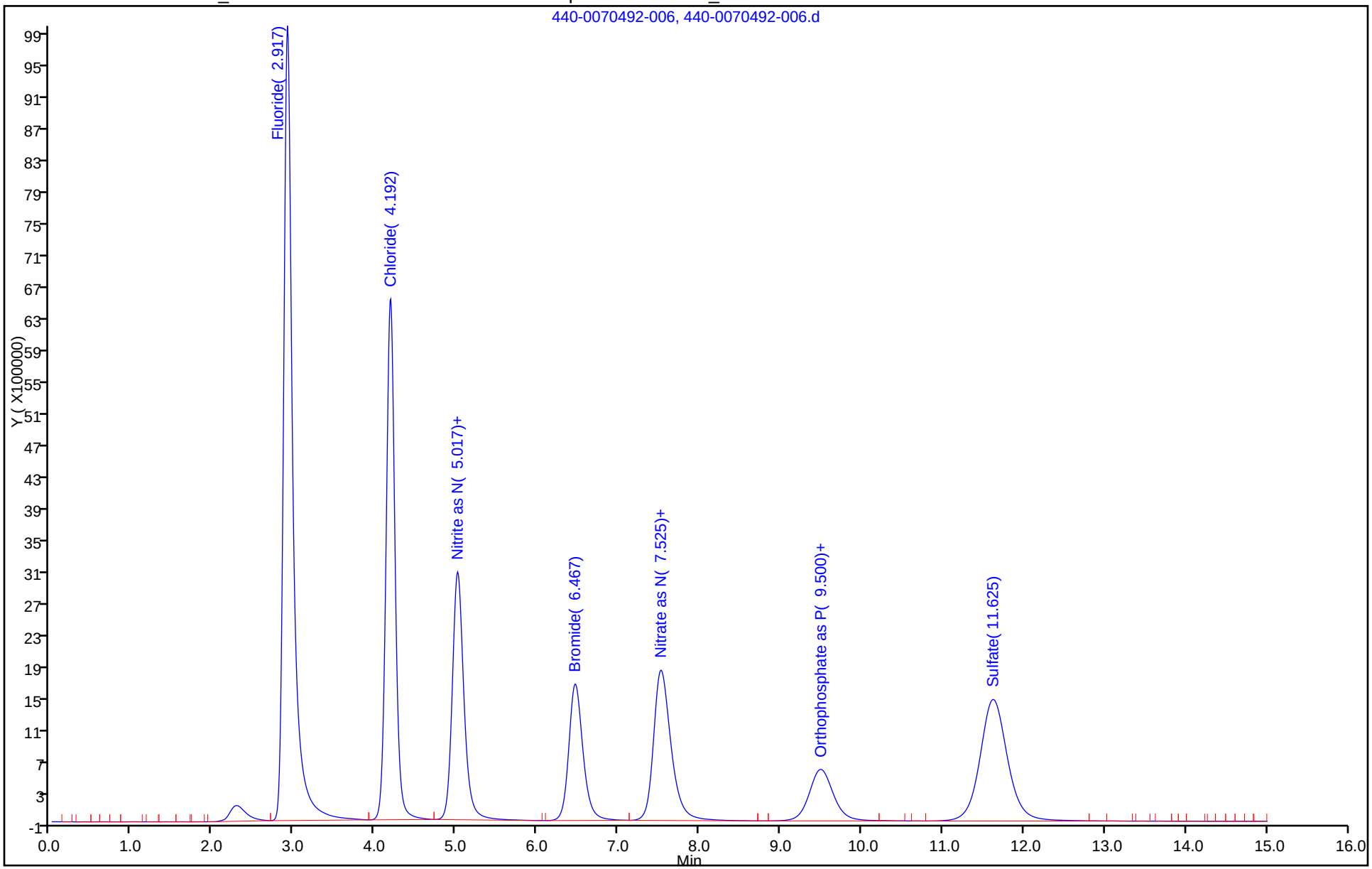
Injection Date: 15-Mar-2016 12:46:00 Instrument ID: IC-8 Operator ID:

Lims ID: std3 Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-007.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	15-Mar-2016 13:04:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-007				
Misc. Info.:	7 std4				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:19	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.933	2.942	-0.009	161176734	10.0	9.56	
	2 Chloride	4.192	4.200	-0.008	101769732	10.0	9.50	
	3 Nitrite as NO2	5.017	5.025	-0.008	61398071	NC	NC	
	12 Nitrite as N	5.017	5.025	-0.008	61398071	NC	NC	
	4 Bromide	6.450	6.458	-0.008	40869176	10.0	9.74	
	5 Nitrate as NO3	7.492	7.500	-0.008	55766970	NC	NC	
	10 Nitrate as N	7.492	7.500	-0.008	55766970	NC	NC	
	11 Orthophosphorus as PO4	9.492	9.483	0.009	26503192	NC	NC	
	9 Orthophosphate as P	9.492	9.483	0.009	26503192	NC	NC	
	7 Sulfate	11.617	11.608	0.009	70462091	10.0	9.60	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 100.00 Units: uL

Report Date: 15-Mar-2016 16:17:19 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-007.d

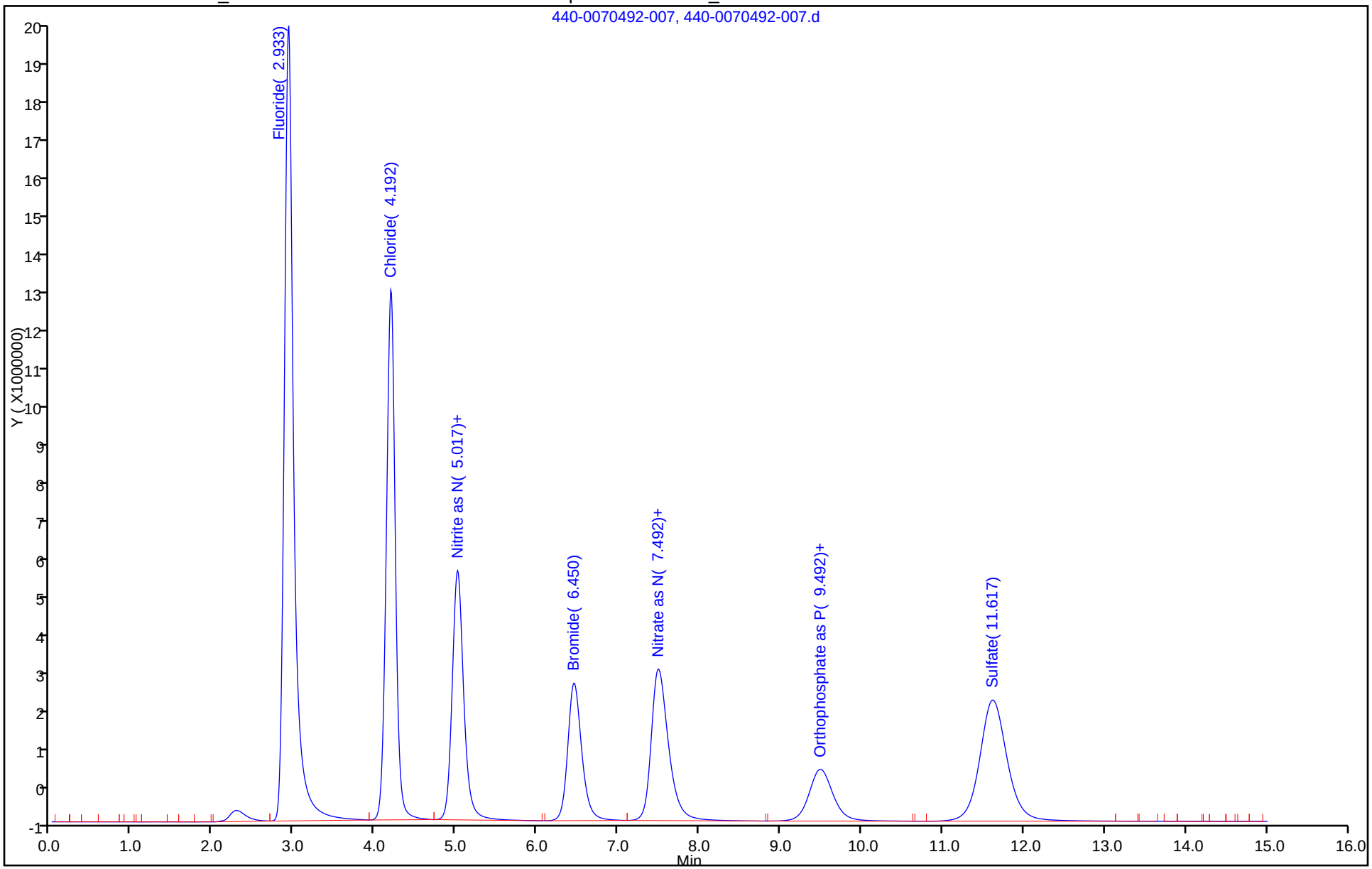
Injection Date: 15-Mar-2016 13:04:00 Instrument ID: IC-8 Operator ID:

Lims ID: std4 Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-008.d
Lims ID: std5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 15-Mar-2016 13:21:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0070492-008
Misc. Info.: 8 std5
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 15-Mar-2016 16:17:20 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK049

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.942	2.942	0.000	247183034	15.0	14.5	
	2 Chloride	4.200	4.200	0.000	158326060	15.0	14.6	
	3 Nitrite as NO2	5.025	5.025	0.000	93492669	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	93492669	NC	NC	
	4 Bromide	6.458	6.458	0.000	61870634	15.0	14.7	
	5 Nitrate as NO3	7.500	7.500	0.000	84725853	NC	NC	
	10 Nitrate as N	7.500	7.500	0.000	84725853	NC	NC	
	11 Orthophosphorus as PO4	9.483	9.483	0.000	40003126	NC	NC	
	9 Orthophosphate as P	9.483	9.483	0.000	40003126	NC	NC	
	7 Sulfate	11.608	11.608	0.000	106118492	15.0	14.3	
S	8 Nitrate Nitrite as N					4.57	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00110 Amount Added: 150.00 Units: uL

Report Date: 15-Mar-2016 16:17:21 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-008.d

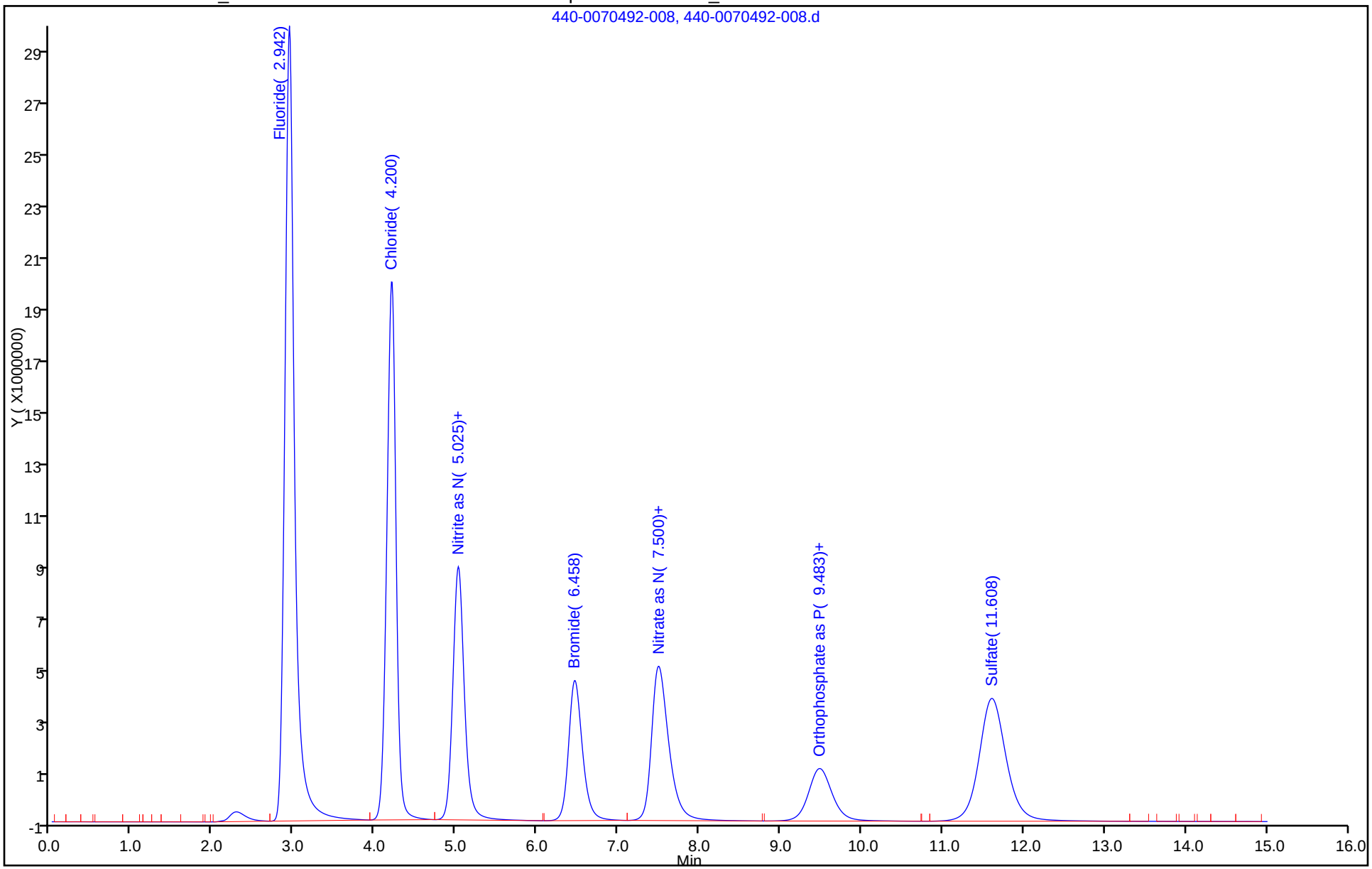
Injection Date: 15-Mar-2016 13:21:00 Instrument ID: IC-8 Operator ID:

Lims ID: std5 Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-009.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	15-Mar-2016 13:39:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-009				
Misc. Info.:	7065 std6				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:23	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.950	2.942	0.008	341694645	20.0	19.9	
	2 Chloride	4.208	4.200	0.008	223337827	20.0	20.6	
	3 Nitrite as NO2	5.025	5.025	0.000	129723624	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	129723624	NC	NC	
	4 Bromide	6.450	6.458	-0.008	85648577	20.0	20.3	
	5 Nitrate as NO3	7.467	7.500	-0.033	117712732	NC	NC	
	10 Nitrate as N	7.467	7.500	-0.033	117712732	NC	NC	
	11 Orthophosphorus as PO4	9.483	9.483	0.000	55018307	NC	NC	
	9 Orthophosphate as P	9.483	9.483	0.000	55018307	NC	NC	
	7 Sulfate	11.608	11.608	0.000	146483263	20.0	19.7	
S	8 Nitrate Nitrite as N					6.09	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

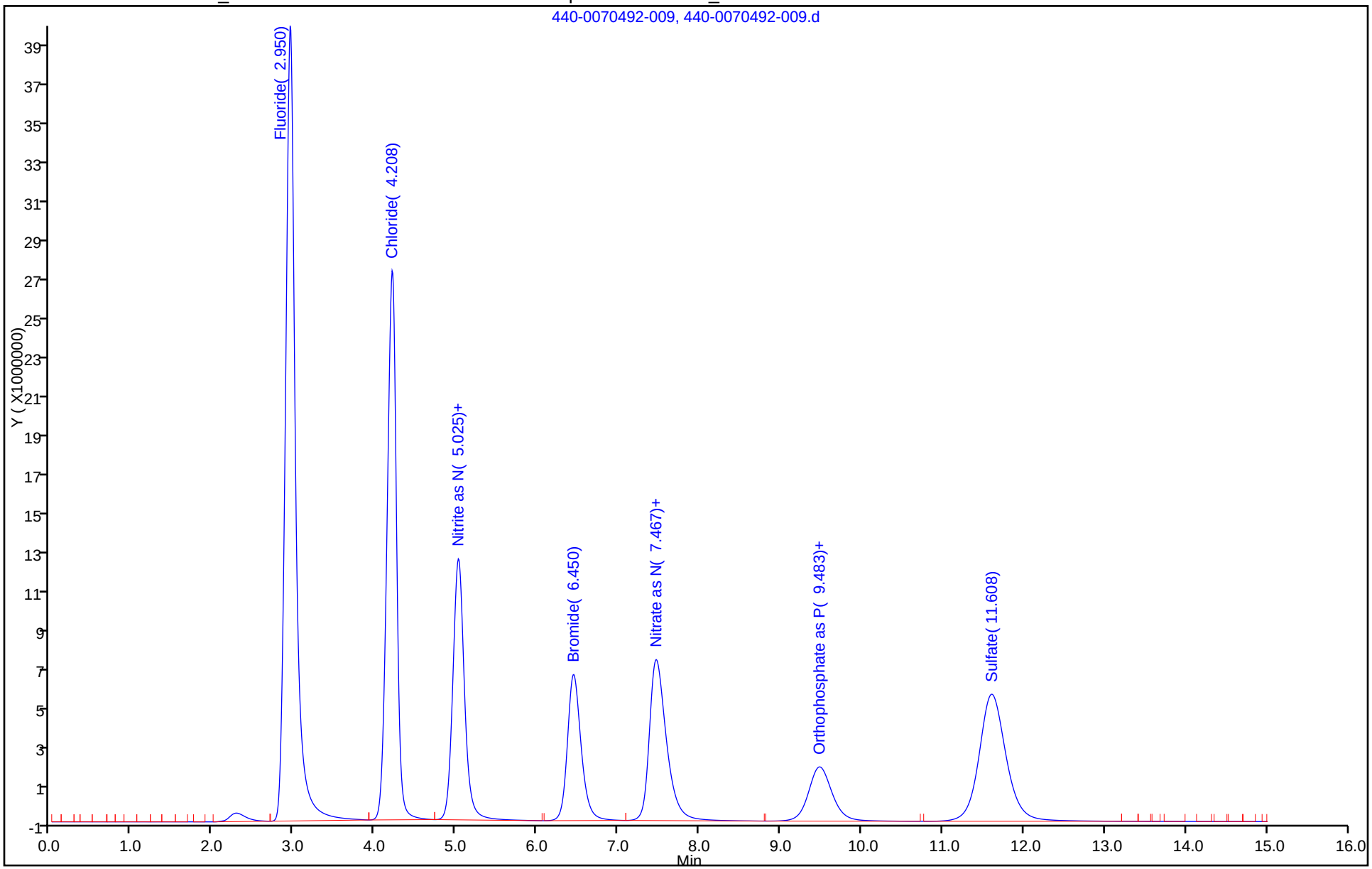
Reagents:

WCLCSANIONS_00110 Amount Added: 200.00 Units: uL

Report Date: 15-Mar-2016 16:17:24 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-009.d				
Injection Date:	15-Mar-2016 13:39:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	std6			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-010.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	15-Mar-2016 13:56:00	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0070492-010				
Misc. Info.:	1640 std7				
Operator ID:		Instrument ID:	IC-8		
Sublist:	chrom-IC300_8*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	15-Mar-2016 16:17:25	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK049				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.967	2.942	0.025	525122303	30.0	30.5	
	2 Chloride	4.217	4.200	0.017	356500750	30.0	32.7	
	3 Nitrite as NO2	5.025	5.025	0.000	202470475	NC	NC	
	12 Nitrite as N	5.025	5.025	0.000	202470475	NC	NC	
	4 Bromide	6.425	6.458	-0.033	134262544	30.0	31.8	
	5 Nitrate as NO3	7.417	7.500	-0.083	184853428	NC	NC	
	10 Nitrate as N	7.417	7.500	-0.083	184853428	NC	NC	
	11 Orthophosphorus as PO4	9.475	9.483	-0.008	85402749	NC	NC	
	9 Orthophosphate as P	9.475	9.483	-0.008	85402749	NC	NC	
	7 Sulfate	11.600	11.608	-0.008	229175842	30.0	30.7	
S	8 Nitrate Nitrite as N					9.13	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

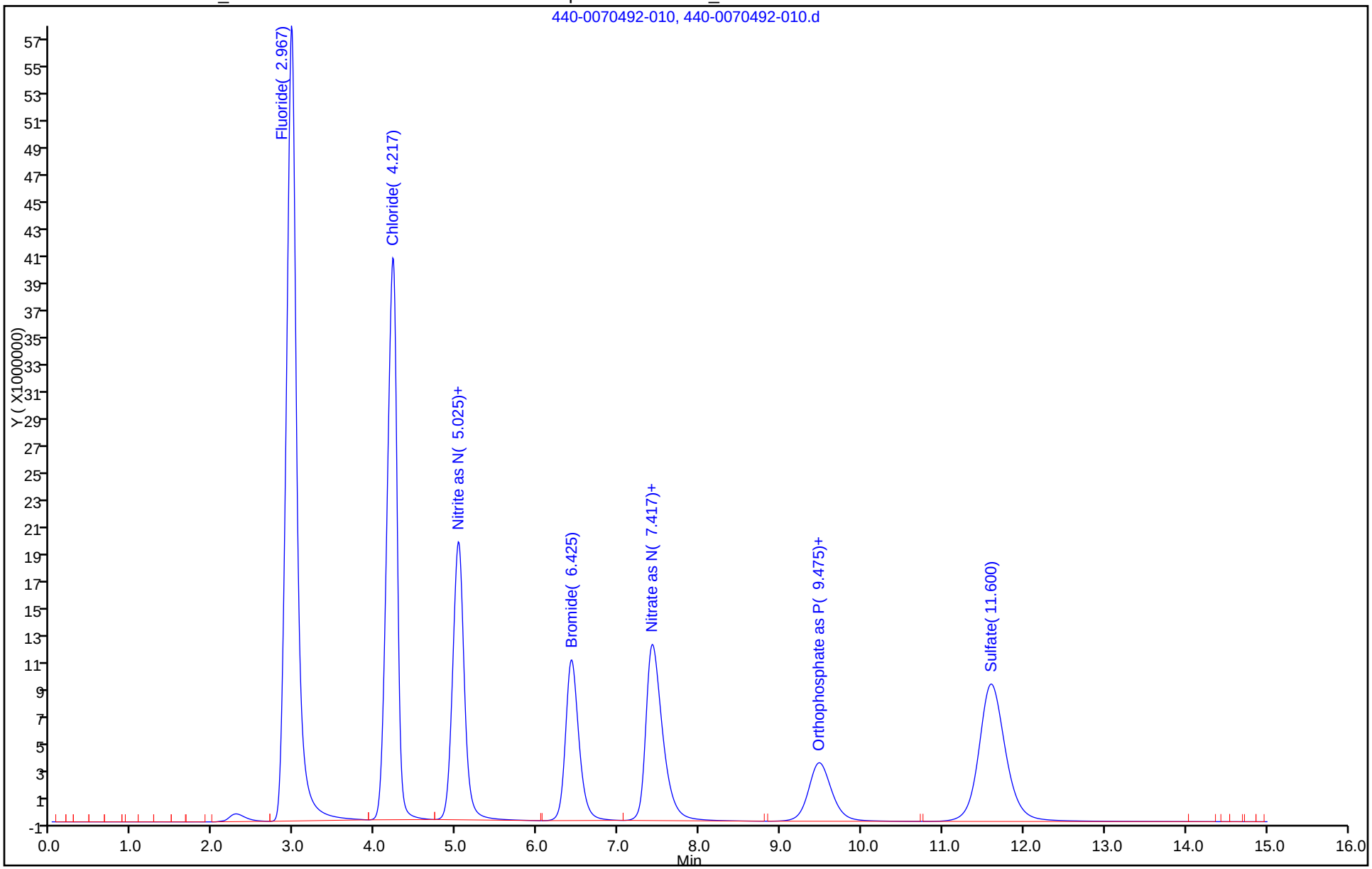
Reagents:

WCLCSANIONS_00110 Amount Added: 300.00 Units: uL

Report Date: 15-Mar-2016 16:17:27 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-010.d				
Injection Date:	15-Mar-2016 13:56:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	std7			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d
Lims ID: std8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 15-Mar-2016 14:14:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0070492-011
Misc. Info.: 6401 std8
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 15-Mar-2016 16:18:02 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK049

First Level Reviewer: nickloffn Date: 15-Mar-2016 16:18:02

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.983	2.942	0.041	694960833	40.0	40.2	
	2 Chloride	4.242	4.200	0.042	486728350	40.0	44.5	
	3 Nitrite as NO2	5.050	5.025	0.025	273697752	NC	NC	
	12 Nitrite as N	5.050	5.025	0.025	273697752	NC	NC	
	4 Bromide	6.442	6.458	-0.016	182288777	40.0	43.2	
	5 Nitrate as NO3	7.442	7.500	-0.058	251308506	NC	NC	
	10 Nitrate as N	7.442	7.500	-0.058	251308506	NC	NC	
	11 Orthophosphorus as PO4	9.458	9.483	-0.025	115066582	NC	NC	
	9 Orthophosphate as P	9.458	9.483	-0.025	115066582	NC	NC	
	7 Sulfate	11.575	11.608	-0.033	310106604	40.0	41.4	
S	8 Nitrate Nitrite as N					12.2	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

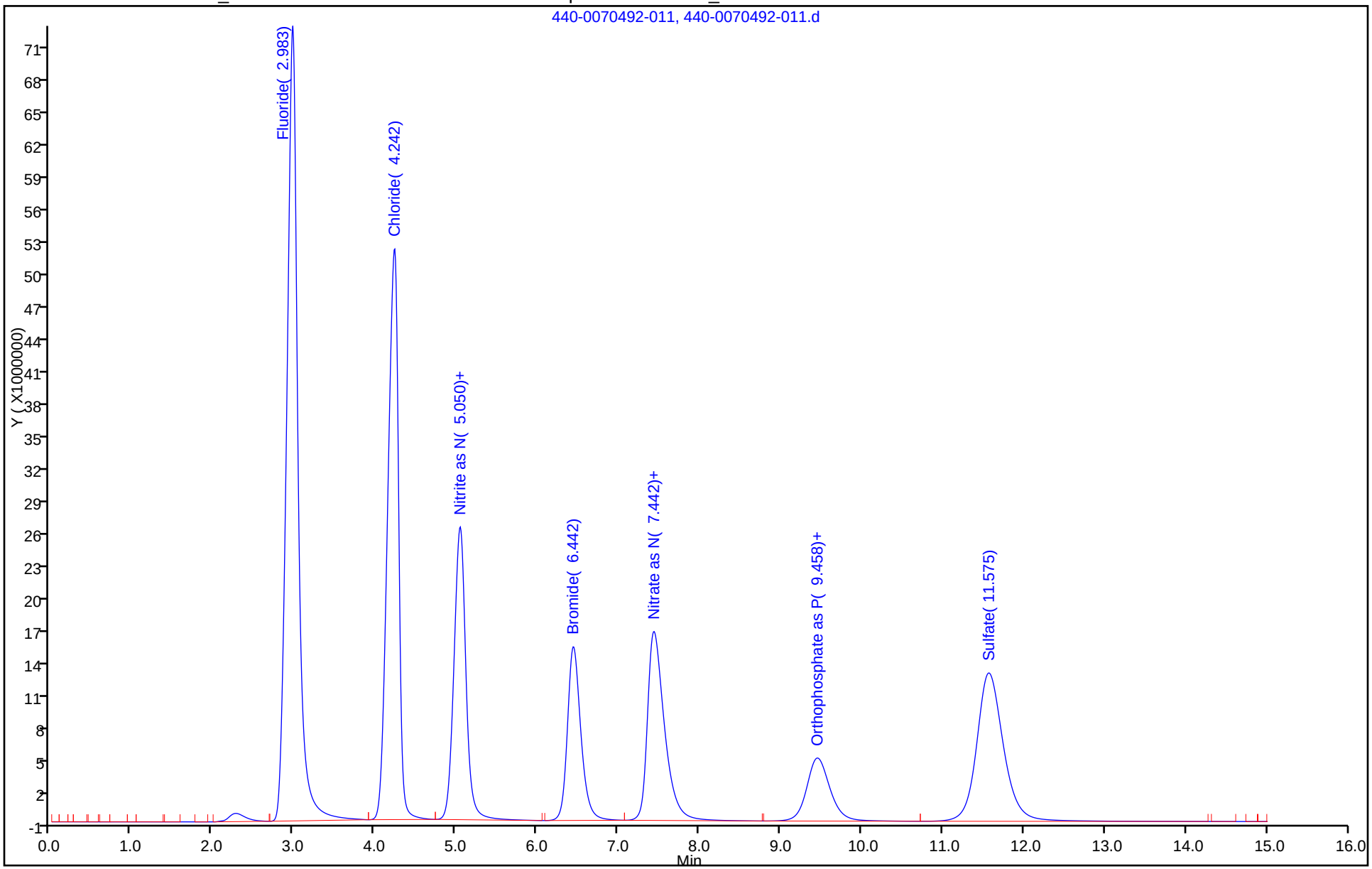
Reagents:

WCLCSANIONS_00110 Amount Added: 400.00 Units: uL

Report Date: 15-Mar-2016 16:18:03 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Injection Date:	15-Mar-2016 14:14:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	std8			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride		2.362	2.345	2.375	2.375	2.378	2.392	2.412	2.415		0.000 - 0.000	2.382
Chloride		3.353	3.325	3.358	3.357	3.348	3.360	+++++	+++++		0.000 - 0.000	3.350
Bromide		5.118	5.090	5.105	5.100	5.072	5.067	+++++	+++++		0.000 - 0.000	5.092
Sulfate		9.157	9.152	9.160	9.155	9.148	9.142	9.147	+++++		0.000 - 0.000	9.152

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	65877 70199	61212 68714	58686 70188	63710 71797	Lin	-18969.789	71059.0214							0.9990		0.9950
Chloride	41479 +++++	40154 44895	38506 46563	41144 +++++	Lin	-12592.548	46057.0259							0.9970		0.9950
Bromide	16747 +++++	12776 17391	15757 17642	17491 +++++	Lin	-2106.9510	17583.1001							0.9990		0.9950
Sulfate	29093 +++++	22462 30047	25575 30307	29989 31695	Lin	-9226.3425	31401.0643							0.9990		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin	1030709	30606 1403750	58686 2153918	318548 2807955	658771	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 40.0	10.0
Chloride	Lin	673430	20077 931268	38506 +++++	205722 +++++	414786	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Bromide	Lin	260864	6388 352845	15757 +++++	87457 +++++	167470	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Sulfate	Lin	450709	11231 606140	25575 950847	149943 +++++	290931	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0

Curve Type Legend:

Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603003.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	24-Mar-2016 10:58:39	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-003				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:25	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

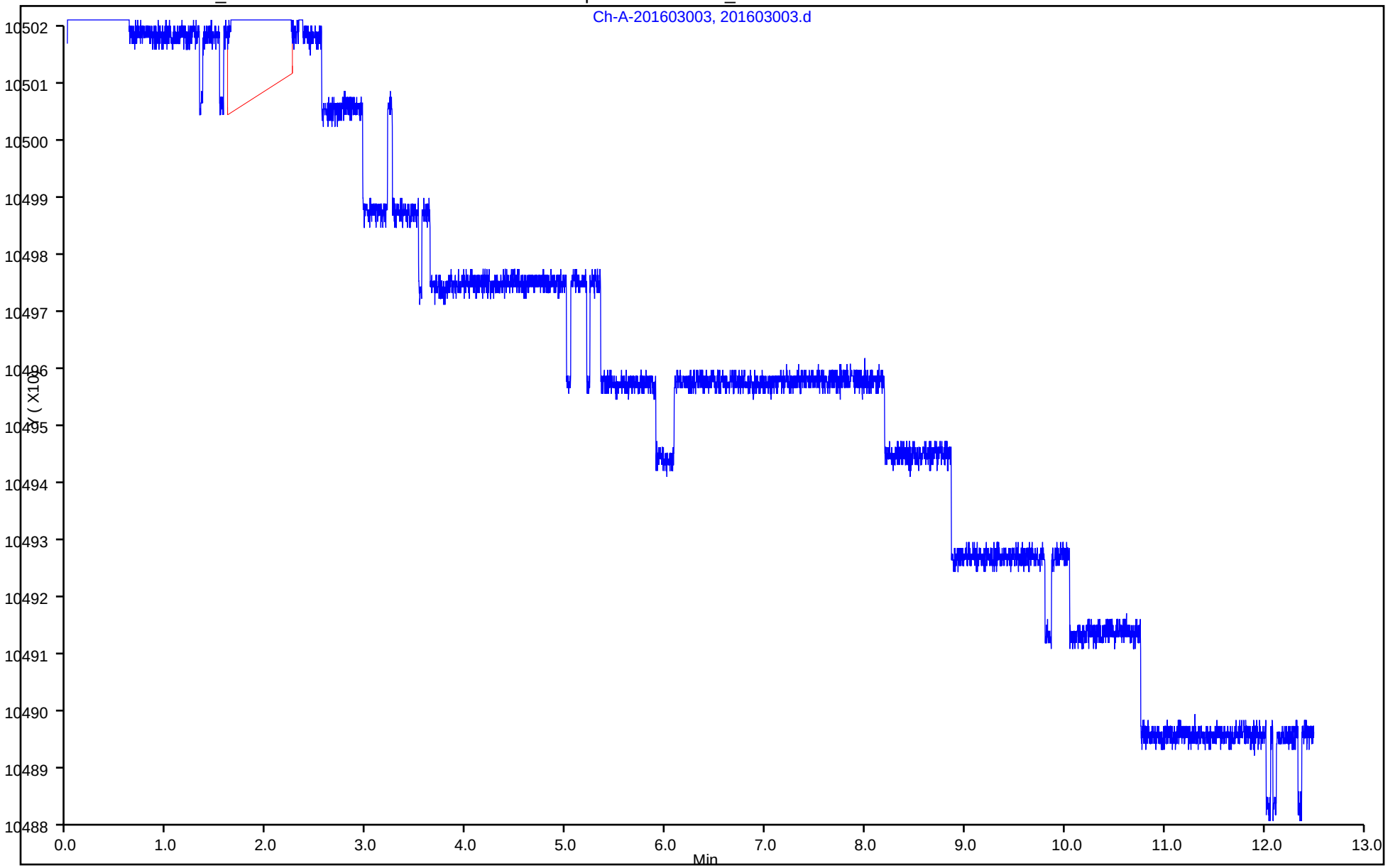
Reagents:

WCLCSANIONS_00113 Amount Added: 0.00 Units: mL

Report Date: 24-Mar-2016 14:09:26 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603003.d				
Injection Date:	24-Mar-2016 10:58:39	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std0			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603005.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	24-Mar-2016 11:26:21	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-005				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:23	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.345	2.378	-0.033	58686	1.00	1.09	
2 Chloride	3.325	3.348	-0.023	38506	1.00	1.11	
3 Nitrite as NO2	3.975	3.987	-0.012	25652	NC	NC	
12 Nitrite as N	3.975	3.987	-0.012	25652	NC	NC	
4 Bromide	5.090	5.072	0.018	15757	1.00	1.02	
10 Nitrate as N	5.937	5.868	0.069	19168	NC	NC	
5 Nitrate as NO3	5.937	5.868	0.069	19168	NC	NC	
11 Orthophosphorus as PO4	7.507	7.502	0.005	9023	NC	NC	
9 Orthophosphate as P	7.507	7.502	0.005	9023	NC	NC	
7 Sulfate	9.152	9.148	0.004	25575	1.00	1.11	
S 8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

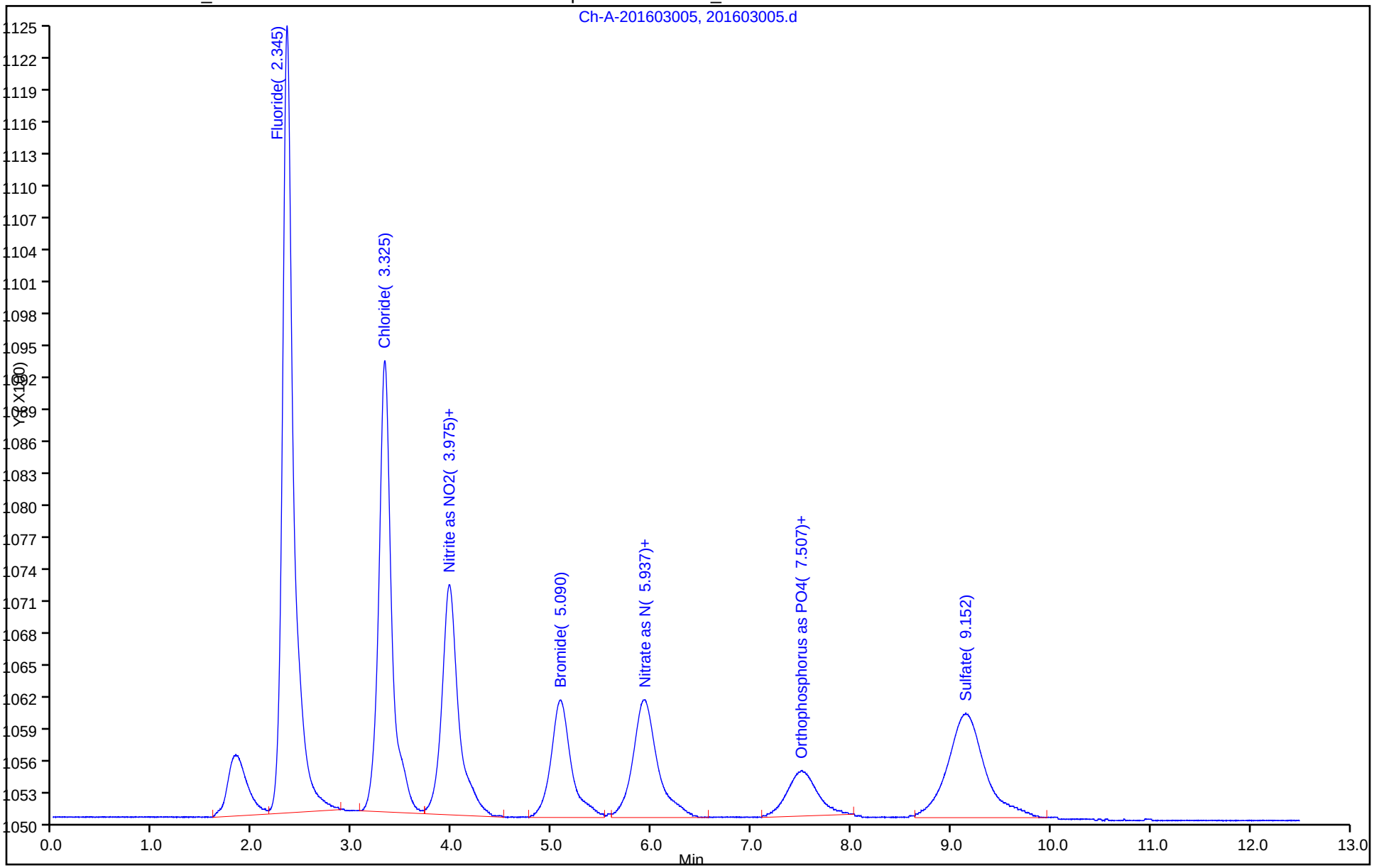
Reagents:

WCLCSANIONS_00113 Amount Added: 10.00 Units: uL

Report Date: 24-Mar-2016 14:09:23 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603005.d				
Injection Date:	24-Mar-2016 11:26:21	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std2			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603006.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	24-Mar-2016 11:40:11	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-006				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:22	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				
First Level Reviewer: nickloffn		Date:	24-Mar-2016 14:05:13		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.375	2.378	-0.003	318548	5.00	4.75	
	2 Chloride	3.358	3.348	0.010	205722	5.00	4.74	
	3 Nitrite as NO2	4.005	3.987	0.018	137353	NC	NC	
	12 Nitrite as N	4.005	3.987	0.018	137353	NC	NC	
	4 Bromide	5.105	5.072	0.033	87457	5.00	5.09	
	10 Nitrate as N	5.920	5.868	0.052	113442	NC	NC	
	5 Nitrate as NO3	5.920	5.868	0.052	113442	NC	NC	
	11 Orthophosphorus as PO4	7.513	7.502	0.011	67404	NC	NC	
	9 Orthophosphate as P	7.513	7.502	0.011	67404	NC	NC	
	7 Sulfate	9.160	9.148	0.012	149943	5.00	5.07	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

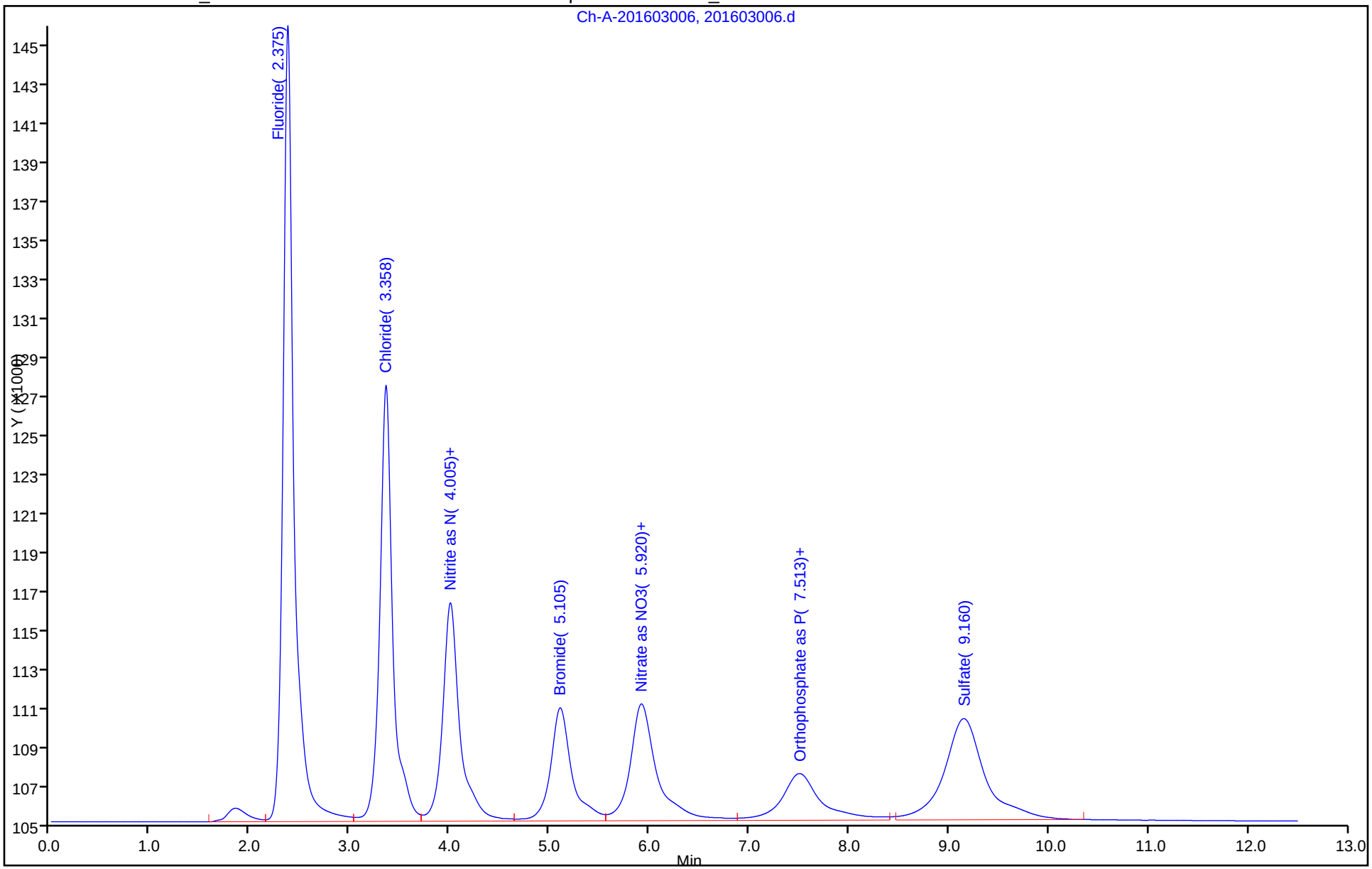
Reagents:

WCLCSANIONS_00113 Amount Added: 50.00 Units: uL

Report Date: 24-Mar-2016 14:09:22 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603006.d				
Injection Date:	24-Mar-2016 11:40:11	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std3			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603007.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	24-Mar-2016 11:54:02	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-007				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:21	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.375	2.378	-0.003	658771	10.0	9.54	
	2 Chloride	3.357	3.348	0.009	414786	10.0	9.28	
	3 Nitrite as NO2	4.002	3.987	0.015	260114	NC	NC	
	12 Nitrite as N	4.002	3.987	0.015	260114	NC	NC	
	4 Bromide	5.100	5.072	0.028	167470	10.0	9.64	
	10 Nitrate as N	5.908	5.868	0.040	213412	NC	NC	
	5 Nitrate as NO3	5.908	5.868	0.040	213412	NC	NC	
	11 Orthophosphorus as PO4	7.507	7.502	0.005	112614	NC	NC	
	9 Orthophosphate as P	7.507	7.502	0.005	112614	NC	NC	
	7 Sulfate	9.155	9.148	0.007	290931	10.0	9.56	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

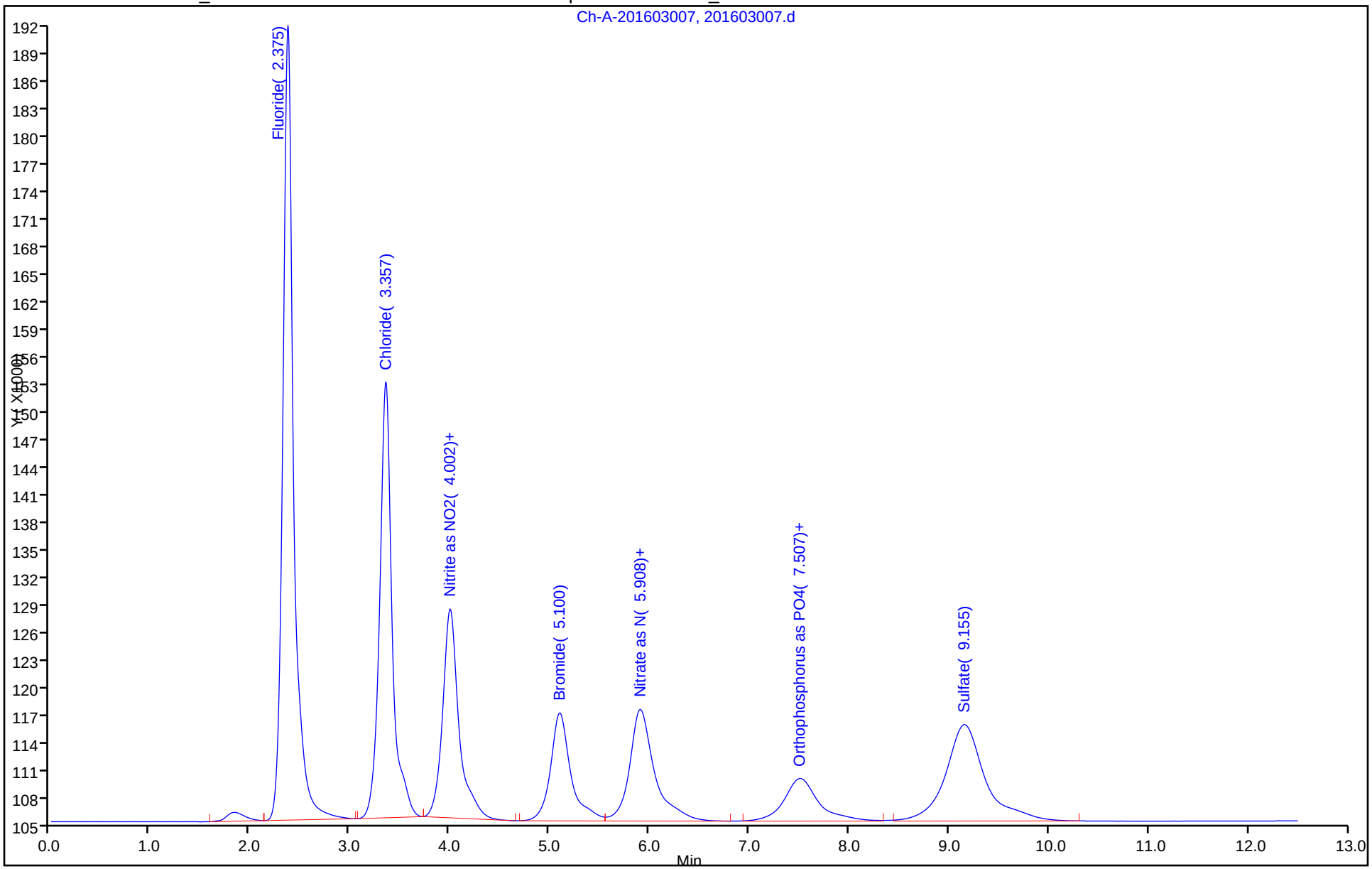
Reagents:

WCLCSANIONS_00113 Amount Added: 100.00 Units: uL

Report Date: 24-Mar-2016 14:09:21 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603007.d				
Injection Date:	24-Mar-2016 11:54:02	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std4			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603008.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	24-Mar-2016 12:07:53	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-008				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:19	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.378	2.378	0.000	1030709	15.0	14.8	
2 Chloride	3.348	3.348	0.000	673430	15.0	14.9	
3 Nitrite as NO2	3.987	3.987	0.000	420441	NC	NC	
12 Nitrite as N	3.987	3.987	0.000	420441	NC	NC	
4 Bromide	5.072	5.072	0.000	260864	15.0	15.0	
10 Nitrate as N	5.868	5.868	0.000	333298	NC	NC	
5 Nitrate as NO3	5.868	5.868	0.000	333298	NC	NC	
11 Orthophosphorus as PO4	7.502	7.502	0.000	174900	NC	NC	
9 Orthophosphate as P	7.502	7.502	0.000	174900	NC	NC	
7 Sulfate	9.148	9.148	0.000	450709	15.0	14.6	
S 8 Nitrate Nitrite as N					4.57	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

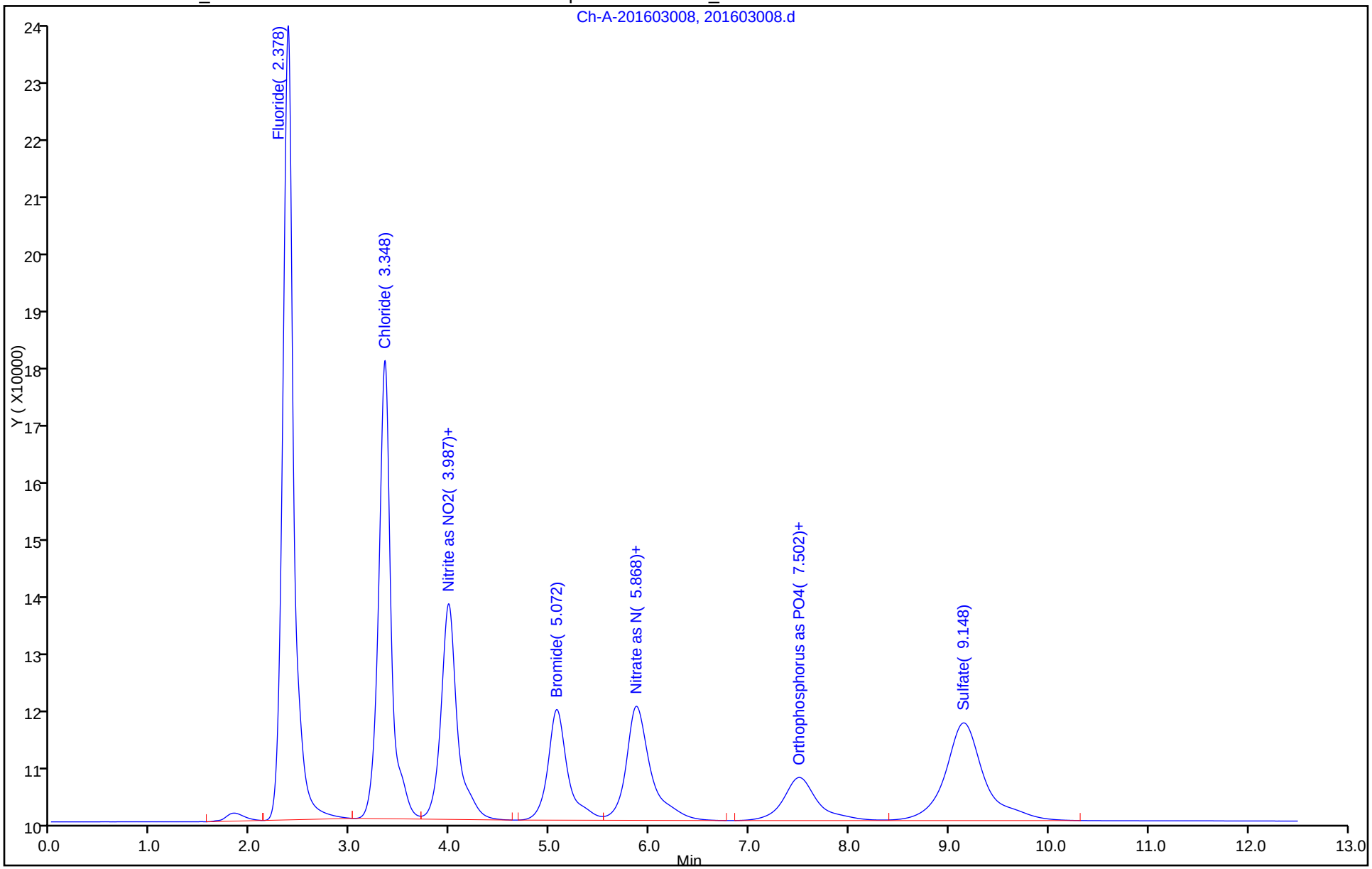
Reagents:

WCLCSANIONS_00113 Amount Added: 150.00 Units: uL

Report Date: 24-Mar-2016 14:09:19 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603008.d				
Injection Date:	24-Mar-2016 12:07:53	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std5			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603009.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	24-Mar-2016 12:21:43	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-009				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:16	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.392	2.378	0.014	1403750	20.0	20.0	
	2 Chloride	3.360	3.348	0.012	931268	20.0	20.5	
	3 Nitrite as NO2	3.995	3.987	0.008	570701	NC	NC	
	12 Nitrite as N	3.995	3.987	0.008	570701	NC	NC	
	4 Bromide	5.067	5.072	-0.005	352845	20.0	20.2	
	10 Nitrate as N	5.850	5.868	-0.018	453361	NC	NC	
	5 Nitrate as NO3	5.850	5.868	-0.018	453361	NC	NC	
	11 Orthophosphorus as PO4	7.492	7.502	-0.010	230689	NC	NC	
	9 Orthophosphate as P	7.492	7.502	-0.010	230689	NC	NC	
	7 Sulfate	9.142	9.148	-0.006	606140	20.0	19.6	
S	8 Nitrate Nitrite as N					6.09	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

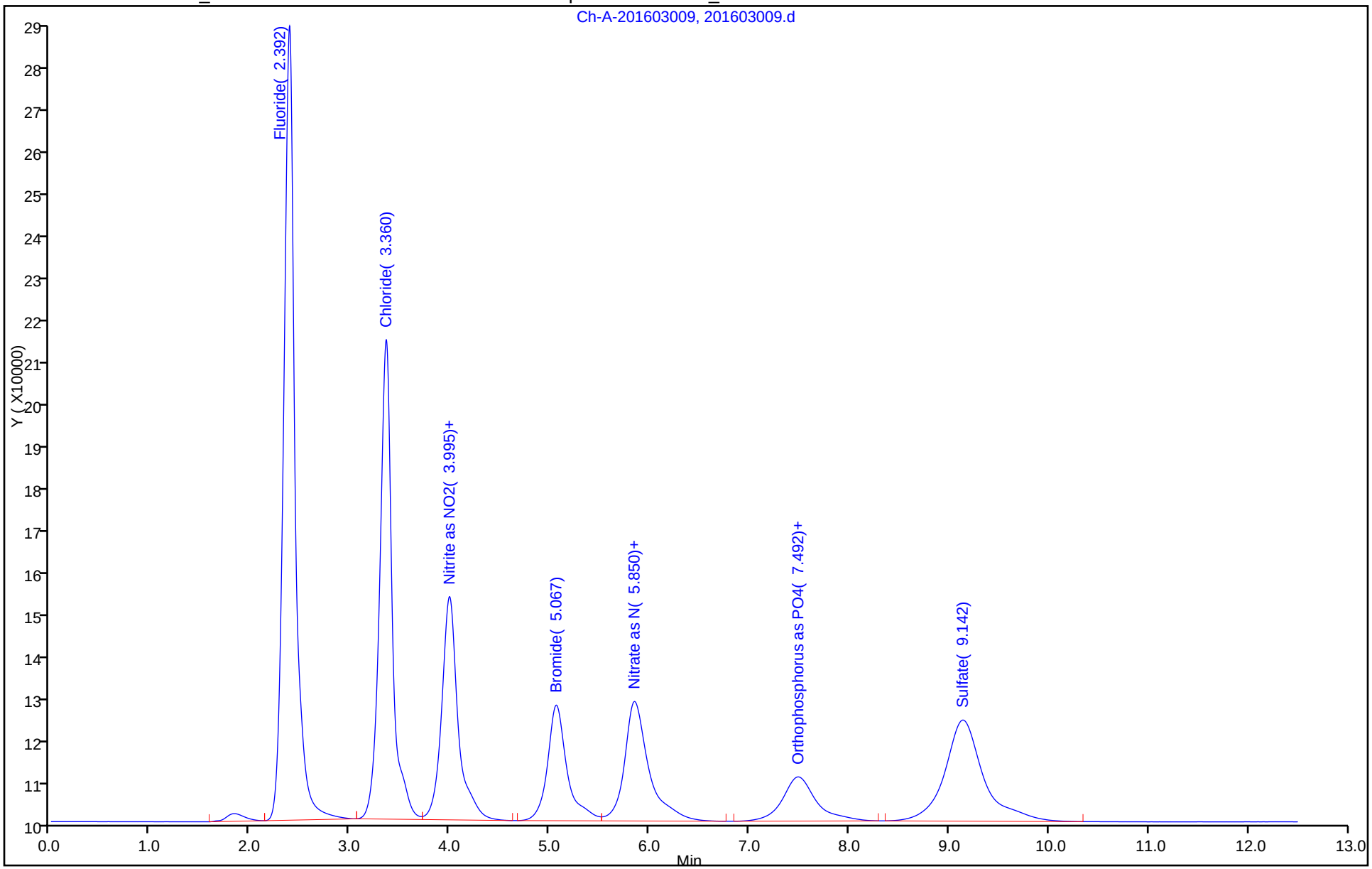
Reagents:

WCLCSANIONS_00113 Amount Added: 200.00 Units: uL

Report Date: 24-Mar-2016 14:09:18 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603009.d				
Injection Date:	24-Mar-2016 12:21:43	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std6			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603010.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	24-Mar-2016 12:35:34	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-010				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:15	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.412	2.378	0.034	2153918	30.0	30.6	
	2 Chloride	3.387	3.348	0.039	1486643	30.0	32.6	
	3 Nitrite as NO2	4.023	3.987	0.036	872272	NC	NC	
	12 Nitrite as N	4.023	3.987	0.036	872272	NC	NC	
	4 Bromide	5.088	5.072	0.016	554643	30.0	31.7	
	10 Nitrate as N	5.863	5.868	-0.005	710299	NC	NC	
	5 Nitrate as NO3	5.863	5.868	-0.005	710299	NC	NC	
	11 Orthophosphorus as PO4	7.500	7.502	-0.002	355979	NC	NC	
	9 Orthophosphate as P	7.500	7.502	-0.002	355979	NC	NC	
	7 Sulfate	9.147	9.148	-0.001	950847	30.0	30.6	
S	8 Nitrate Nitrite as N					9.13	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

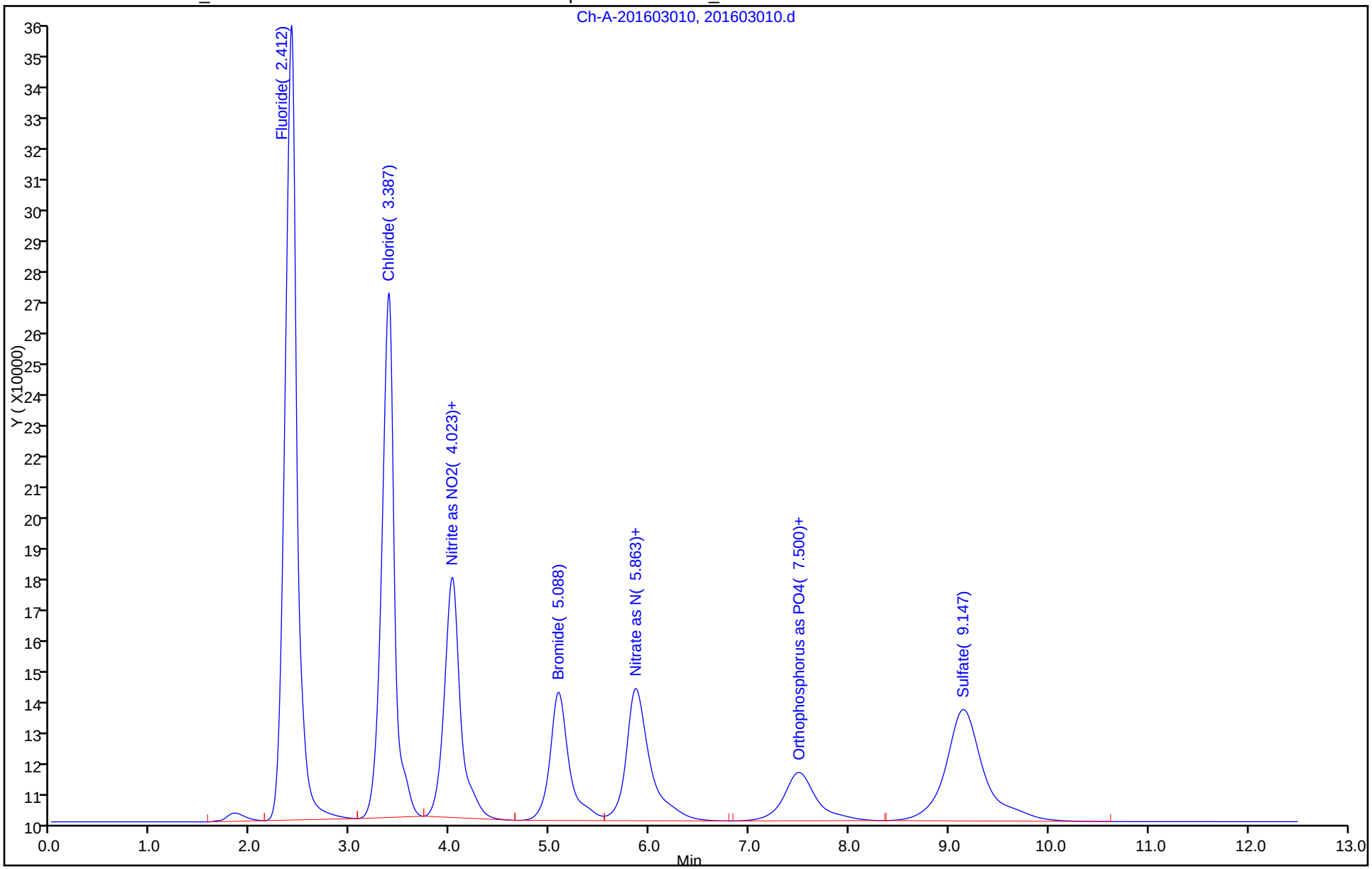
Reagents:

WCLCSANIONS_00113 Amount Added: 300.00 Units: uL

Report Date: 24-Mar-2016 14:09:15 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603010.d				
Injection Date:	24-Mar-2016 12:35:34	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std7			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	24-Mar-2016 12:49:24	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-011				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:13	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				
First Level Reviewer: nickloffn		Date:	24-Mar-2016 14:07:59		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.415	2.378	0.037	2807955	40.0	39.8	
2 Chloride	3.387	3.348	0.039	2031292	40.0	44.4	
3 Nitrite as NO2	4.022	3.987	0.035	1172728	NC	NC	
12 Nitrite as N	4.022	3.987	0.035	1172728	NC	NC	
4 Bromide	5.080	5.072	0.008	752360	40.0	42.9	
10 Nitrate as N	5.853	5.868	-0.015	965501	NC	NC	
5 Nitrate as NO3	5.853	5.868	-0.015	965501	NC	NC	
11 Orthophosphorus as PO4	7.497	7.502	-0.005	477086	NC	NC	
9 Orthophosphate as P	7.497	7.502	-0.005	477086	NC	NC	
7 Sulfate	9.140	9.148	-0.008	1270536	40.0	40.8	
S 8 Nitrate Nitrite as N					12.2	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

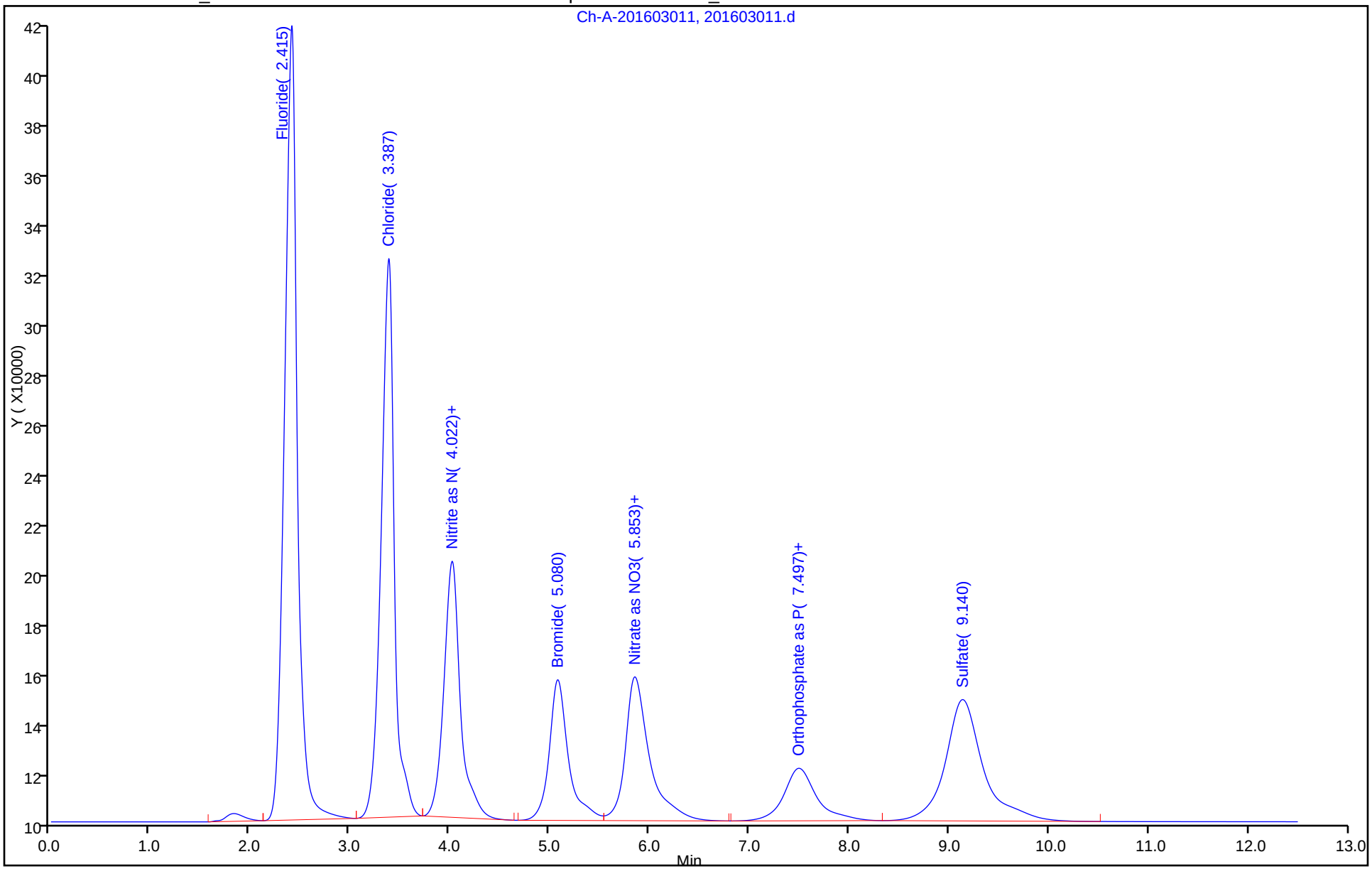
Reagents:

WCLCSANIONS_00113 Amount Added: 400.00 Units: uL

Report Date: 24-Mar-2016 14:09:13 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Injection Date:	24-Mar-2016 12:49:24	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std8			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-317525/12 Calibration Date: 03/15/2016 16:13

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0070492-012.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		17068538		10.1	10.0	1.0	10.0
Chloride	Lin		10898668		10.2	10.0	1.5	10.0
Bromide	Lin		4378327		10.4	10.0	4.3	10.0
Sulfate	Lin		7381353		10.0	10.0	0.5	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-317525/12 Calibration Date: 03/15/2016 16:13

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0070492-012.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.80	3.09
Chloride	4.20	3.99	4.41
Bromide	6.46	6.14	6.78
Sulfate	11.60	11.03	12.19

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-012.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 15-Mar-2016 16:13:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0070492-012
Misc. Info.: 20174 icv
Operator ID: Instrument ID: IC-8
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 15-Mar-2016 18:07:33 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK030

First Level Reviewer: nguyennt Date: 15-Mar-2016 17:56:09

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.933	2.942	-0.009	170685381	10.0	10.1	
2 Chloride	4.200	4.200	0.000	108986682	10.0	10.2	
3 Nitrite as NO2	5.017	5.025	-0.008	67614189	NC	NC	
12 Nitrite as N	5.017	5.025	-0.008	67614189	NC	NC	
4 Bromide	6.458	6.458	0.000	43783274	10.0	10.4	
5 Nitrate as NO3	7.508	7.500	0.008	55370517	NC	NC	
10 Nitrate as N	7.508	7.500	0.008	55370517	NC	NC	
11 Orthophosphorus as PO4	9.483	9.483	0.000	28693009	NC	NC	
9 Orthophosphate as P	9.483	9.483	0.000	28693009	NC	NC	
7 Sulfate	11.600	11.608	-0.008	73813533	10.0	10.0	
S 8 Nitrate Nitrite as N					5.30	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCICVANIONS_00059 Amount Added: 1.00 Units: mL

Report Date: 15-Mar-2016 17:56:09 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-012.d

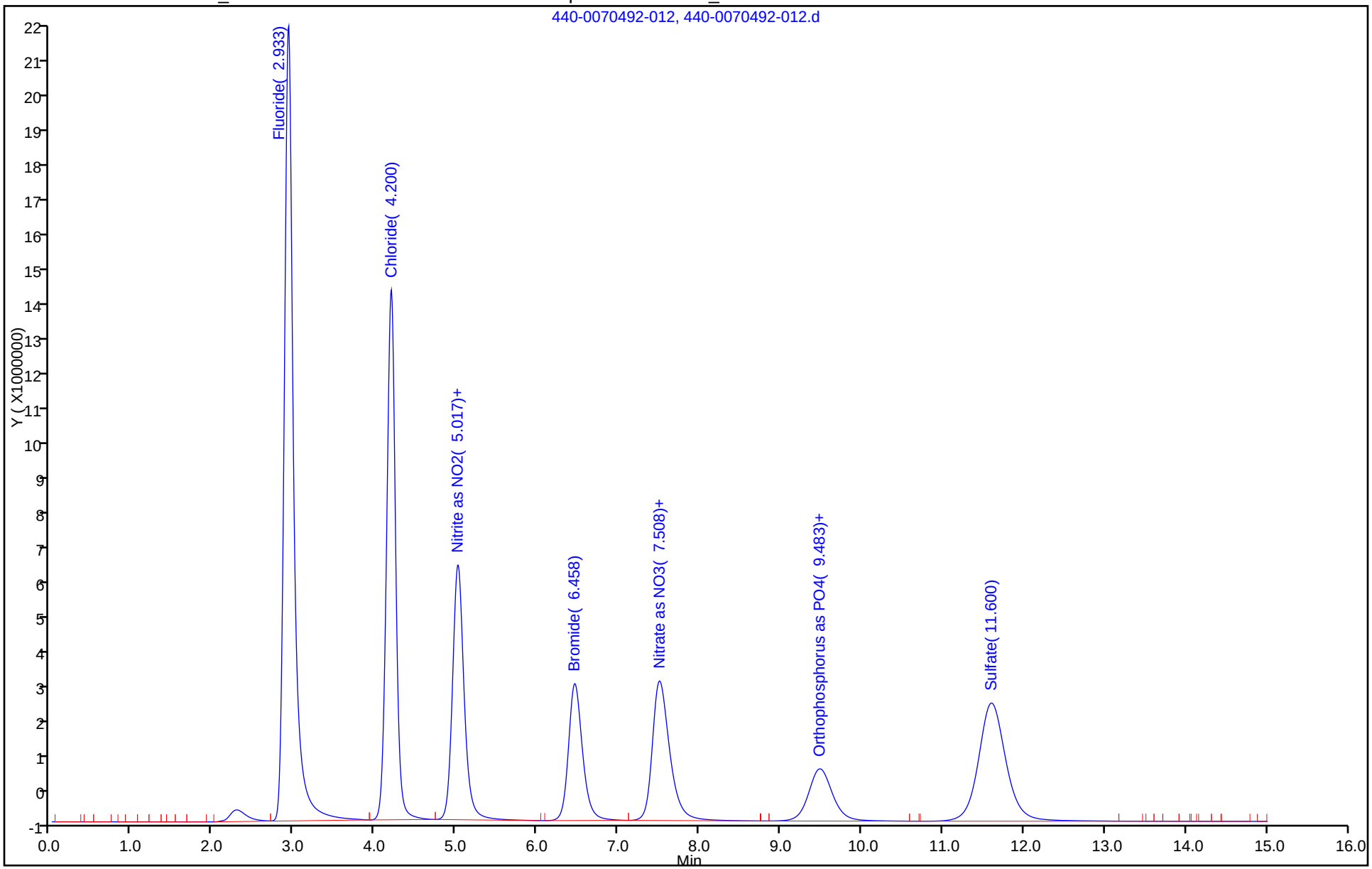
Injection Date: 15-Mar-2016 16:13:00 Instrument ID: IC-8 Operator ID:

Lims ID: icv Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325445/56 Calibration Date: 04/21/2016 07:59

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-056.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16623631		9.85	10.0	-1.5	10.0
Chloride	Lin		10753715		10.0	10.0	0.2	10.0
Bromide	Lin		4254942		10.1	10.0	1.4	10.0
Sulfate	Lin		7317707		9.96	10.0	-0.4	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325445/56 Calibration Date: 04/21/2016 07:59

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-056.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.78	3.07
Chloride	4.17	3.96	4.38
Bromide	6.34	6.03	6.66
Sulfate	11.33	10.76	11.89

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-056.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 07:59:00 ALS Bottle#: 0 Worklist Smp#: 56
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-056
Misc. Info.: 26816 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:08:09 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:08:09

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.925	2.925	0.000	166236312	10.0	9.85	
	2 Chloride	4.167	4.167	0.000	107537146	10.0	10.0	
	3 Nitrite as NO2	4.958	4.958	0.000	65196956	NC	NC	
	12 Nitrite as N	4.958	4.958	0.000	65196956	NC	NC	
	4 Bromide	6.342	6.342	0.000	42549415	10.0	10.1	
	5 Nitrate as NO3	7.342	7.342	0.000	54579126	NC	NC	
	10 Nitrate as N	7.342	7.342	0.000	54579126	NC	NC	
	11 Orthophosphorus as PO4	9.283	9.283	0.000	27815652	NC	NC	
	9 Orthophosphate as P	9.283	9.283	0.000	27815652	NC	NC	
	7 Sulfate	11.325	11.325	0.000	73177070	10.0	9.96	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

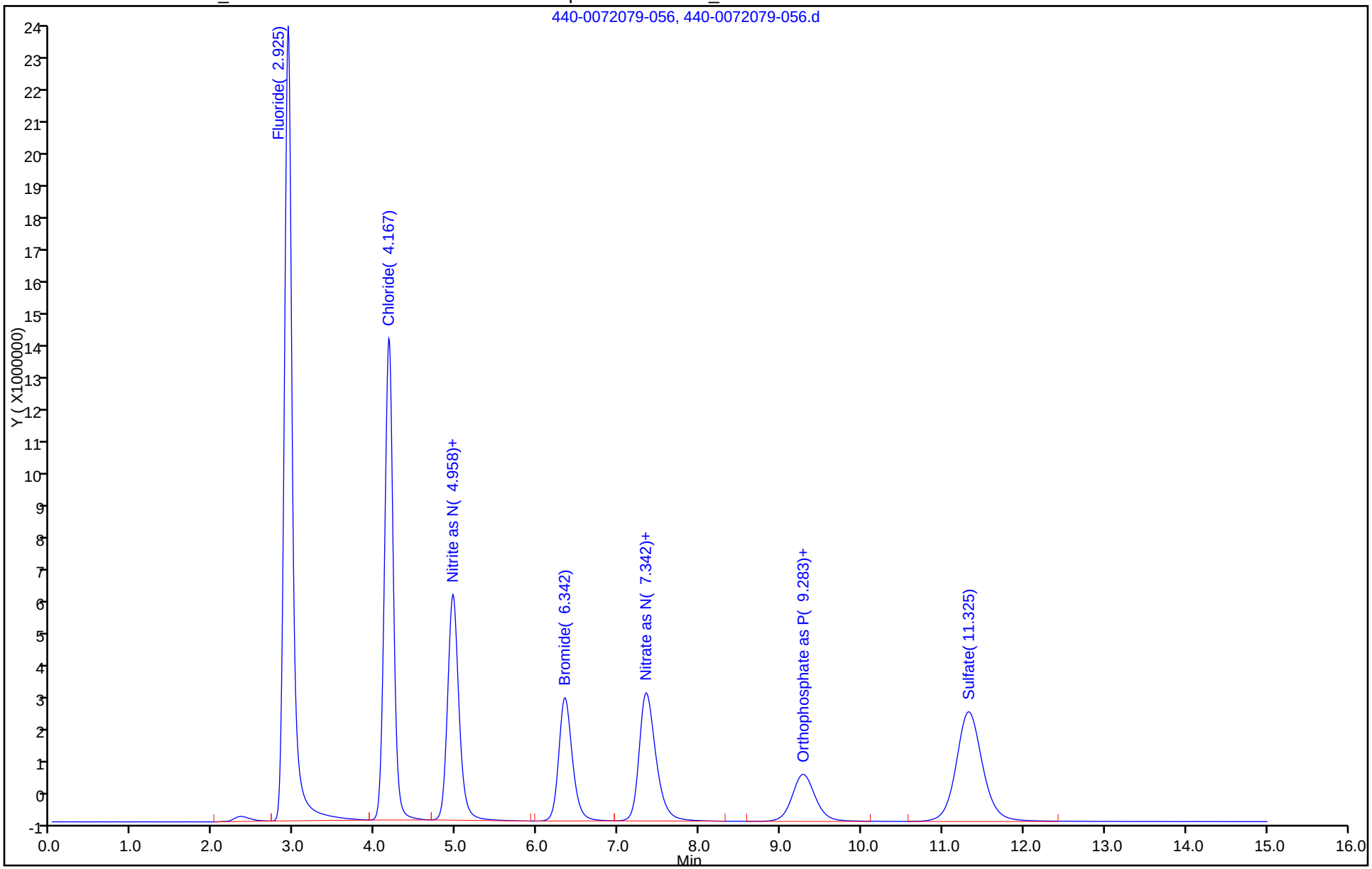
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:08:10 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-056.d				
Injection Date:	21-Apr-2016 07:59:00	Instrument ID:	IC-8	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	56
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	IC300_8	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325445/68 Calibration Date: 04/21/2016 11:30

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-068.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16654114		9.86	10.0	-1.4	10.0
Chloride	Lin		10780945		10.0	10.0	0.5	10.0
Bromide	Lin		4252933		10.1	10.0	1.4	10.0
Sulfate	Lin		7359868		10.0	10.0	0.2	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325445/68 Calibration Date: 04/21/2016 11:30

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-068.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.78	3.07
Chloride	4.18	3.97	4.38
Bromide	6.35	6.03	6.67
Sulfate	11.32	10.75	11.88

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-068.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 11:30:00 ALS Bottle#: 0 Worklist Smp#: 68
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-068
Misc. Info.: 30489 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:09:21 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:09:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.925	2.925	0.000	166541137	10.0	9.86	
	2 Chloride	4.175	4.175	0.000	107809452	10.0	10.0	
	3 Nitrite as NO2	4.967	4.967	0.000	65166168	NC	NC	
	12 Nitrite as N	4.967	4.967	0.000	65166168	NC	NC	
	4 Bromide	6.350	6.350	0.000	42529329	10.0	10.1	
	5 Nitrate as NO3	7.350	7.350	0.000	54587668	NC	NC	
	10 Nitrate as N	7.350	7.350	0.000	54587668	NC	NC	
	11 Orthophosphorus as PO4	9.275	9.275	0.000	27910524	NC	NC	
	9 Orthophosphate as P	9.275	9.275	0.000	27910524	NC	NC	
	7 Sulfate	11.317	11.317	0.000	73598675	10.0	10.0	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:09:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-068.d

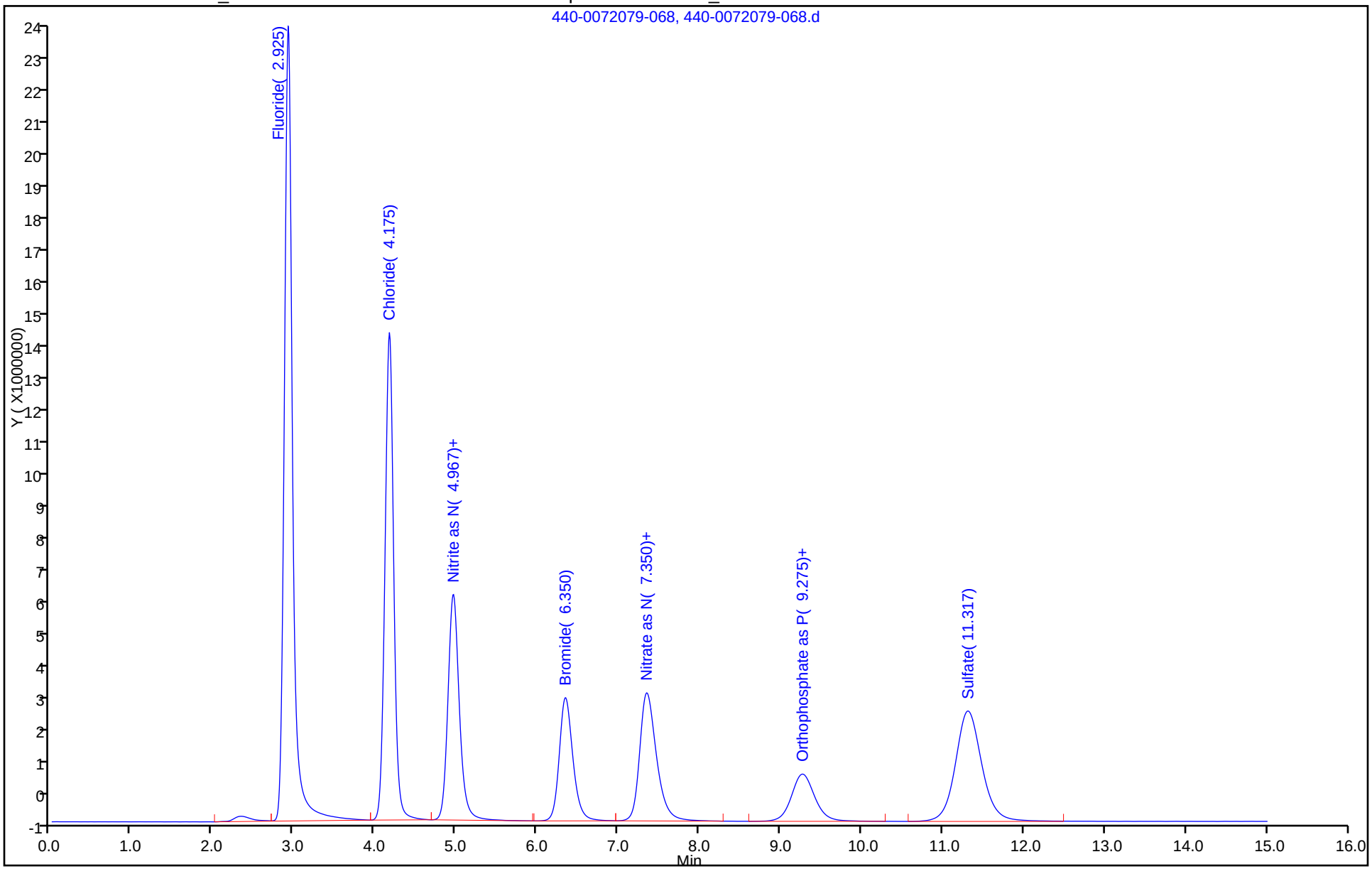
Injection Date: 21-Apr-2016 11:30:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccv Worklist Smp#: 68

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325445/80 Calibration Date: 04/21/2016 15:02

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-080.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16126020		9.56	10.0	-4.4	10.0
Chloride	Lin		10488439		9.78	10.0	-2.2	10.0
Bromide	Lin		4125371		9.84	10.0	-1.6	10.0
Sulfate	Lin		7112740		9.69	10.0	-3.1	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325445/80 Calibration Date: 04/21/2016 15:02

Instrument ID: IC-8 Calib Start Date: 03/15/2016 11:42

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/15/2016 14:14

Lab File ID: 440-0072079-080.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.93	2.78	3.07
Chloride	4.19	3.98	4.40
Bromide	6.38	6.06	6.69
Sulfate	11.43	10.86	12.01

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-080.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 15:02:00 ALS Bottle#: 0 Worklist Smp#: 80
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-080
Misc. Info.: 14875 CCV
Operator ID: Instrument ID: IC-8
Sublist: chrom-IC300_8*sub6

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:10:49 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:10:49

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.925	2.925	0.000	161260202	10.0	9.56	
	2 Chloride	4.192	4.192	0.000	104884389	10.0	9.78	
	3 Nitrite as NO2	4.983	4.983	0.000	62938944	NC	NC	
	12 Nitrite as N	4.983	4.983	0.000	62938944	NC	NC	
	4 Bromide	6.375	6.375	0.000	41253711	10.0	9.84	
	5 Nitrate as NO3	7.383	7.383	0.000	53185901	NC	NC	
	10 Nitrate as N	7.383	7.383	0.000	53185901	NC	NC	
	11 Orthophosphorus as PO4	9.375	9.375	0.000	26829111	NC	NC	
	9 Orthophosphate as P	9.375	9.375	0.000	26829111	NC	NC	
	7 Sulfate	11.433	11.433	0.000	71127404	10.0	9.69	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 17:10:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-080.d

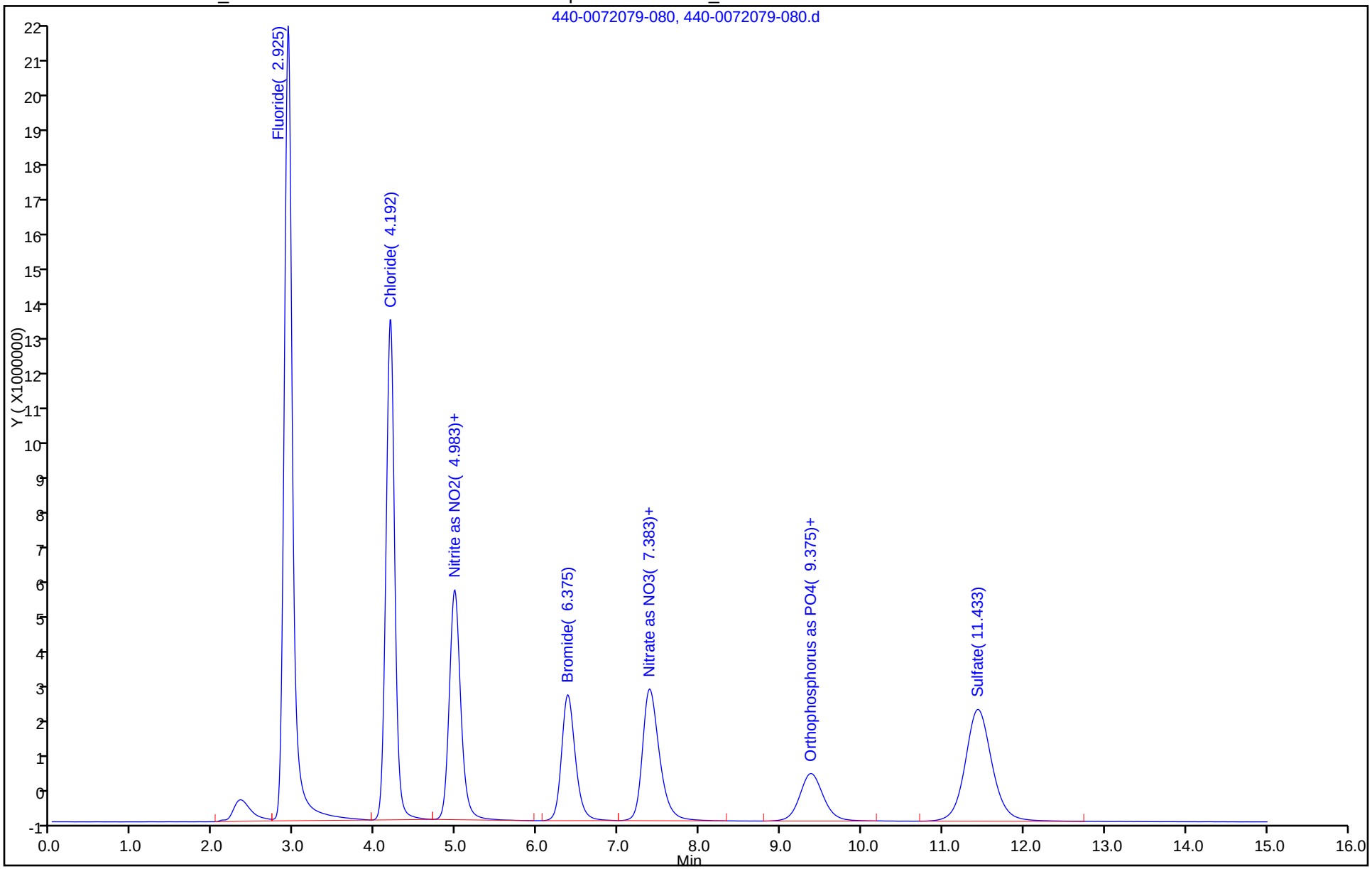
Injection Date: 21-Apr-2016 15:02:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccv Worklist Smp#: 80

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-319859/12 Calibration Date: 03/24/2016 13:10

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 201603012.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		67124		9.71	10.0	-2.9	10.0
Chloride	Lin		41570		9.30	10.0	-7.0	10.0
Bromide	Lin		17100		9.84	10.0	-1.6	10.0
Sulfate	Lin		29209		9.60	10.0	-4.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-319859/12 Calibration Date: 03/24/2016 13:10

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 201603012.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.38	2.26	2.50
Chloride	3.35	3.18	3.52
Bromide	5.07	4.82	5.33
Sulfate	9.12	8.69	9.61

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603012.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 24-Mar-2016 13:10:09 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070927-012
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 24-Mar-2016 17:25:35 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK011

First Level Reviewer: nguyennt Date: 24-Mar-2016 16:30:40

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.378	2.378	0.000	671243	10.0	9.71	
2 Chloride	3.350	3.348	0.002	415702	10.0	9.30	
3 Nitrite as NO2	3.987	3.987	0.000	261865	NC	NC	
12 Nitrite as N	3.987	3.987	0.000	261865	NC	NC	
4 Bromide	5.065	5.072	-0.007	170997	10.0	9.84	
10 Nitrate as N	5.860	5.868	-0.008	218575	NC	NC	
5 Nitrate as NO3	5.860	5.868	-0.008	218575	NC	NC	
11 Orthophosphorus as PO4	7.480	7.502	-0.022	117338	NC	NC	
9 Orthophosphate as P	7.480	7.502	-0.022	117338	NC	NC	
7 Sulfate	9.123	9.148	-0.025	292088	10.0	9.60	
S 8 Nitrate Nitrite as N					5.30	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

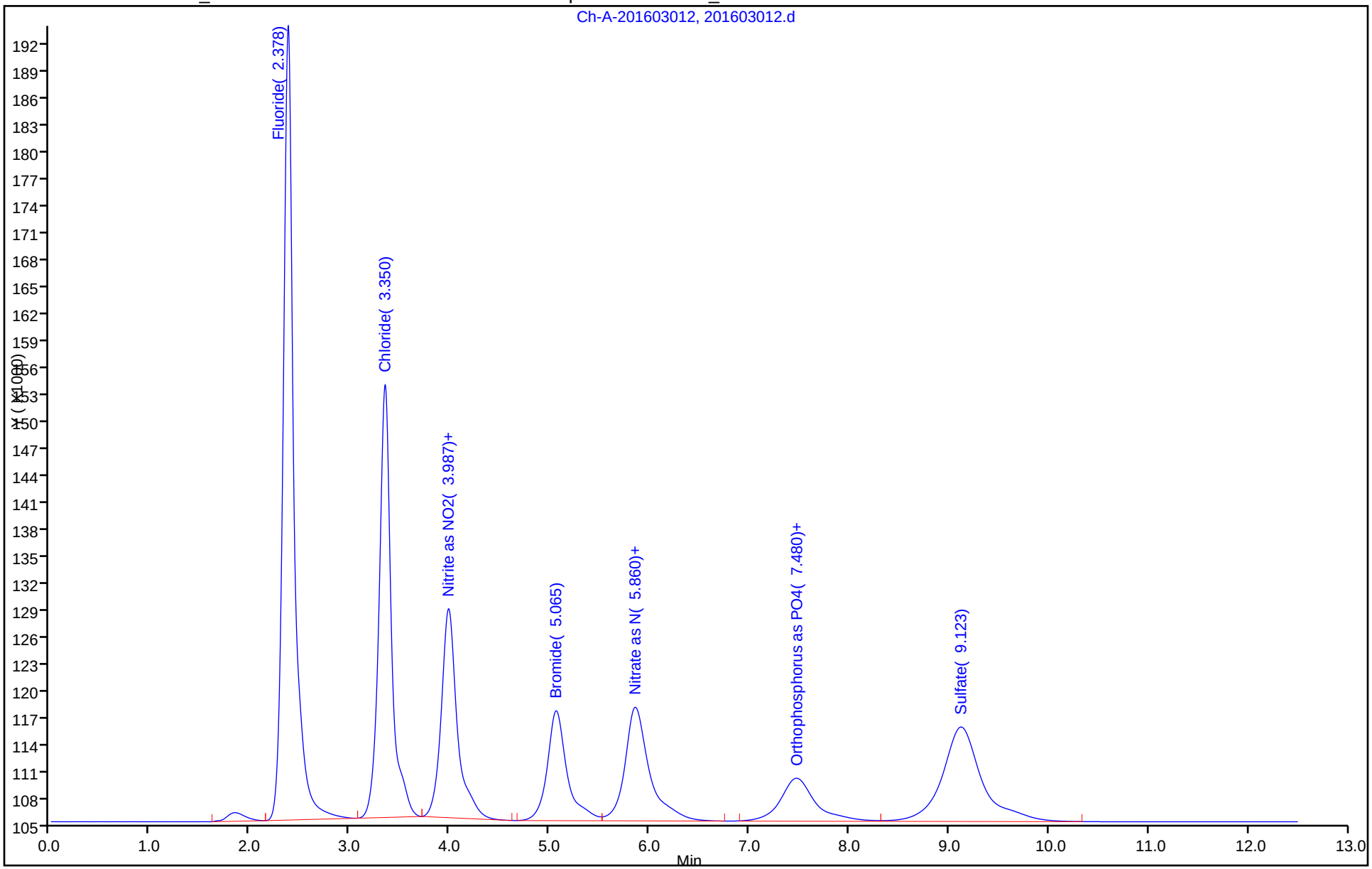
Reagents:

WCICVANIONS_00059 Amount Added: 1.00 Units: mL

Report Date: 24-Mar-2016 16:30:41 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603012.d				
Injection Date:	24-Mar-2016 13:10:09	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	icv			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325715/18 Calibration Date: 04/21/2016 21:09

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160421018.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		65255		9.45	10.0	-5.5	10.0
Chloride	Lin		42397		9.48	10.0	-5.2	10.0
Bromide	Lin		16962		9.77	10.0	-2.3	10.0
Sulfate	Lin		28775		9.46	10.0	-5.4	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-325715/18 Calibration Date: 04/21/2016 21:09

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160421018.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.39	2.27	2.51
Chloride	3.40	3.23	3.57
Bromide	5.17	4.91	5.43
Sulfate	9.40	8.93	9.87

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421018.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Apr-2016 21:09:35 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist: chrom-300_9*sub5

Method: \\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 21:52:03 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 21:52:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.388	2.388	0.000	652550	10.0	9.45	
2 Chloride	3.400	3.400	0.000	423971	10.0	9.48	
12 Nitrite as N	4.055	4.055	0.000	259828	NC	NC	
3 Nitrite as NO2	4.055	4.055	0.000	259828	NC	NC	
4 Bromide	5.172	5.172	0.000	169618	10.0	9.77	
5 Nitrate as NO3	5.985	5.985	0.000	218167	NC	NC	
10 Nitrate as N	5.985	5.985	0.000	218167	NC	NC	
9 Orthophosphate as P	7.675	7.675	0.000	115088	NC	NC	
11 Orthophosphorus as PO4	7.675	7.675	0.000	115088	NC	NC	
7 Sulfate	9.402	9.402	0.000	287752	10.0	9.46	
S 8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

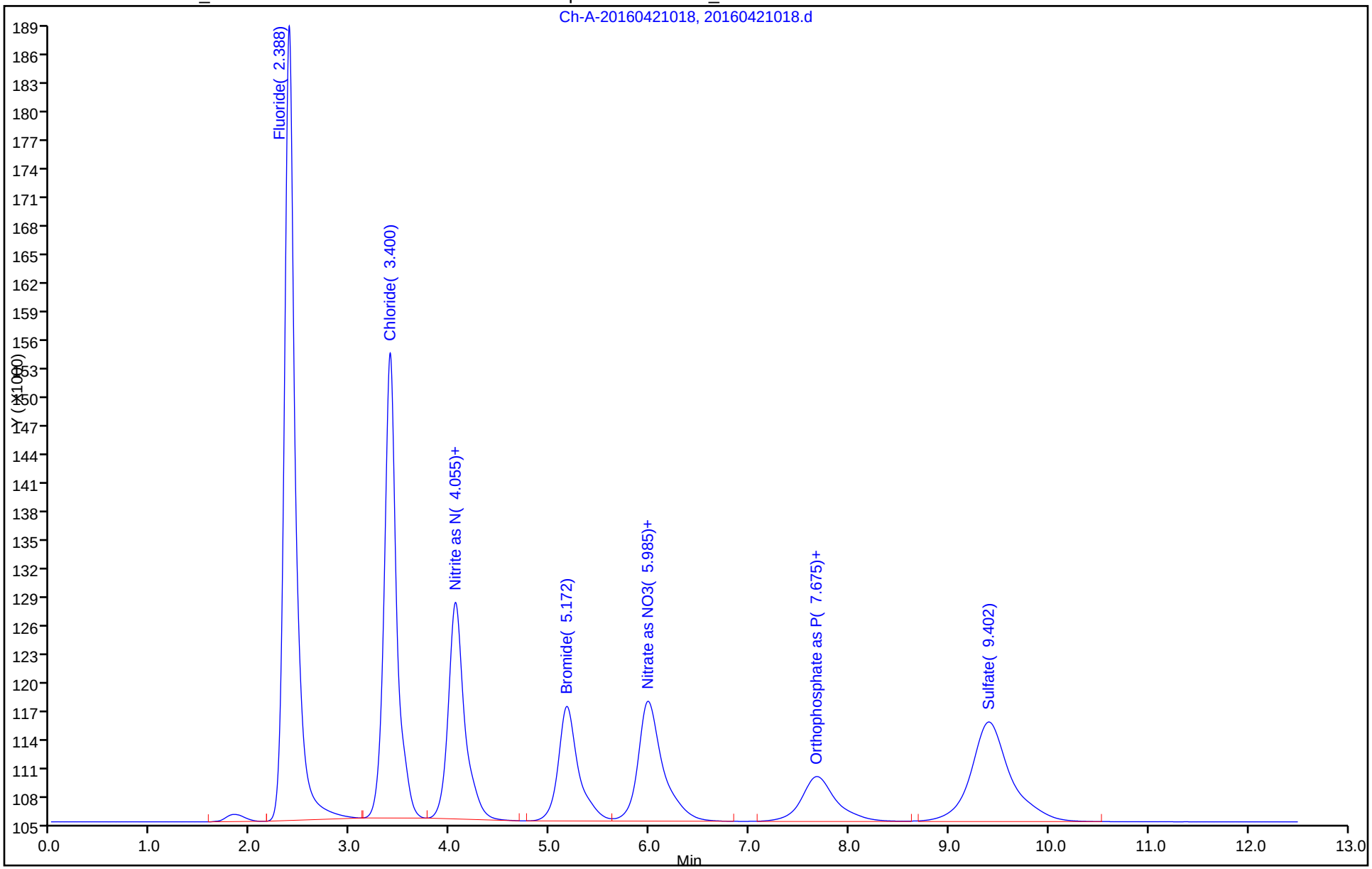
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 21-Apr-2016 21:52:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421018.d				
Injection Date:	21-Apr-2016 21:09:35	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325445/51
Matrix: Water
Lab File ID: 440-0072079-051.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:31
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.284	J	0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-051.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Apr-2016 06:31:00	ALS Bottle#:	0	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-051				
Misc. Info.:	6331 MB				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 09:45:52	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK010				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:08:01		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 Chloride	4.183	4.183	0.000	525789		0.2838	M
S 8 Nitrate Nitrite as N						0	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 22-Apr-2016 09:48:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-051.d

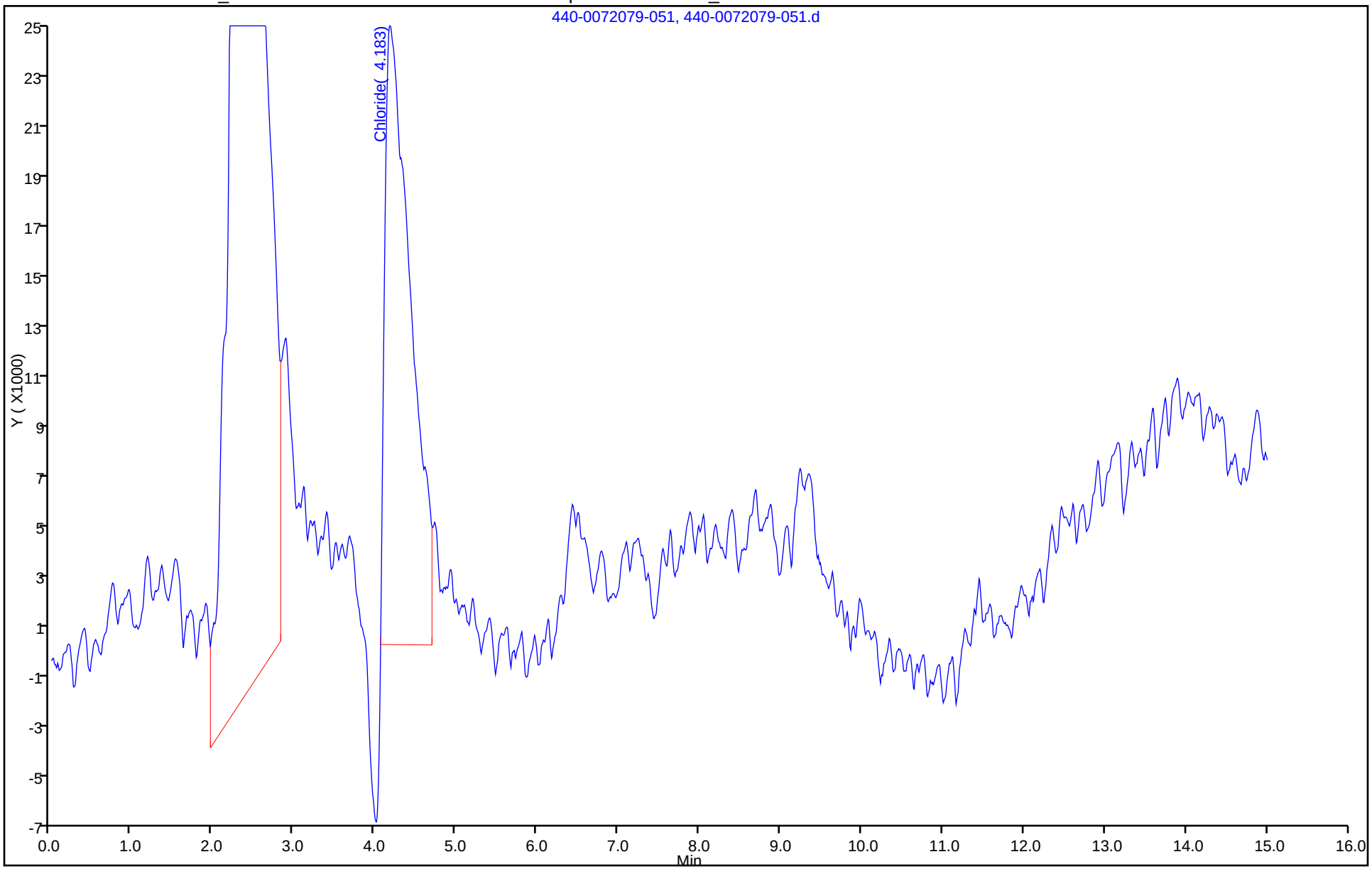
Injection Date: 21-Apr-2016 06:31:00 Instrument ID: IC-8 Operator ID:

Lims ID: mb Worklist Smp#: 51

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



Manual Integration/User Assign Peak Report

TestAmerica Irvine

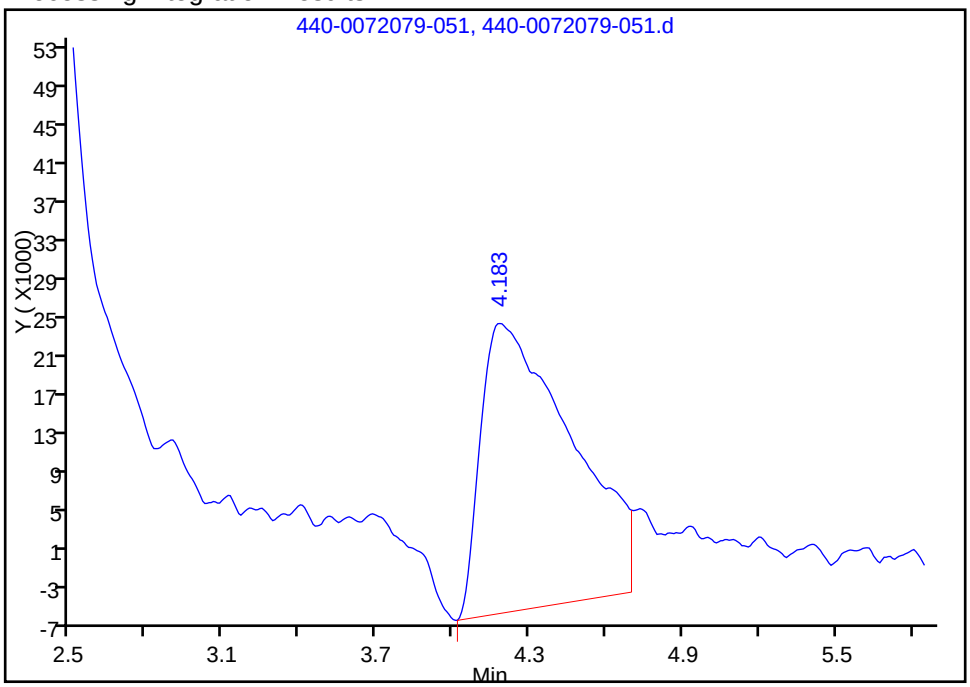
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-051.d				
Injection Date:	21-Apr-2016 06:31:00	Instrument ID:	IC-8		
Lims ID:	mb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IC300_8	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

2 Chloride, CAS: 16887-00-6

Signal: 1

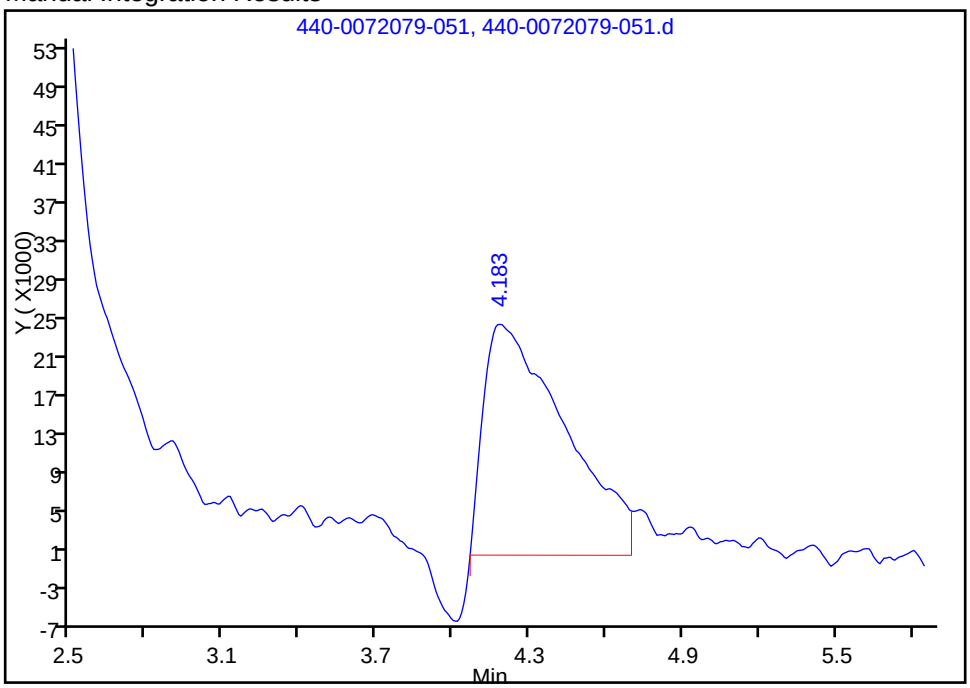
Processing Integration Results

RT: 4.18
Area: 730684
Amount: 0
Amount Units: ug/ml



Manual Integration Results

RT: 4.18
Area: 525789
Amount: 0.283824
Amount Units: ug/ml



Reviewer: hmuadmuengo, 22-Apr-2016 09:47:58

Audit Action: Manually Integrated Audit Reason: Peak Tail

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325715/6
Matrix: Water
Lab File ID: 20160421006.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 17:58
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325715
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421006.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Apr-2016 17:58:24	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 00:03:40	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 23:17:22		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 23:17:23 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421006.d

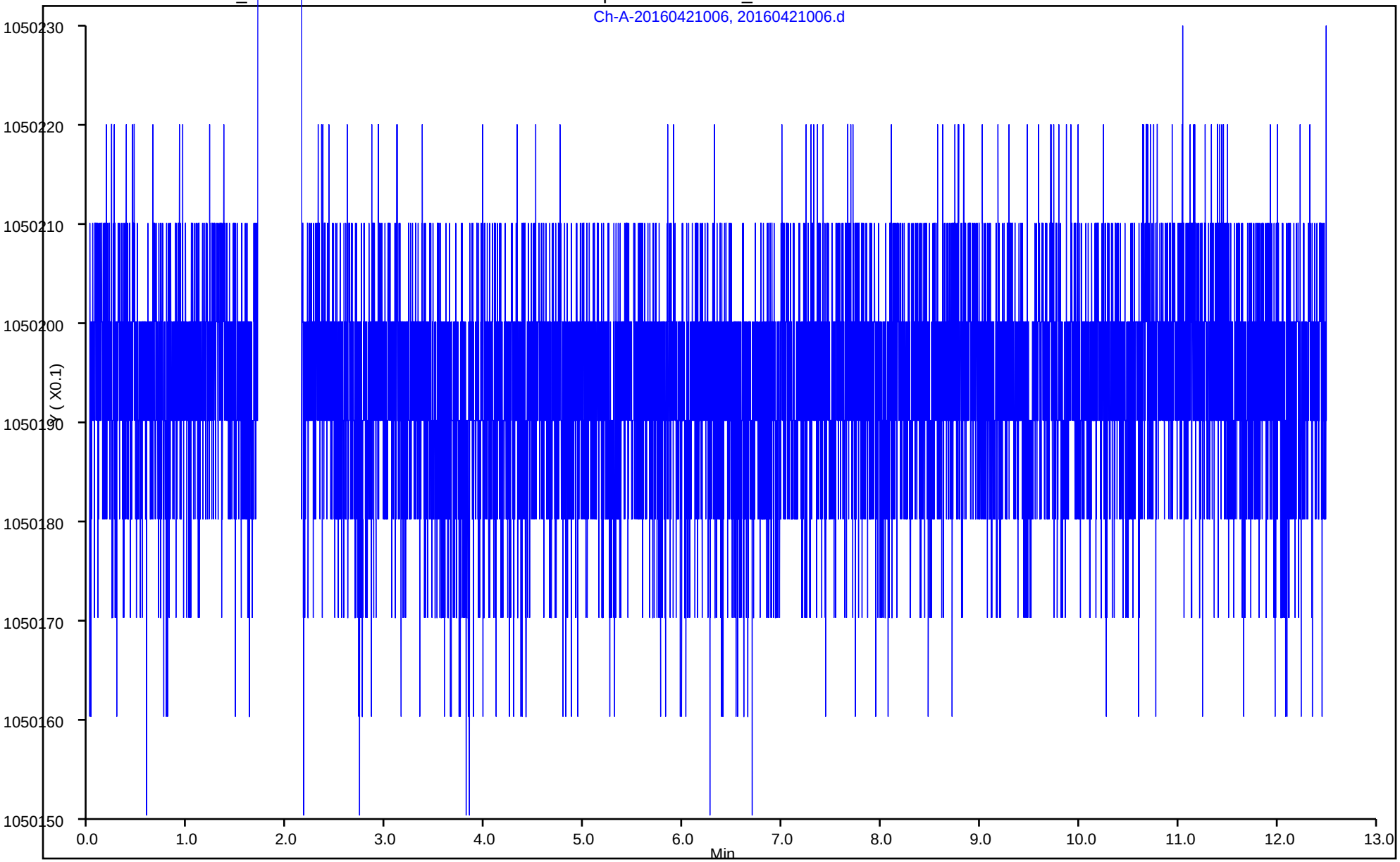
Injection Date: 21-Apr-2016 17:58:24 Instrument ID: IC-9 Operator ID: IRVINSTWET4

Lims ID: mb Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 300_9 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/57
Matrix: Water
Lab File ID: 440-0072079-057.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 08:17
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.286	J	0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-057.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 08:17:00	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-057				
Misc. Info.:	23772 CCB				
Operator ID:		Instrument ID:	IC-8		

Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m		
Limit Group:	IC-300_28D		
Method Label:	Anions 300.0		
Last Update:	21-Apr-2016 17:08:44	Calib Date:	15-Mar-2016 14:14:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d		

Column 1 :			Det: Ch-A-20110829007
Process Host:	XAWRK050		

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:08:44

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 Chloride	4.183	4.167	0.016	545647		0.2856	M
	9 Orthophosphate as P	9.275	9.283	-0.008	221189		NC	
	11 Orthophosphorus as PO4	9.275	9.283	-0.008	221189		NC	
S	8 Nitrate Nitrite as N						0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 21-Apr-2016 17:08:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-057.d

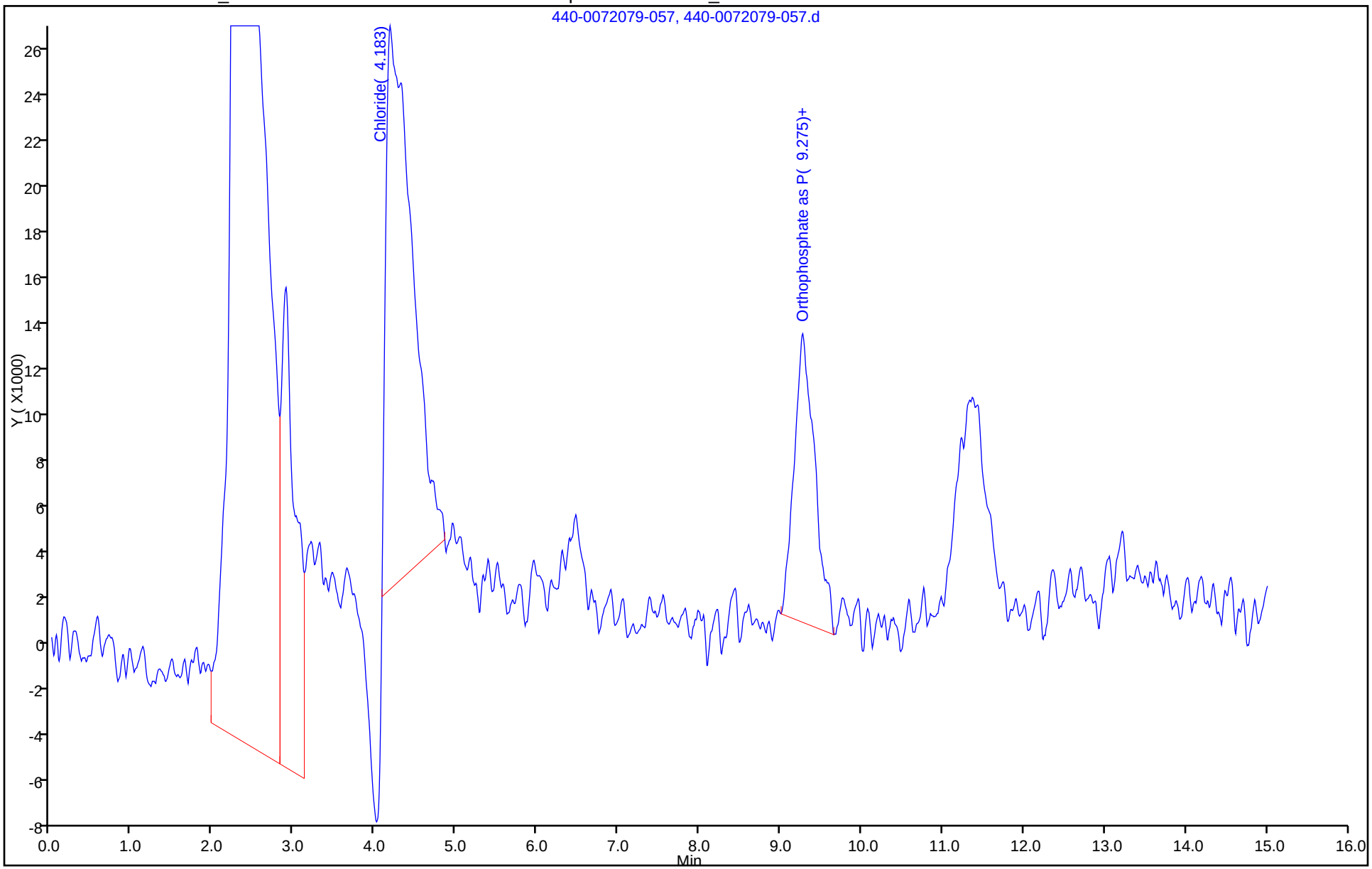
Injection Date: 21-Apr-2016 08:17:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 57

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



Manual Integration/User Assign Peak Report

TestAmerica Irvine

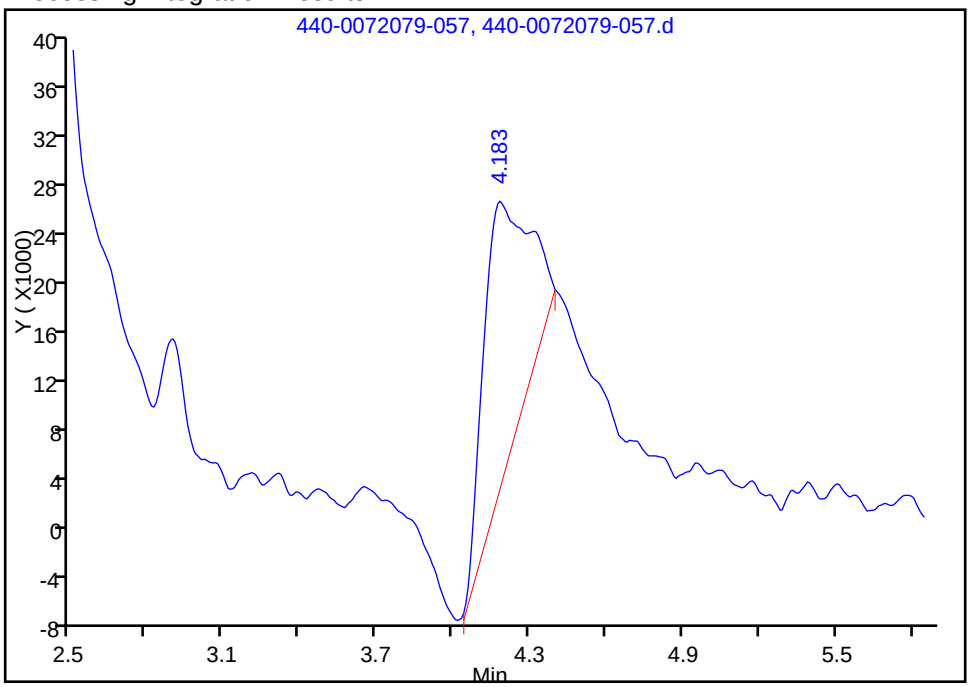
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-057.d				
Injection Date:	21-Apr-2016 08:17:00	Instrument ID:	IC-8		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IC300_8	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

2 Chloride, CAS: 16887-00-6

Signal: 1

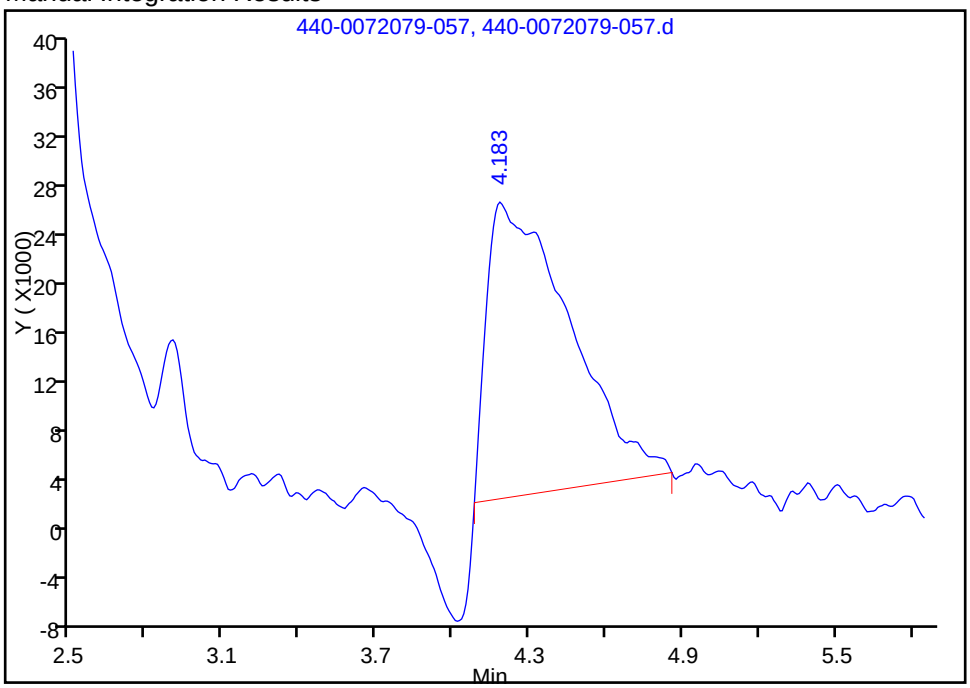
Processing Integration Results

RT: 4.18
Area: 278683
Amount: 0
Amount Units: ug/ml



Manual Integration Results

RT: 4.18
Area: 545647
Amount: 0.285631
Amount Units: ug/ml



Reviewer: nguyennt, 21-Apr-2016 17:08:44

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/69
Matrix: Water
Lab File ID: 440-0072079-069.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 11:48
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-069.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 11:48:00	ALS Bottle#:	0	Worklist Smp#:	69
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-069				
Misc. Info.:	21516 CCB				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:09:21	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:09:32		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Bromide	6.467	6.350	0.117	228914		0.1343	
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 17:09:32 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-069.d

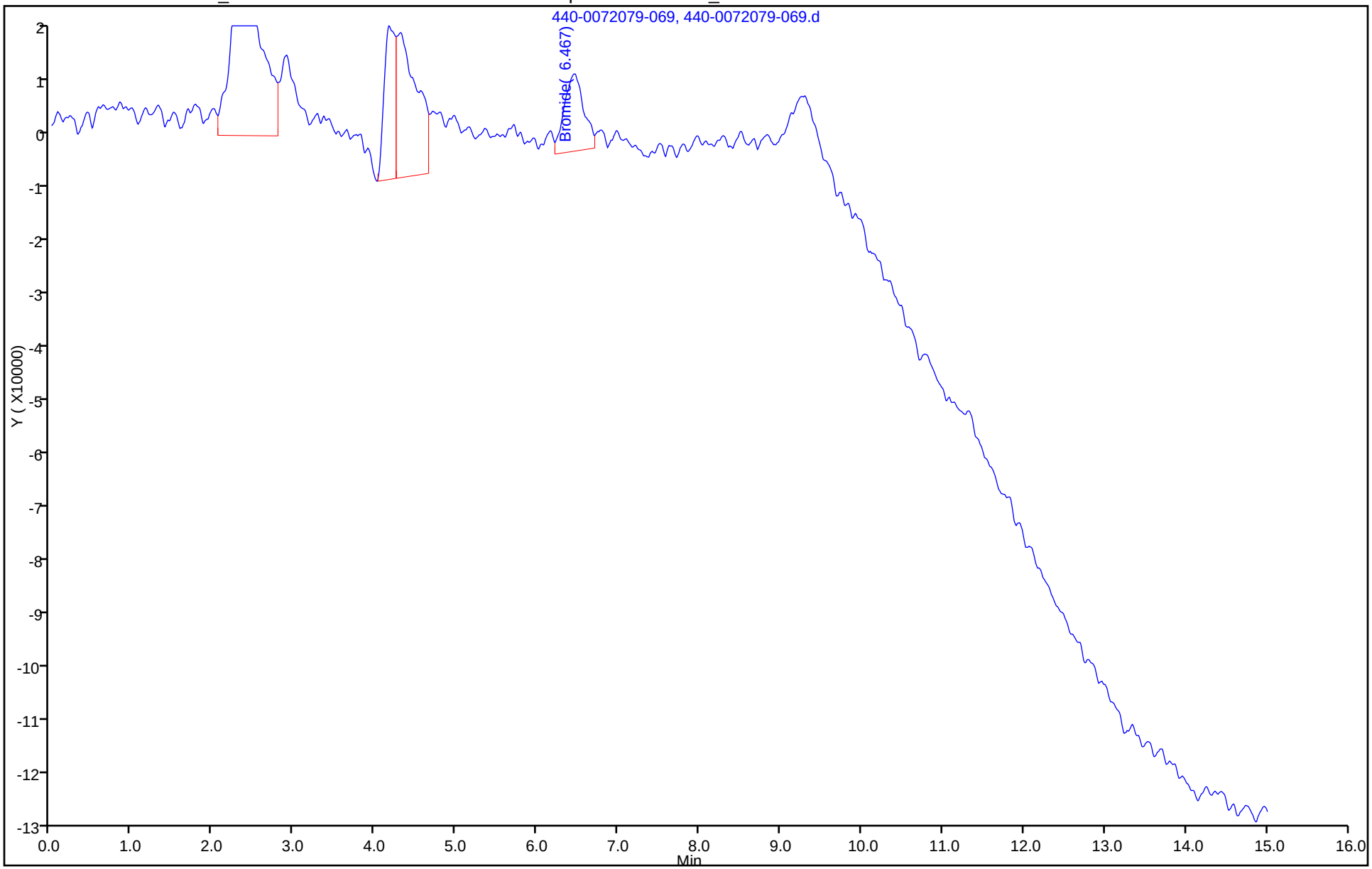
Injection Date: 21-Apr-2016 11:48:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 69

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325445/81
Matrix: Water
Lab File ID: 440-0072079-081.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 15:19
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.279	J	0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-081.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 15:19:00	ALS Bottle#:	0	Worklist Smp#:	81
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072079-081				
Misc. Info.:	32228 CCB				
Operator ID:		Instrument ID:	IC-8		
Method:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 17:11:34	Calib Date:	15-Mar-2016 14:14:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 17:11:34		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 Chloride	4.225	4.192	0.033	474482		0.2792	M
S 8 Nitrate Nitrite as N						0	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 21-Apr-2016 17:11:34 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-081.d

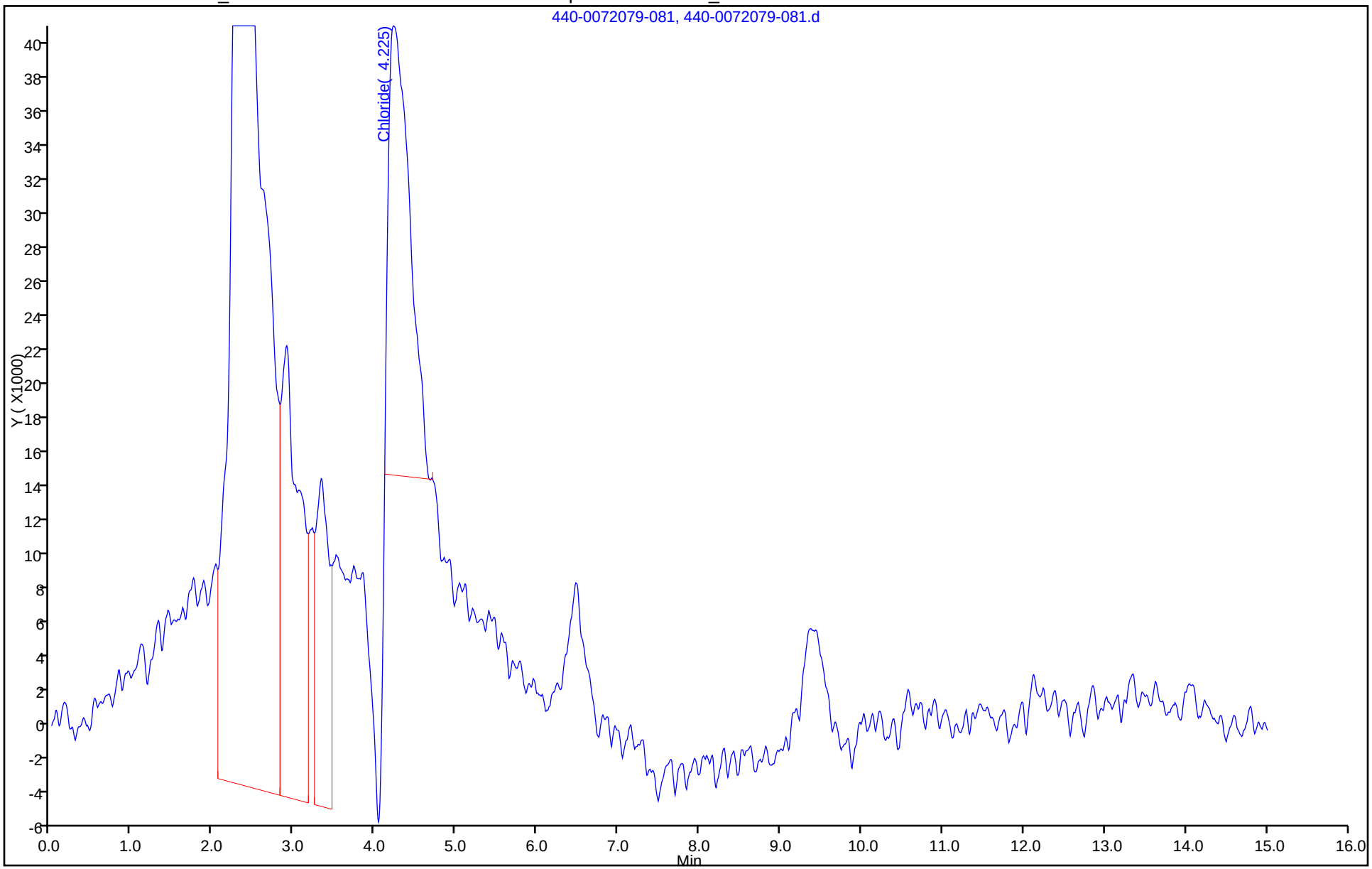
Injection Date: 21-Apr-2016 15:19:00 Instrument ID: IC-8 Operator ID:

Lims ID: ccb Worklist Smp#: 81

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



Manual Integration/User Assign Peak Report

TestAmerica Irvine

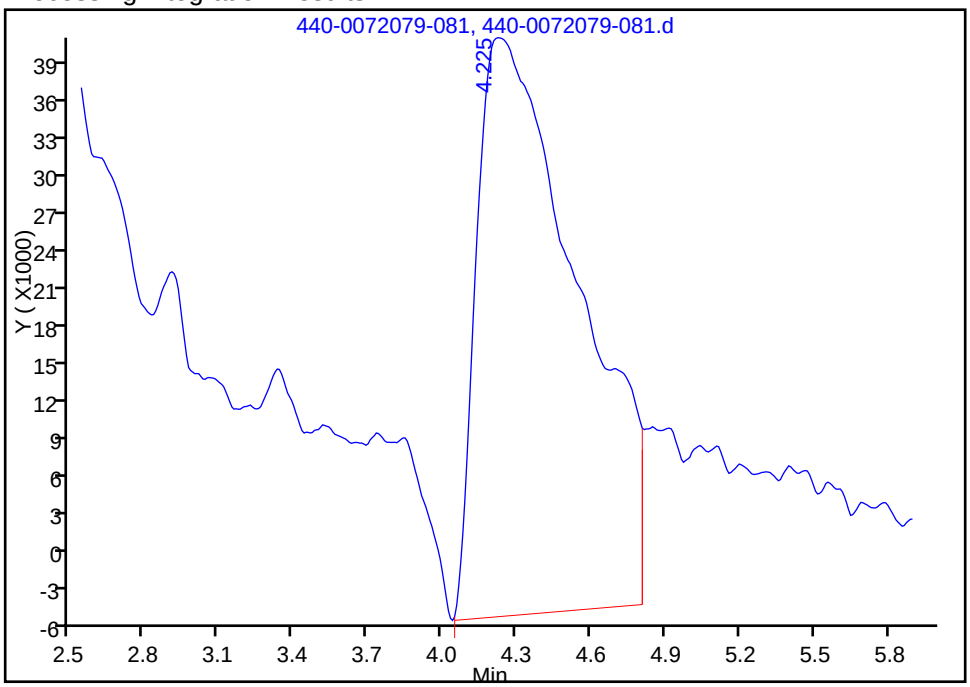
Data File:	\\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-081.d				
Injection Date:	21-Apr-2016 15:19:00	Instrument ID:	IC-8		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	81
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IC300_8	Limit Group:	IC-300_28D		
Column:		Detector	Ch-A-20110829007		

2 Chloride, CAS: 16887-00-6

Signal: 1

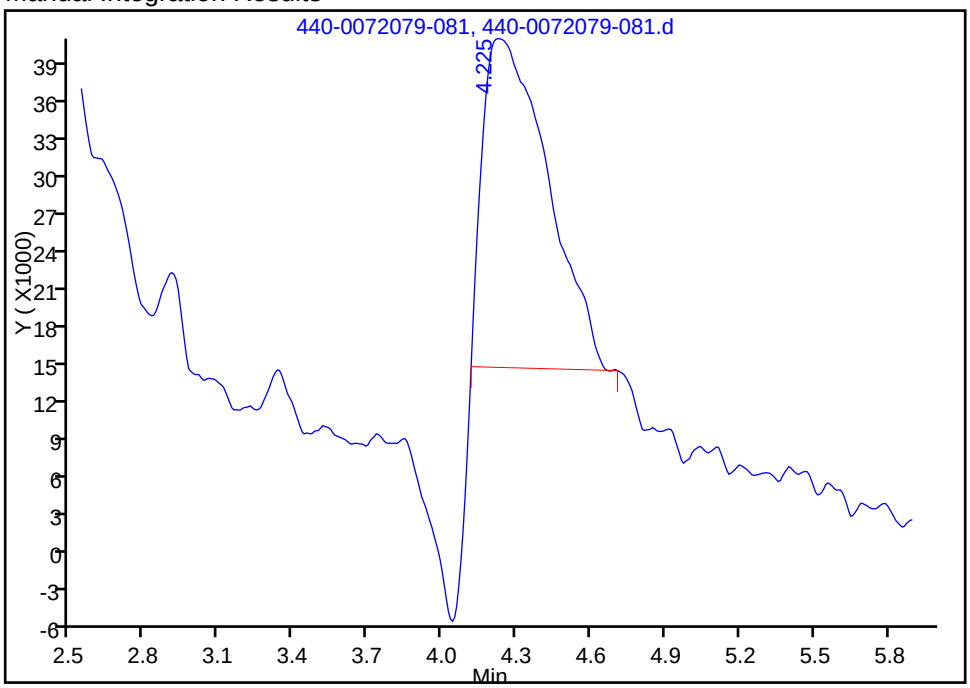
Processing Integration Results

RT: 4.23
Area: 1290979
Amount: 0.353450
Amount Units: ug/ml



Manual Integration Results

RT: 4.23
Area: 474482
Amount: 0.279155
Amount Units: ug/ml



Reviewer: nguyennt, 21-Apr-2016 17:11:34

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325715/19
Matrix: Water
Lab File ID: 20160421019.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 21:23
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325715
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421019.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	21-Apr-2016 21:23:26	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 21:49:24	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 21:51:59		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 21-Apr-2016 21:51:59 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421019.d

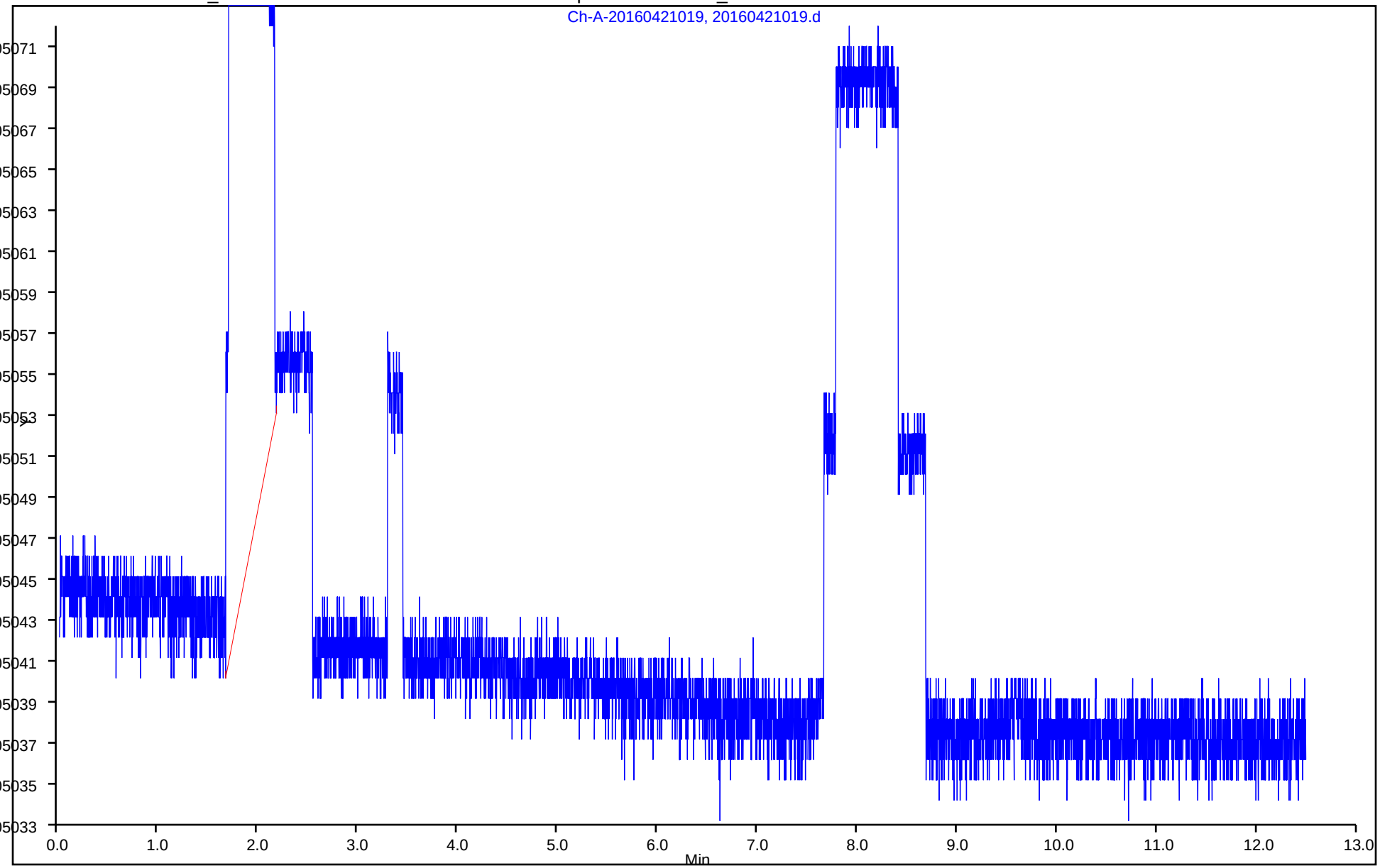
Injection Date: 21-Apr-2016 21:23:26 Instrument ID: IC-9 Operator ID: IRVINSTWET4

Lims ID: ccb Worklist Smp#: 19

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 300_9 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325445/52
Matrix: Water
Lab File ID: 440-0072079-052.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 06:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	5.04		0.50	0.25
16887-00-6	Chloride	4.85		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-052.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 21-Apr-2016 06:49:00 ALS Bottle#: 0 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072079-052
Misc. Info.: 1160 LCS
Operator ID: Instrument ID: IC-8

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:06:28 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:07:43

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.908	2.925	-0.017	78372371	5.00	4.80	
	2 Chloride	4.158	4.167	-0.009	50740072	5.00	4.85	
	3 Nitrite as NO2	4.958	4.958	0.000	31500812	NC	NC	
	12 Nitrite as N	4.958	4.958	0.000	31500812	NC	NC	
	4 Bromide	6.350	6.342	0.008	20957774	5.00	5.04	
	5 Nitrate as NO3	7.367	7.342	0.025	26811976	NC	NC	
	10 Nitrate as N	7.367	7.342	0.025	26811976	NC	NC	
	11 Orthophosphorus as PO4	9.283	9.292	-0.009	13558830	NC	NC	
	9 Orthophosphate as P	9.283	9.292	-0.009	13558830	NC	NC	
	7 Sulfate	11.333	11.342	-0.009	36235636	5.00	5.06	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 21-Apr-2016 17:07:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-052.d

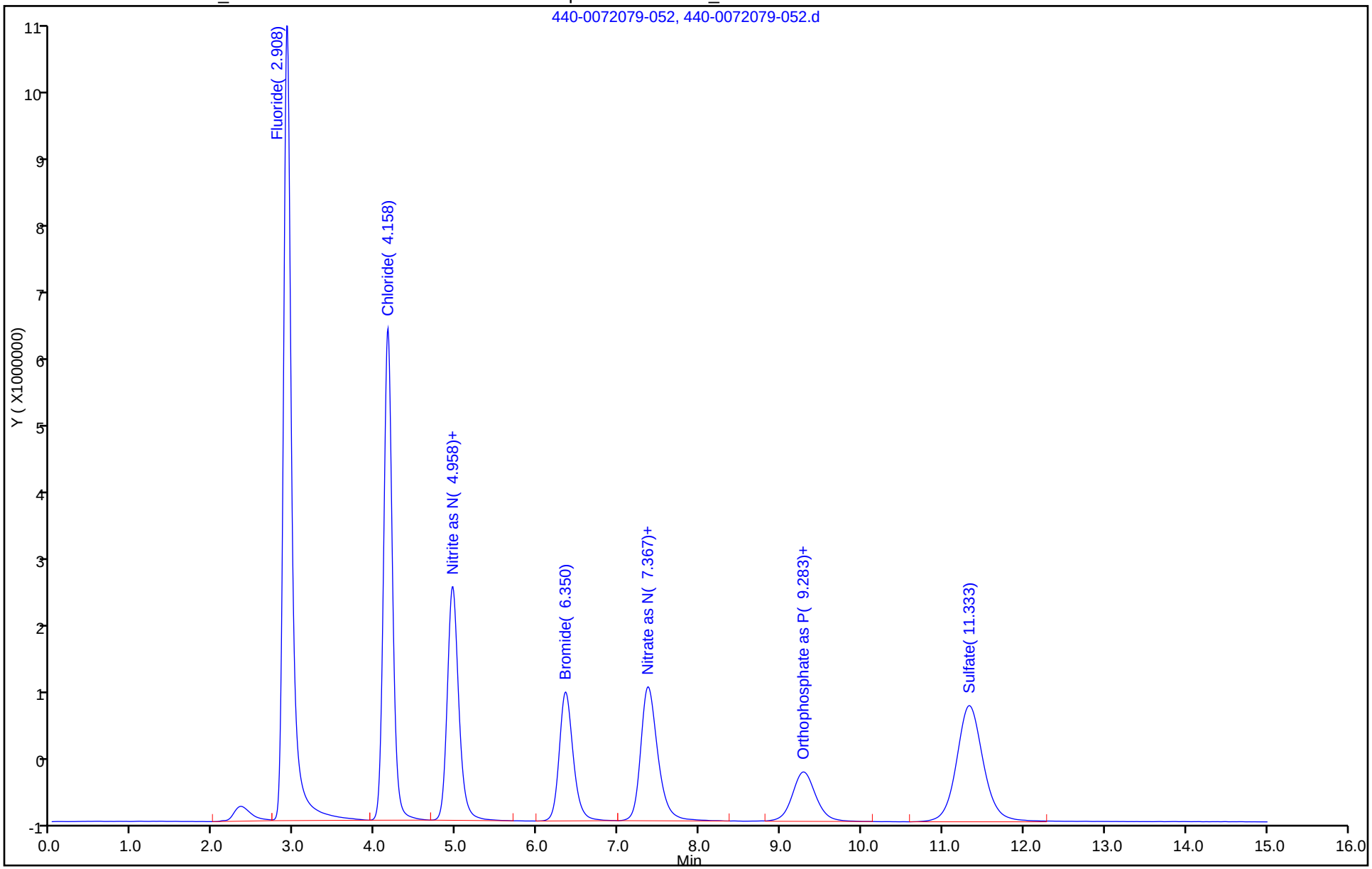
Injection Date: 21-Apr-2016 06:49:00 Instrument ID: IC-8 Operator ID:

Lims ID: lcs Worklist Smp#: 52

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325715/2
Matrix: Water
Lab File ID: 20160421002.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 17:03
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325715
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	4.52		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421002.d				
Lims ID:	lcs				
Client ID:					
Sample Type:	LCS				
Inject. Date:	21-Apr-2016 17:03:02	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072145-002				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 00:03:40	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 23:16:40		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.332	2.388	-0.056	301875	5.00	4.52	
	2 Chloride	3.307	3.400	-0.093	195578	5.00	4.52	
	12 Nitrite as N	3.947	4.055	-0.108	123716	NC	NC	
	3 Nitrite as NO2	3.947	4.055	-0.108	123716	NC	NC	
	4 Bromide	5.040	5.172	-0.132	82319	5.00	4.80	
	5 Nitrate as NO3	5.847	5.985	-0.138	106148	NC	NC	
	10 Nitrate as N	5.847	5.985	-0.138	106148	NC	NC	
	9 Orthophosphate as P	7.388	7.675	-0.287	54012	NC	NC	
	11 Orthophosphorus as PO4	7.388	7.675	-0.287	54012	NC	NC	
	7 Sulfate	9.065	9.402	-0.337	142967	5.00	4.85	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

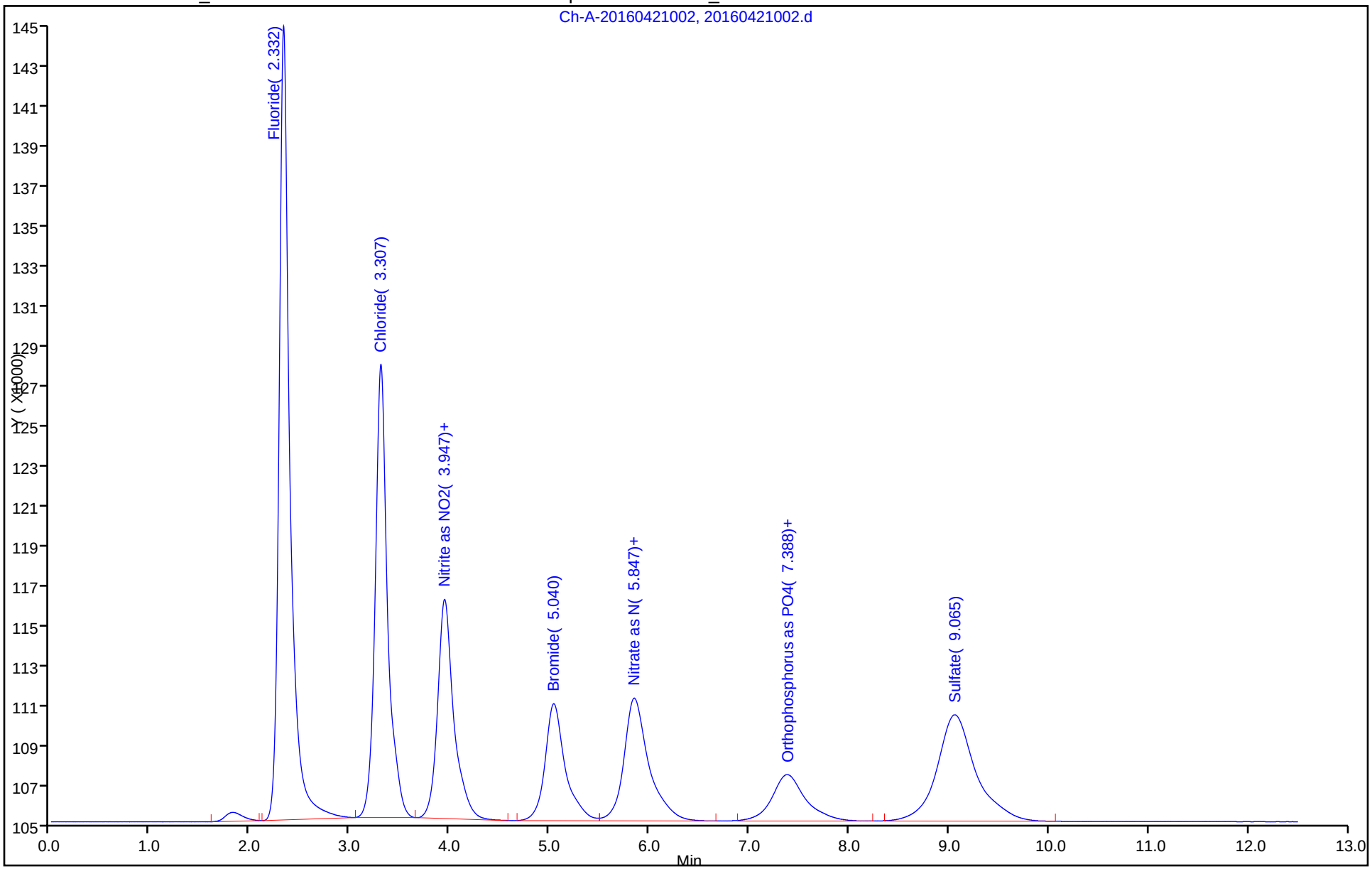
Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 21-Apr-2016 23:16:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421002.d				
Injection Date:	21-Apr-2016 17:03:02	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	lcs			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144993-A-8 MS
Matrix:
Lab File ID: 440-0072079-066.d
Analysis Method: 300.0
Date Collected: 04/20/2016 08:55
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 10:55
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	5.99		2.5	1.3
16887-00-6	Chloride	72.7		2.5	1.3

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-066.d
Lims ID: 440-144993-A-8 MS
Client ID:
Sample Type: MS
Inject. Date: 21-Apr-2016 10:55:00 ALS Bottle#: 0 Worklist Smp#: 66
Injection Vol: 1.0 ul Dil. Factor: 5.0000
Sample Info: 440-0072079-066
Misc. Info.: 13588 440-144993-A-8 MS
Operator ID: Instrument ID: IC-8

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:08:58 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:09:14

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.908	2.925	-0.017	15762636	1.00	1.21	
2 Chloride	4.183	4.167	0.016	157232321	1.00	14.5	
3 Nitrite as NO2	4.958	4.958	0.000	6898299	NC	NC	
12 Nitrite as N	4.958	4.958	0.000	6898299	NC	NC	
4 Bromide	6.367	6.342	0.025	4731363	1.00	1.20	
5 Nitrate as NO3	7.375	7.342	0.033	27321650	NC	NC	
10 Nitrate as N	7.375	7.342	0.033	27321650	NC	NC	
11 Orthophosphorus as PO4	9.283	9.283	0.000	3041906	NC	NC	
9 Orthophosphate as P	9.283	9.283	0.000	3041906	NC	NC	
7 Sulfate	11.308	11.325	-0.017	72534244	1.00	9.88	
S 8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 21-Apr-2016 17:09:14 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-066.d

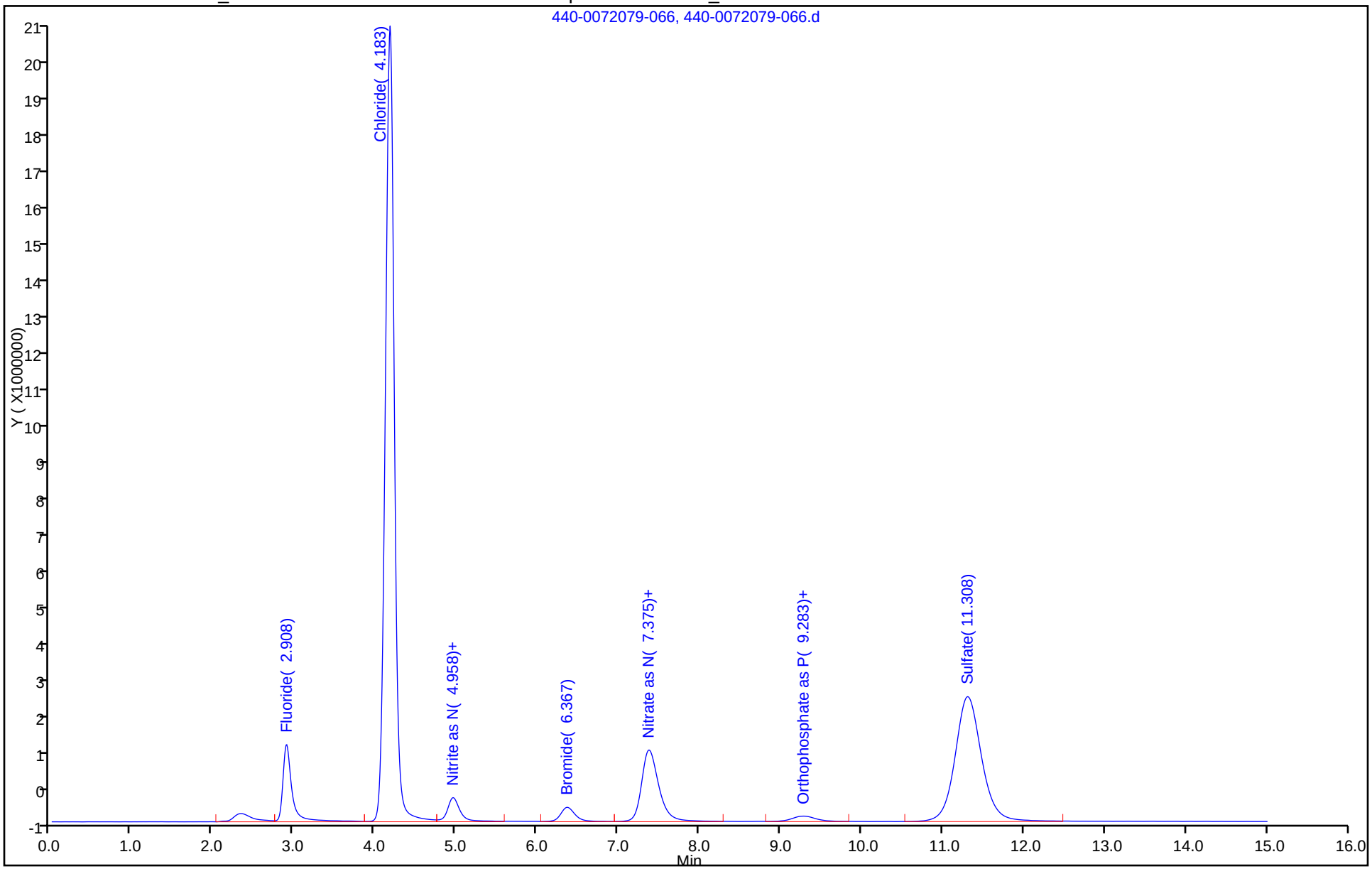
Injection Date: 21-Apr-2016 10:55:00 Instrument ID: IC-8 Operator ID:

Lims ID: 440-144993-A-8 MS Worklist Smp#: 66

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 5.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 280-82204-B-5 MS
Matrix: Water
Lab File ID: 20160421013.d
Analysis Method: 300.0
Date Collected: 04/20/2016 12:02
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 20:00
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325715
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	77.4		5.0	2.5

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421013.d				
Lims ID:	280-82204-B-5 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	21-Apr-2016 20:00:22	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	#: 001A				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	21-Apr-2016 21:52:03	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK050				
First Level Reviewer: nguyennt		Date:	21-Apr-2016 21:53:02		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.333	2.388	-0.055	285067	5.00	4.28	
	2 Chloride	3.338	3.400	-0.062	343816	5.00	7.74	
	3 Nitrite as NO2	3.972	4.055	-0.083	114683	NC	NC	
	12 Nitrite as N	3.972	4.055	-0.083	114683	NC	NC	
	4 Bromide	5.103	5.172	-0.069	78818	5.00	4.60	
	10 Nitrate as N	5.932	5.985	-0.053	105182	NC	NC	
	5 Nitrate as NO3	5.932	5.985	-0.053	105182	NC	NC	
	11 Orthophosphorus as PO4	7.582	7.675	-0.093	59226	NC	NC	
	9 Orthophosphate as P	7.582	7.675	-0.093	59226	NC	NC	
	7 Sulfate	9.267	9.402	-0.135	1278366	5.00	41.0	E
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

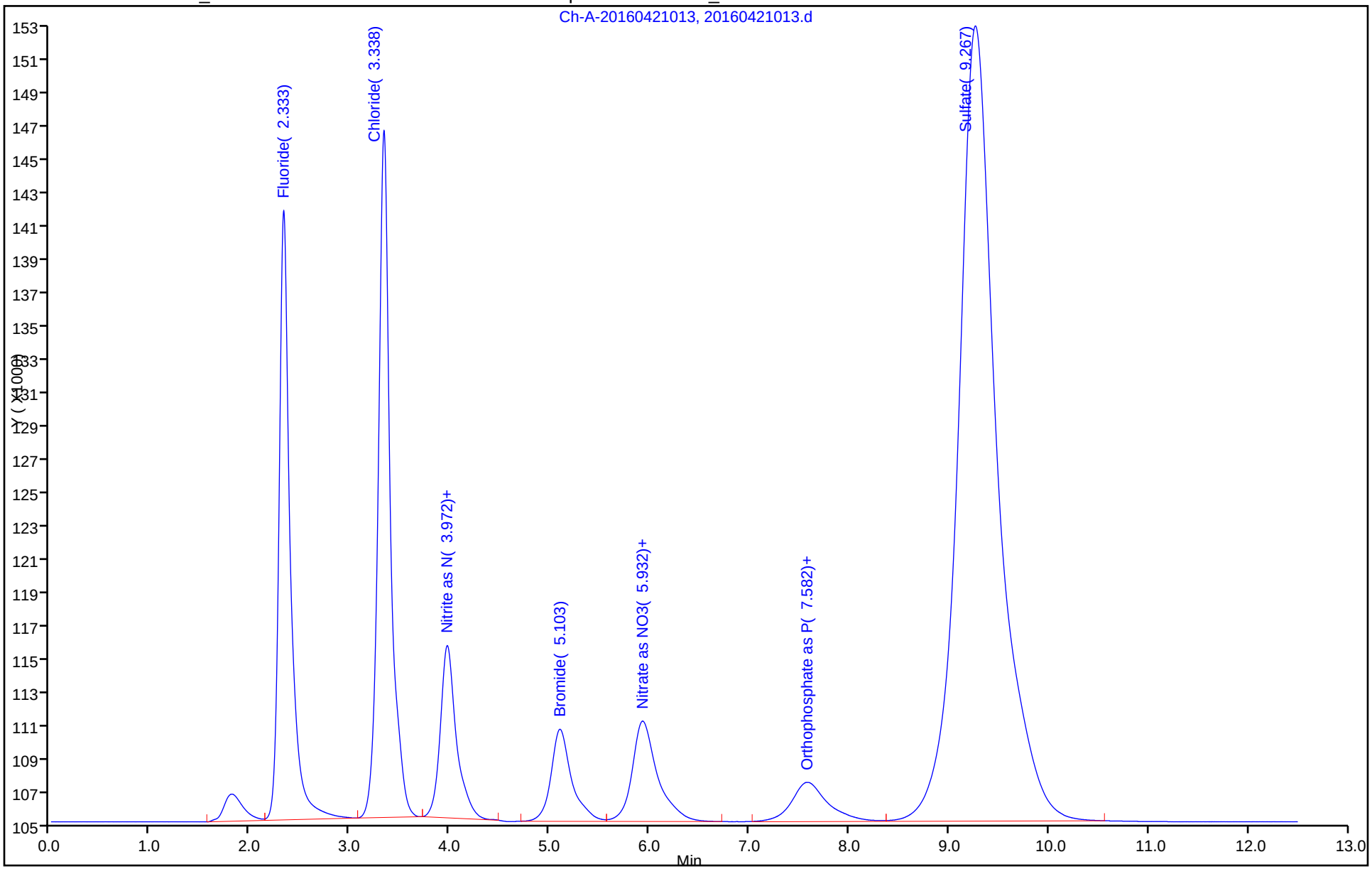
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 21-Apr-2016 21:53:03 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421013.d				
Injection Date:	21-Apr-2016 20:00:22	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	280-82204-B-5 MS			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144993-A-8 MSD
Matrix:
Lab File ID: 440-0072079-067.d
Analysis Method: 300.0
Date Collected: 04/20/2016 08:55
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 11:13
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325445
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	6.04		2.5	1.3
16887-00-6	Chloride	71.8		2.5	1.3

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-067.d
Lims ID: 440-144993-A-8 MSD
Client ID:
Sample Type: MSD
Inject. Date: 21-Apr-2016 11:13:00 ALS Bottle#: 0 Worklist Smp#: 67
Injection Vol: 1.0 ul Dil. Factor: 5.0000
Sample Info: 440-0072079-067
Misc. Info.: 12831 440-144993-A-8 MSD
Operator ID: Instrument ID: IC-8

Method: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\IC300_8.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 21-Apr-2016 17:08:58 Calib Date: 15-Mar-2016 14:14:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC8\20160315-70492.b\440-0070492-011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK050

First Level Reviewer: nguyennt Date: 21-Apr-2016 17:09:16

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.900	2.925	-0.025	15591464	1.00	1.20	
	2 Chloride	4.183	4.167	0.016	155125328	1.00	14.4	
	3 Nitrite as NO2	4.958	4.958	0.000	6969172	NC	NC	
	12 Nitrite as N	4.958	4.958	0.000	6969172	NC	NC	
	4 Bromide	6.358	6.342	0.016	4770234	1.00	1.21	
	5 Nitrate as NO3	7.358	7.342	0.016	27236562	NC	NC	
	10 Nitrate as N	7.358	7.342	0.016	27236562	NC	NC	
	11 Orthophosphorus as PO4	9.283	9.283	0.000	3561946	NC	NC	
	9 Orthophosphate as P	9.283	9.283	0.000	3561946	NC	NC	
	7 Sulfate	11.317	11.325	-0.008	71958181	1.00	9.80	
S	8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 21-Apr-2016 17:09:16 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC8\20160420-72079.b\440-0072079-067.d

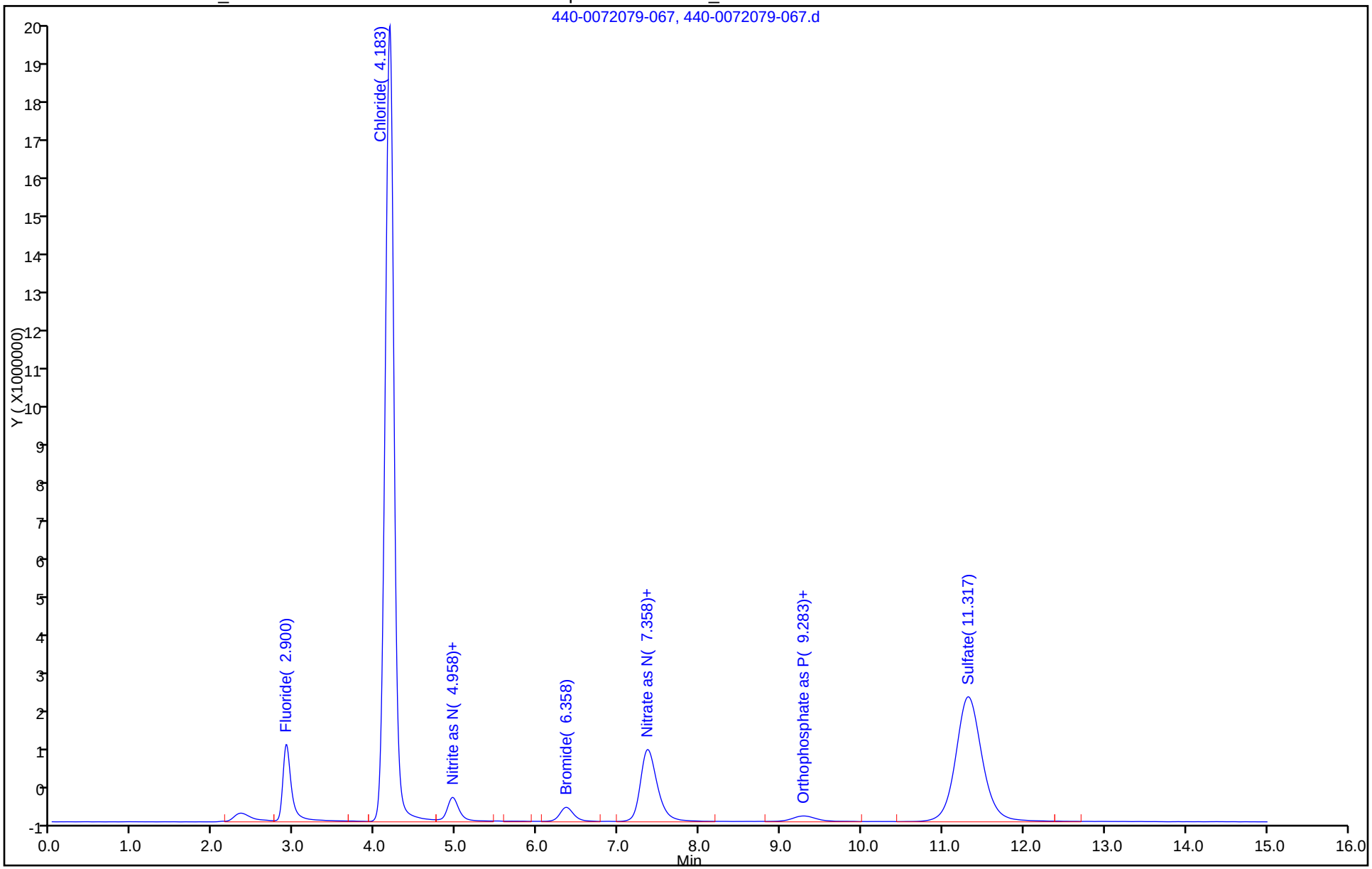
Injection Date: 21-Apr-2016 11:13:00 Instrument ID: IC-8 Operator ID:

Lims ID: 440-144993-A-8 MSD Worklist Smp#: 67

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 5.0000 ALS Bottle#: 0

Method: IC300_8 Limit Group: IC-300_28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 280-82204-B-5 MSD
Matrix: Water
Lab File ID: 20160421014.d
Analysis Method: 300.0
Date Collected: 04/20/2016 12:02
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/21/2016 20:14
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325715
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	77.5		5.0	2.5

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421014.d				
Lims ID:	280-82204-B-5 MSD				
Client ID:					
Sample Type:	MSD				
Inject. Date:	21-Apr-2016 20:14:13	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	#: 001A				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		

Method:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\300_9.m		
Limit Group:	IC-300_28D		
Method Label:	Anions 300.0		
Last Update:	21-Apr-2016 21:52:03	Calib Date:	24-Mar-2016 12:49:24
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d		

Column 1 :			Det: Ch-A-20110829007
Process Host:	XAWRK050		

First Level Reviewer: nguyennt Date: 21-Apr-2016 21:52:56

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.365	2.388	-0.023	285334	5.00	4.28	
	2 Chloride	3.380	3.400	-0.020	344126	5.00	7.75	
	3 Nitrite as NO2	4.020	4.055	-0.035	115650	NC	NC	
	12 Nitrite as N	4.020	4.055	-0.035	115650	NC	NC	
	4 Bromide	5.133	5.172	-0.039	77780	5.00	4.54	
	10 Nitrate as N	5.958	5.985	-0.027	104145	NC	NC	
	5 Nitrate as NO3	5.958	5.985	-0.027	104145	NC	NC	
	11 Orthophosphorus as PO4	7.640	7.675	-0.035	61407	NC	NC	
	9 Orthophosphate as P	7.640	7.675	-0.035	61407	NC	NC	
	7 Sulfate	9.325	9.402	-0.077	1264898	5.00	40.6	E
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

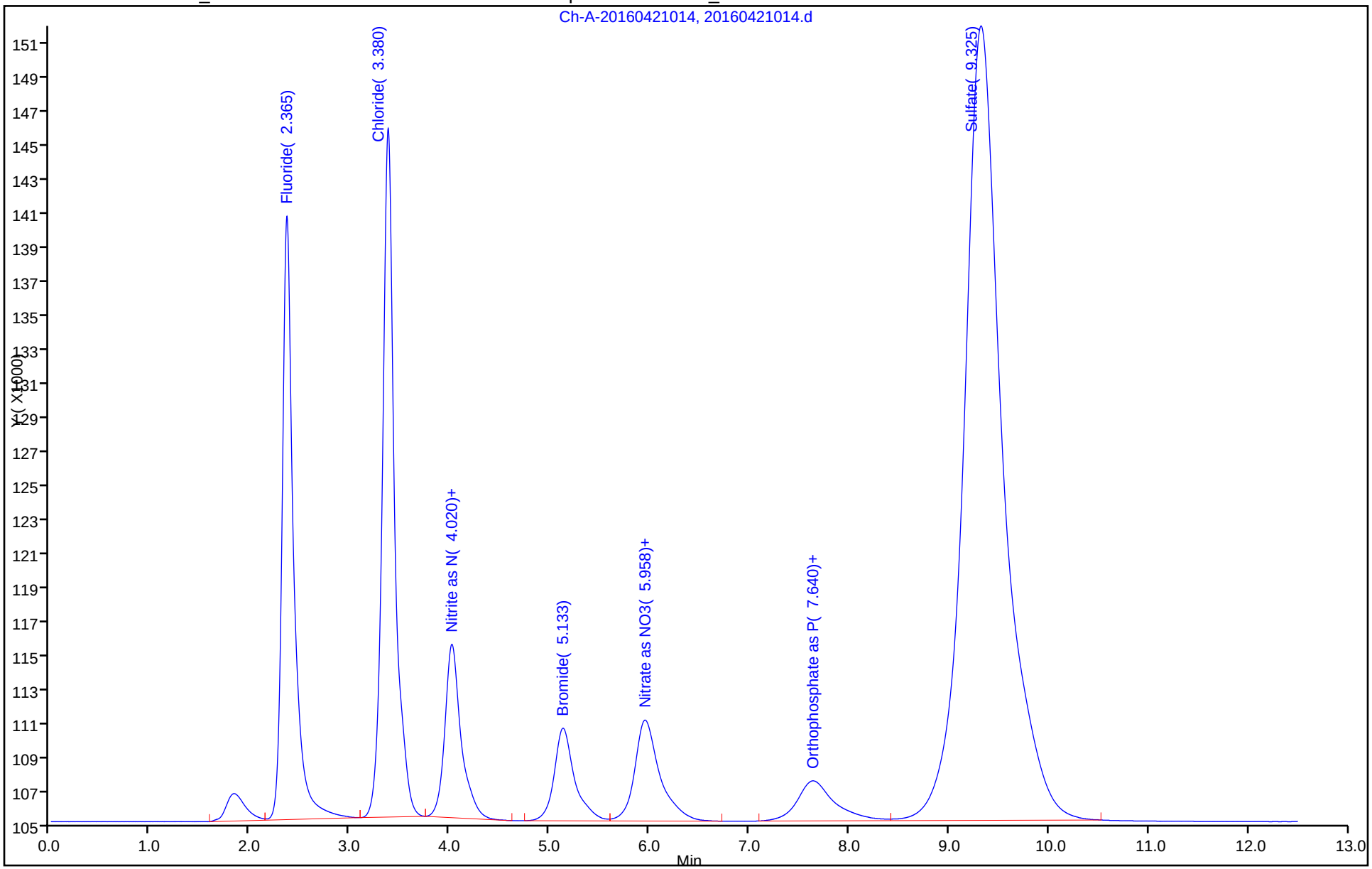
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 21-Apr-2016 21:52:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160421-72145.b\20160421014.d				
Injection Date:	21-Apr-2016 20:14:13	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	280-82204-B-5 MSD			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-8 Start Date: 03/15/2016 11:42

Analysis Batch Number: 317525 End Date: 03/16/2016 07:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0 440-317525/3 IC		03/15/2016 11:42	1	440-0070492-003 .d	AS14 4(mm)
STD1 440-317525/4 IC		03/15/2016 12:11	1	440-0070492-004 .d	AS14 4(mm)
STD2 440-317525/5 IC		03/15/2016 12:28	1	440-0070492-005 .d	AS14 4(mm)
STD3 440-317525/6 IC		03/15/2016 12:46	1	440-0070492-006 .d	AS14 4(mm)
STD4 440-317525/7 IC		03/15/2016 13:04	1	440-0070492-007 .d	AS14 4(mm)
STD5 440-317525/8 IC		03/15/2016 13:21	1	440-0070492-008 .d	AS14 4(mm)
STD6 440-317525/9 IC		03/15/2016 13:39	1	440-0070492-009 .d	AS14 4(mm)
STD7 440-317525/10 IC		03/15/2016 13:56	1	440-0070492-010 .d	AS14 4(mm)
STD8 440-317525/11 IC		03/15/2016 14:14	1	440-0070492-011 .d	AS14 4(mm)
ICV 440-317525/12		03/15/2016 16:13	1	440-0070492-012 .d	AS14 4(mm)
ZZZZZ		03/15/2016 17:57	1		AS14 4(mm)
ZZZZZ		03/15/2016 18:15	1		AS14 4(mm)
ZZZZZ		03/15/2016 18:32	1		AS14 4(mm)
ZZZZZ		03/15/2016 18:50	1		AS14 4(mm)
ZZZZZ		03/15/2016 19:08	1		AS14 4(mm)
ZZZZZ		03/15/2016 19:43	1		AS14 4(mm)
ZZZZZ		03/15/2016 20:01	1		AS14 4(mm)
ZZZZZ		03/15/2016 20:19	1		AS14 4(mm)
ZZZZZ		03/15/2016 20:36	20		AS14 4(mm)
ZZZZZ		03/15/2016 20:54	1000		AS14 4(mm)
ZZZZZ		03/15/2016 21:11	2000		AS14 4(mm)
ZZZZZ		03/15/2016 21:29	50		AS14 4(mm)
ZZZZZ		03/15/2016 21:47	50		AS14 4(mm)
ZZZZZ		03/15/2016 22:04	100		AS14 4(mm)
ZZZZZ		03/15/2016 22:22	100		AS14 4(mm)
CCV 440-317525/28		03/15/2016 22:39	1		AS14 4(mm)
CCB 440-317525/29		03/15/2016 22:57	1		AS14 4(mm)
ZZZZZ		03/15/2016 23:26	1		AS14 4(mm)
ZZZZZ		03/16/2016 00:36	1		AS14 4(mm)
ZZZZZ		03/16/2016 00:54	1		AS14 4(mm)
ZZZZZ		03/16/2016 01:11	1		AS14 4(mm)
ZZZZZ		03/16/2016 01:47	10		AS14 4(mm)
CCV 440-317525/40		03/16/2016 02:22	1		AS14 4(mm)
CCB 440-317525/41		03/16/2016 02:39	1		AS14 4(mm)
ZZZZZ		03/16/2016 02:57	1		AS14 4(mm)
ZZZZZ		03/16/2016 03:15	5		AS14 4(mm)
ZZZZZ		03/16/2016 03:32	1		AS14 4(mm)
ZZZZZ		03/16/2016 03:50	10		AS14 4(mm)
ZZZZZ		03/16/2016 04:07	1		AS14 4(mm)
ZZZZZ		03/16/2016 04:25	5		AS14 4(mm)
ZZZZZ		03/16/2016 04:43	1		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-8 Start Date: 03/15/2016 11:42

Analysis Batch Number: 317525 End Date: 03/16/2016 07:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		03/16/2016 05:00	20		AS14 4(mm)
ZZZZZ		03/16/2016 05:18	1		AS14 4(mm)
ZZZZZ		03/16/2016 05:35	50		AS14 4(mm)
CCV 440-317525/52		03/16/2016 05:53	1		AS14 4(mm)
CCB 440-317525/53		03/16/2016 06:11	1		AS14 4(mm)
ZZZZZ		03/16/2016 06:28	50		AS14 4(mm)
CCV 440-317525/55		03/16/2016 06:46	1		AS14 4(mm)
CCB 440-317525/56		03/16/2016 07:04	1		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-9 Start Date: 03/24/2016 10:58

Analysis Batch Number: 319859 End Date: 03/24/2016 17:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0 440-319859/3 IC		03/24/2016 10:58	1	201603003.d	AS14 4(mm)
STD1 440-319859/4 IC		03/24/2016 11:12	1	201603004.d	AS14 4(mm)
STD2 440-319859/5 IC		03/24/2016 11:26	1	201603005.d	AS14 4(mm)
STD3 440-319859/6 IC		03/24/2016 11:40	1	201603006.d	AS14 4(mm)
STD4 440-319859/7 IC		03/24/2016 11:54	1	201603007.d	AS14 4(mm)
STD5 440-319859/8 IC		03/24/2016 12:07	1	201603008.d	AS14 4(mm)
STD6 440-319859/9 IC		03/24/2016 12:21	1	201603009.d	AS14 4(mm)
STD7 440-319859/10 IC		03/24/2016 12:35	1	201603010.d	AS14 4(mm)
STD8 440-319859/11 IC		03/24/2016 12:49	1	201603011.d	AS14 4(mm)
ICV 440-319859/12		03/24/2016 13:10	1	201603012.d	AS14 4(mm)
ZZZZZ		03/24/2016 14:16	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:30	1		AS14 4(mm)
		03/24/2016 14:44	1		AS14 4(mm)
		03/24/2016 14:58	1		AS14 4(mm)
		03/24/2016 15:11	1		AS14 4(mm)
		03/24/2016 15:52	1		AS14 4(mm)
		03/24/2016 16:05	50		AS14 4(mm)
		03/24/2016 16:19	1		AS14 4(mm)
		03/24/2016 16:33	50		AS14 4(mm)
		03/24/2016 16:47	1		AS14 4(mm)
		03/24/2016 17:01	50		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-8 Start Date: 04/20/2016 11:13

Analysis Batch Number: 325445 End Date: 04/21/2016 18:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/20/2016 11:13	1		AS14 4(mm)
ZZZZZ		04/20/2016 11:31	1		AS14 4(mm)
ZZZZZ		04/20/2016 11:48	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:06	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:24	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:41	1		AS14 4(mm)
ZZZZZ		04/20/2016 12:59	1		AS14 4(mm)
ZZZZZ		04/20/2016 13:43	1		AS14 4(mm)
CCV 440-325445/1008		04/20/2016 13:43	1		AS14 4(mm)
ZZZZZ		04/20/2016 14:01	1		AS14 4(mm)
CCB 440-325445/1009		04/20/2016 14:01	1		AS14 4(mm)
ZZZZZ		04/20/2016 17:49	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:06	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:24	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:42	1		AS14 4(mm)
ZZZZZ		04/20/2016 18:59	1		AS14 4(mm)
ZZZZZ		04/20/2016 19:17	10		AS14 4(mm)
ZZZZZ		04/20/2016 19:34	1		AS14 4(mm)
ZZZZZ		04/20/2016 19:52	10		AS14 4(mm)
ZZZZZ		04/20/2016 20:10	10		AS14 4(mm)
ZZZZZ		04/20/2016 20:27	10		AS14 4(mm)
CCV 440-325445/20		04/20/2016 20:45	1		AS14 4(mm)
CCB 440-325445/21		04/20/2016 21:29	1		AS14 4(mm)
ZZZZZ		04/20/2016 21:54	1		AS14 4(mm)
ZZZZZ		04/20/2016 22:11	20		AS14 4(mm)
ZZZZZ		04/20/2016 22:29	1		AS14 4(mm)
ZZZZZ		04/20/2016 22:47	20		AS14 4(mm)
ZZZZZ		04/20/2016 23:04	20		AS14 4(mm)
ZZZZZ		04/20/2016 23:22	20		AS14 4(mm)
ZZZZZ		04/21/2016 00:15	200		AS14 4(mm)
ZZZZZ		04/21/2016 00:32	1		AS14 4(mm)
CCV 440-325445/32		04/21/2016 00:50	1		AS14 4(mm)
CCB 440-325445/33		04/21/2016 01:07	1		AS14 4(mm)
ZZZZZ		04/21/2016 01:32	1		AS14 4(mm)
ZZZZZ		04/21/2016 02:42	1		AS14 4(mm)
ZZZZZ		04/21/2016 03:00	50		AS14 4(mm)
ZZZZZ		04/21/2016 03:17	1		AS14 4(mm)
ZZZZZ		04/21/2016 03:35	50		AS14 4(mm)
ZZZZZ		04/21/2016 03:53	1		AS14 4(mm)
ZZZZZ		04/21/2016 04:10	50		AS14 4(mm)
CCV 440-325445/44		04/21/2016 04:28	1		AS14 4(mm)
CCB 440-325445/45		04/21/2016 04:45	1		AS14 4(mm)
ZZZZZ		04/21/2016 05:03	1		AS14 4(mm)
ZZZZZ		04/21/2016 05:21	50		AS14 4(mm)
ZZZZZ		04/21/2016 05:38	5		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-8 Start Date: 04/20/2016 11:13

Analysis Batch Number: 325445 End Date: 04/21/2016 18:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/21/2016 05:56	200		AS14 4(mm)
ZZZZZ		04/21/2016 06:13	1		AS14 4(mm)
MB 440-325445/51		04/21/2016 06:31	1	440-0072079-051 .d	AS14 4(mm)
LCS 440-325445/52		04/21/2016 06:49	1	440-0072079-052 .d	AS14 4(mm)
CCV 440-325445/56		04/21/2016 07:59	1	440-0072079-056 .d	AS14 4(mm)
CCB 440-325445/57		04/21/2016 08:17	1	440-0072079-057 .d	AS14 4(mm)
ZZZZZ		04/21/2016 10:38	5		AS14 4(mm)
440-144993-A-8 MS		04/21/2016 10:55	5	440-0072079-066 .d	AS14 4(mm)
440-144993-A-8 MSD		04/21/2016 11:13	5	440-0072079-067 .d	AS14 4(mm)
CCV 440-325445/68		04/21/2016 11:30	1	440-0072079-068 .d	AS14 4(mm)
CCB 440-325445/69		04/21/2016 11:48	1	440-0072079-069 .d	AS14 4(mm)
440-144940-2		04/21/2016 12:06	1	440-0072079-070 .d	AS14 4(mm)
440-144940-1		04/21/2016 12:23	10	440-0072079-071 .d	AS14 4(mm)
440-144940-1		04/21/2016 12:41	500	440-0072079-072 .d	AS14 4(mm)
440-144940-3		04/21/2016 12:58	20	440-0072079-073 .d	AS14 4(mm)
440-144940-3		04/21/2016 13:16	500	440-0072079-074 .d	AS14 4(mm)
ZZZZZ		04/21/2016 13:34	20		AS14 4(mm)
ZZZZZ		04/21/2016 13:51	50		AS14 4(mm)
ZZZZZ		04/21/2016 14:09	20		AS14 4(mm)
ZZZZZ		04/21/2016 14:26	20		AS14 4(mm)
ZZZZZ		04/21/2016 14:44	500		AS14 4(mm)
CCV 440-325445/80		04/21/2016 15:02	1	440-0072079-080 .d	AS14 4(mm)
CCB 440-325445/81		04/21/2016 15:19	1	440-0072079-081 .d	AS14 4(mm)
ZZZZZ		04/21/2016 15:37	10		AS14 4(mm)
ZZZZZ		04/21/2016 15:54	500		AS14 4(mm)
ZZZZZ		04/21/2016 16:12	500		AS14 4(mm)
ZZZZZ		04/21/2016 16:30	20		AS14 4(mm)
ZZZZZ		04/21/2016 16:47	20		AS14 4(mm)
ZZZZZ		04/21/2016 17:05	20		AS14 4(mm)
ZZZZZ		04/21/2016 17:22	5		AS14 4(mm)
CCV 440-325445/90		04/21/2016 17:58	1		AS14 4(mm)
ZZZZZ		04/21/2016 18:15	1		AS14 4(mm)
CCB 440-325445/92		04/21/2016 18:41	1		AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-9 Start Date: 04/21/2016 17:03

Analysis Batch Number: 325715 End Date: 04/22/2016 05:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
LCS 440-325715/2		04/21/2016 17:03	1	20160421002.d	AS14 4(mm)
CCV 440-325715/1002		04/21/2016 17:03	1		AS14 4(mm)
ZZZZZ		04/21/2016 17:16	1		AS14 4(mm)
ZZZZZ		04/21/2016 17:30	1		AS14 4(mm)
CCB 440-325715/1004		04/21/2016 17:30	1		AS14 4(mm)
ZZZZZ		04/21/2016 17:44	1		AS14 4(mm)
MB 440-325715/6		04/21/2016 17:58	1	20160421006.d	AS14 4(mm)
CCB 440-325715/1006		04/21/2016 17:58	1		AS14 4(mm)
ZZZZZ		04/21/2016 18:32	1		AS14 4(mm)
ZZZZZ		04/21/2016 19:18	10		AS14 4(mm)
ZZZZZ		04/21/2016 19:32	10		AS14 4(mm)
ZZZZZ		04/21/2016 19:46	10		AS14 4(mm)
280-82204-B-5 MS		04/21/2016 20:00	10	20160421013.d	AS14 4(mm)
280-82204-B-5 MSD		04/21/2016 20:14	10	20160421014.d	AS14 4(mm)
ZZZZZ		04/21/2016 20:28	20		AS14 4(mm)
ZZZZZ		04/21/2016 20:41	100		AS14 4(mm)
ZZZZZ		04/21/2016 20:55	100		AS14 4(mm)
CCV 440-325715/18		04/21/2016 21:09	1	20160421018.d	AS14 4(mm)
CCB 440-325715/19		04/21/2016 21:23	1	20160421019.d	AS14 4(mm)
ZZZZZ		04/21/2016 21:53	1		AS14 4(mm)
440-144940-2		04/21/2016 22:07	1	20160421021.d	AS14 4(mm)
ZZZZZ		04/21/2016 22:21	1		AS14 4(mm)
ZZZZZ		04/21/2016 22:35	1		AS14 4(mm)
ZZZZZ		04/21/2016 22:49	100		AS14 4(mm)
ZZZZZ		04/21/2016 23:03	1		AS14 4(mm)
ZZZZZ		04/21/2016 23:44	5		AS14 4(mm)
ZZZZZ		04/21/2016 23:58	200		AS14 4(mm)
CCV 440-325715/30		04/22/2016 00:12	1		AS14 4(mm)
CCB 440-325715/31		04/22/2016 00:26	1		AS14 4(mm)
ZZZZZ		04/22/2016 00:39	5		AS14 4(mm)
ZZZZZ		04/22/2016 00:53	5		AS14 4(mm)
ZZZZZ		04/22/2016 01:07	200		AS14 4(mm)
ZZZZZ		04/22/2016 01:21	200		AS14 4(mm)
ZZZZZ		04/22/2016 01:35	200		AS14 4(mm)
ZZZZZ		04/22/2016 01:49	200		AS14 4(mm)
ZZZZZ		04/22/2016 02:03	5		AS14 4(mm)
ZZZZZ		04/22/2016 02:16	200		AS14 4(mm)
ZZZZZ		04/22/2016 02:30	1		AS14 4(mm)
ZZZZZ		04/22/2016 02:44	20		AS14 4(mm)
CCV 440-325715/42		04/22/2016 02:58	1		AS14 4(mm)
CCB 440-325715/43		04/22/2016 03:12	1		AS14 4(mm)
ZZZZZ		04/22/2016 03:26	50		AS14 4(mm)
ZZZZZ		04/22/2016 03:39	20		AS14 4(mm)
ZZZZZ		04/22/2016 03:53	50		AS14 4(mm)
ZZZZZ		04/22/2016 04:07	20		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-9 Start Date: 04/21/2016 17:03

Analysis Batch Number: 325715 End Date: 04/22/2016 05:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/22/2016 04:21	50		AS14 4(mm)
ZZZZZ		04/22/2016 04:35	50		AS14 4(mm)
ZZZZZ		04/22/2016 04:49	50		AS14 4(mm)
ZZZZZ		04/22/2016 05:03	20		AS14 4(mm)
ZZZZZ		04/22/2016 05:16	50		AS14 4(mm)
ZZZZZ		04/22/2016 05:30	100		AS14 4(mm)
CCV 440-325715/54		04/22/2016 05:44	1		AS14 4(mm)
CCB 440-325715/55		04/22/2016 05:58	1		AS14 4(mm)

300.0

Method 300.1

Disinfection By-Products (IC) by Method 300.1

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): AS9-HC ID: 4 (mm)

Client Sample ID	Lab Sample ID	DCAA #
DBMW-5-20160419	440-144940-1	104
DBMW-4-20160419-EB	440-144940-2	103
DBMW-4-20160419	440-144940-3	103
	MB 440-326094/5	104
	LCS 440-326094/4	105
	MRL 440-326094/3	106
	440-145185-A-1 MS	104
	440-145185-A-2 MS	106
	440-145185-A-1 MSD	105
	440-145185-A-2 MSD	104

	QC LIMITS
DCAA = Dichloroacetic acid(Surr)	90-115

Column to be used to flag recovery values

FORM II 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a004.d

Lab ID: LCS 440-326094/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	98.0	98	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a003.d

Lab ID: MRL 440-326094/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.0 J	95	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a010.d

Lab ID: 440-145185-A-1 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	220	426	101	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a019.d

Lab ID: 440-145185-A-2 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	250	437	95	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a011.d

Lab ID: 440-145185-A-1 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chlorate	200	424	100	0	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a020.d

Lab ID: 440-145185-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chlorate	200	446	100	2	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab File ID: 201604230001a005.d Lab Sample ID: MB 440-326094/5

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/23/2016 10:22

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-326094/4	201604230001a004.d	04/23/2016 09:49
DBMW-4-20160419	440-144940-3	201604230001a008.d	04/23/2016 12:01
	440-145185-A-1 MS	201604230001a010.d	04/23/2016 13:08
	440-145185-A-1 MSD	201604230001a011.d	04/23/2016 13:41
DBMW-5-20160419	440-144940-1	201604230001a015.d	04/23/2016 15:54
	CCB 440-326094/17	201604230001a017.d	04/23/2016 17:00
	440-145185-A-2 MS	201604230001a019.d	04/23/2016 18:06
	440-145185-A-2 MSD	201604230001a020.d	04/23/2016 18:40
	CCB 440-326094/29	201604230001a029.d	04/23/2016 23:38
	CCB 440-326094/41	201604230001a041.d	04/24/2016 06:26
DBMW-4-20160419-EB	440-144940-2	201604230001a046.d	04/24/2016 09:12
	CCB 440-326094/55	201604230001a048.d	04/24/2016 10:18

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-5-20160419
Lab Sample ID: 440-144940-1
Matrix: Water
Lab File ID: 201604230001a015.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 09:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 15:54
Con. Extract Vol.:
Dilution Factor: 1000
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	97000		20000	10000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a015.d				
Lims ID:	440-144940-A-1				
Client ID:	DBMW-5-20160419				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 15:54:14	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	#: 001 Name: 440-0072215-015				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:01	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 05:11:29		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.603	13.370	0.233	13403451	1030.7	
2 Chlorate	16.577	16.230	0.347	2188110	96.9	

Reagents:

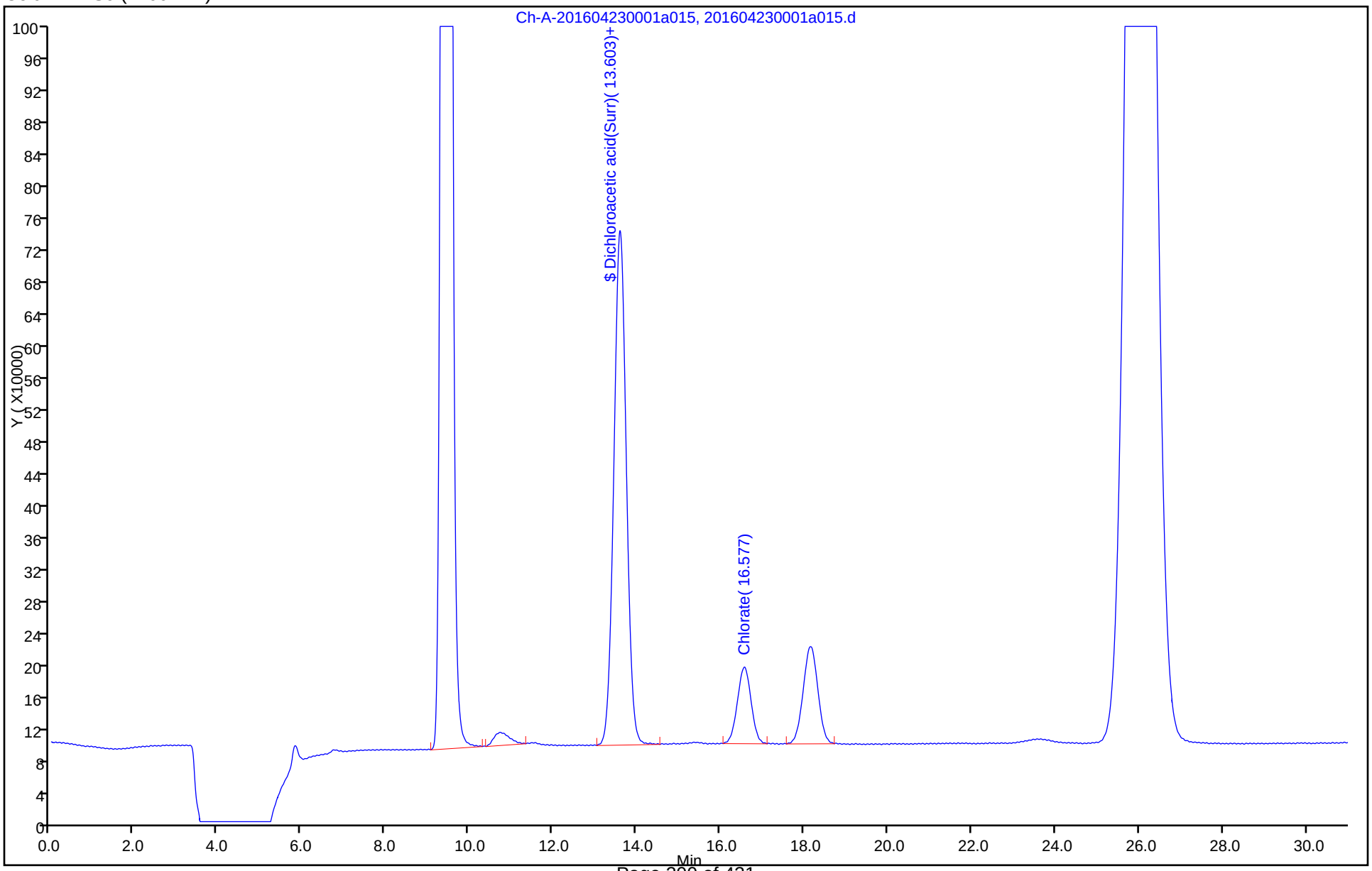
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 24-Apr-2016 05:11:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a015.d				
Injection Date:	23-Apr-2016 15:54:14	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144940-A-1	Lab Sample ID:	440-144940-1	Worklist Smp#:	15
Client ID:	DBMW-5-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419-EB
Lab Sample ID: 440-144940-2
Matrix: Water
Lab File ID: 201604230001a046.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 11:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/24/2016 09:12
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a046.d				
Lims ID:	440-144940-A-2				
Client ID:	DBMW-4-20160419-EB				
Sample Type:	Client				
Inject. Date:	24-Apr-2016 09:12:14	ALS Bottle#:	0	Worklist Smp#:	46
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-046				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 11:17:41	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 10:11:21

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.453	13.370	0.083	13262642	1019.9	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

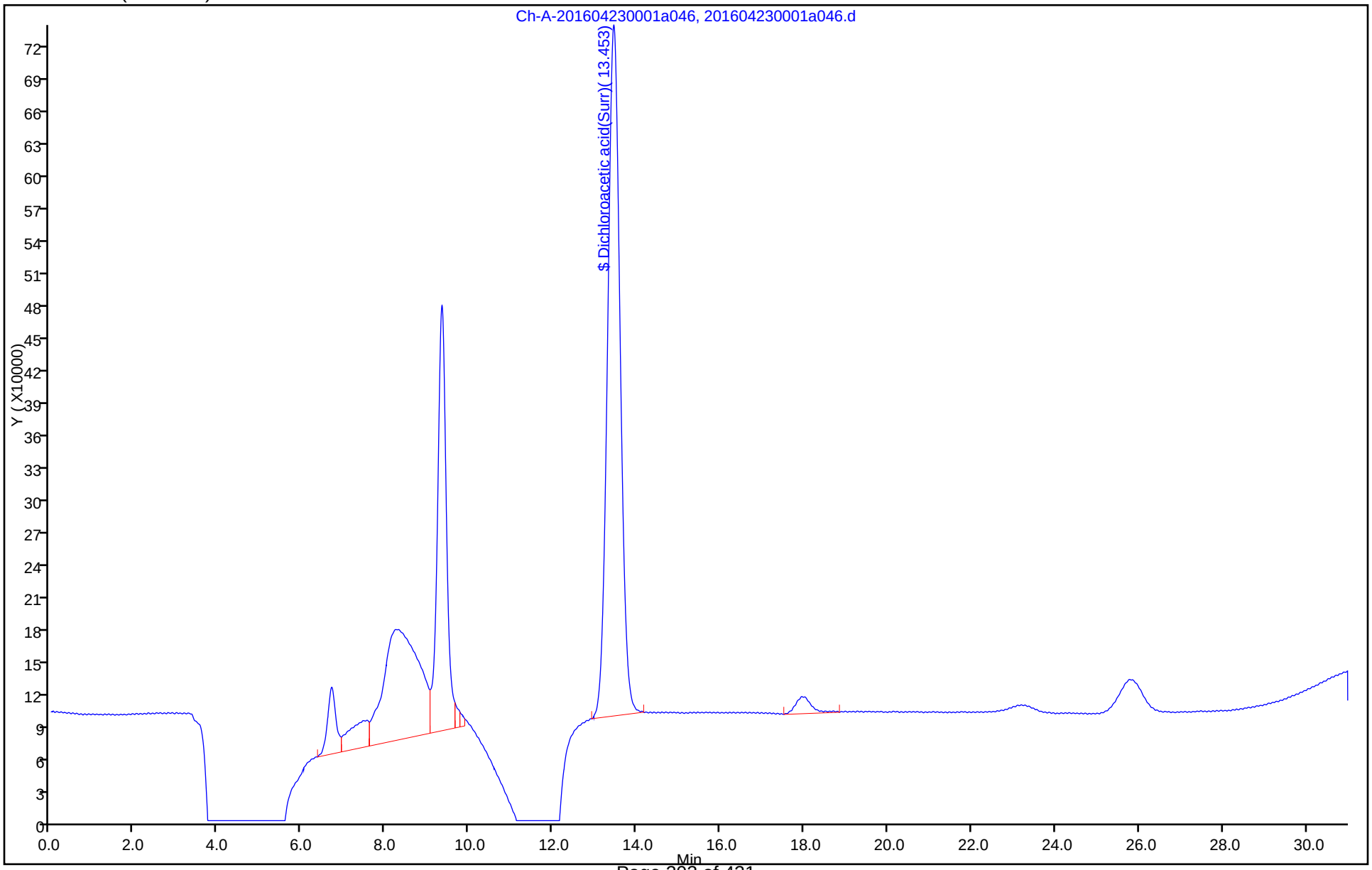
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 24-Apr-2016 10:34:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a046.d				
Injection Date:	24-Apr-2016 09:12:14	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144940-A-2	Lab Sample ID:	440-144940-2	Worklist Smp#:	46
Client ID:	DBMW-4-20160419-EB				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine

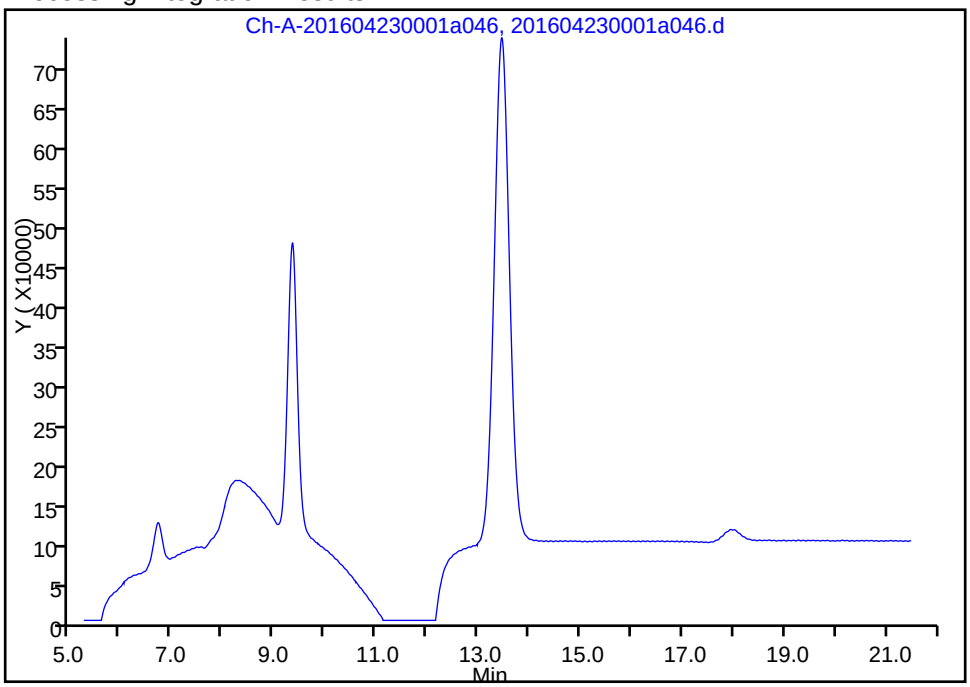
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a046.d				
Injection Date:	24-Apr-2016 09:12:14	Instrument ID:	IC-7		
Lims ID:	440-144940-A-2	Lab Sample ID:	440-144940-2		
Client ID:	DBMW-4-20160419-EB				
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	46
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

$ 6 Dichloroacetic acid(Surr), CAS: 79-43-6

Signal: 1

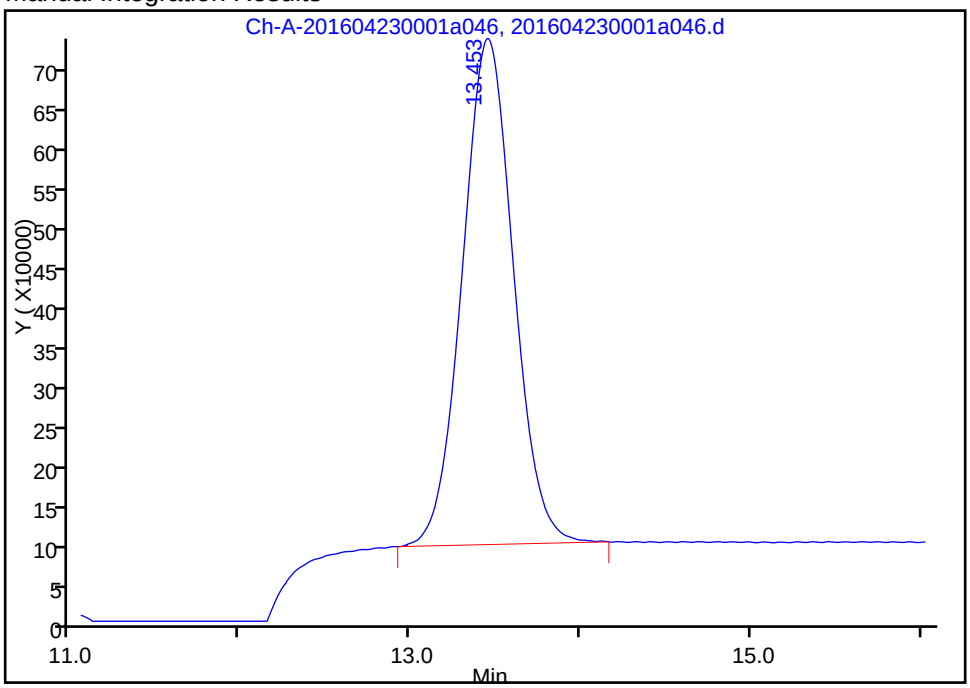
Processing Integration Results

Not Detected
Expected RT: 13.37



Manual Integration Results

RT: 13.45
Area: 13262642
Amount: 1019.9169
Amount Units: ug/l



Reviewer: zakhrabovy, 24-Apr-2016 10:11:21
Audit Action: Assigned Compound ID Audit Reason: Isomers

Manual Integration/User Assign Peak Report

TestAmerica Irvine

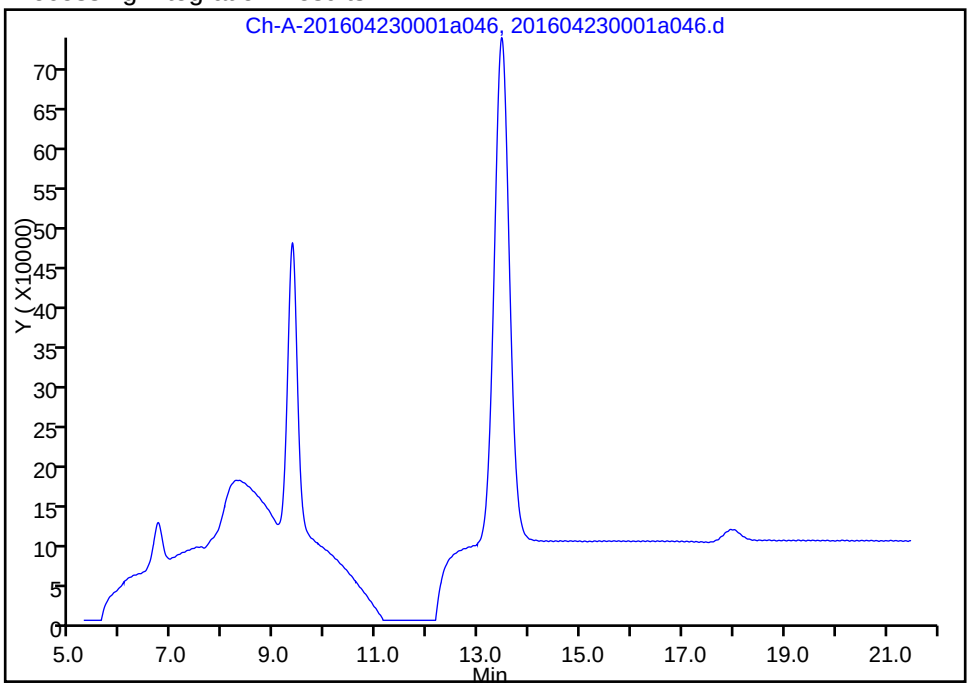
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a046.d				
Injection Date:	24-Apr-2016 09:12:14	Instrument ID:	IC-7		
Lims ID:	440-144940-A-2	Lab Sample ID:	440-144940-2		
Client ID:	DBMW-4-20160419-EB				
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	46
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

$ 6 Dichloroacetic acid(Surr), CAS: 79-43-6

Signal: 1

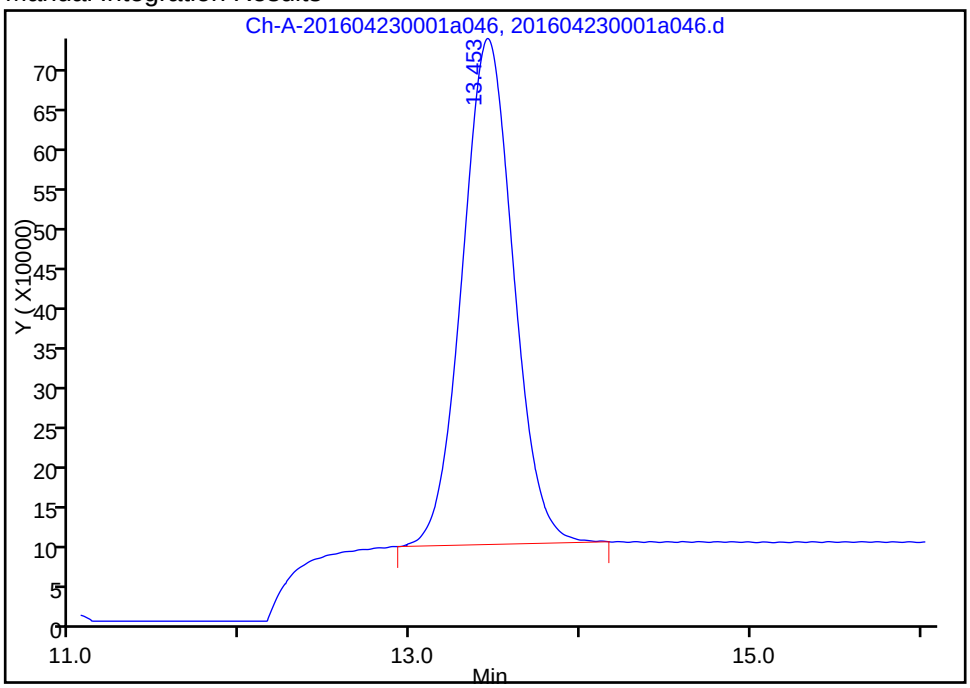
Processing Integration Results

Not Detected
Expected RT: 13.37



Manual Integration Results

RT: 13.45
Area: 13262642
Amount: 1019.9169
Amount Units: ug/l



Reviewer: zakhrabovy, 24-Apr-2016 10:11:21
Audit Action: Manually Integrated Audit Reason: Isomers

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419
Lab Sample ID: 440-144940-3
Matrix: Water
Lab File ID: 201604230001a008.d
Analysis Method: 300.1B
Date Collected: 04/19/2016 11:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 12:01
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	77000		10000	5000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a008.d				
Lims ID:	440-144940-A-3				
Client ID:	DBMW-4-20160419				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 12:01:59	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001 Name: 440-0072215-008				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:52:37	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 12:52:37

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.557	13.370	0.187	13342324	1026.0	
2 Chlorate	16.510	16.230	0.280	3450116	153.7	

Reagents:

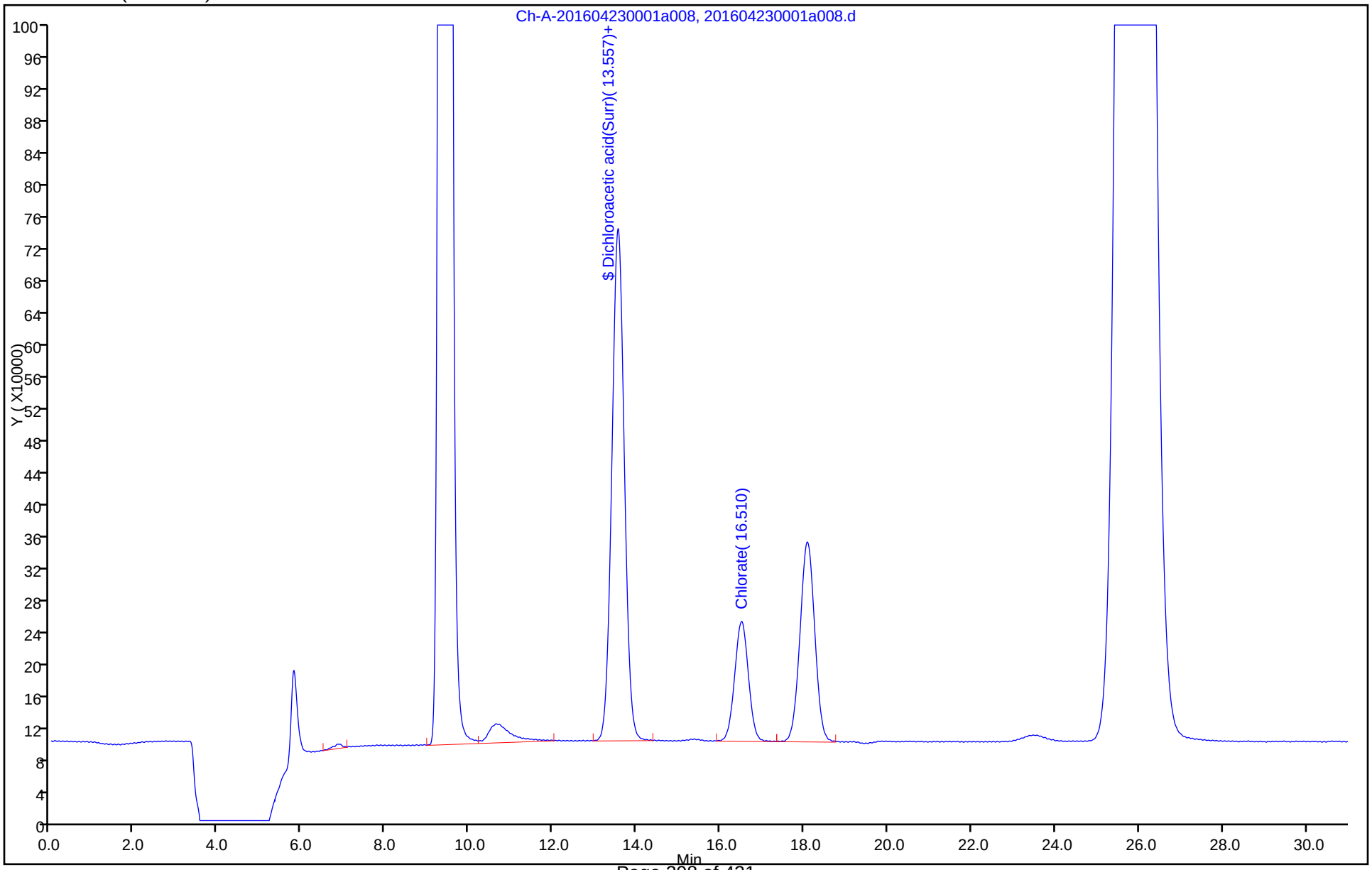
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 23-Apr-2016 12:52:38 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a008.d				
Injection Date:	23-Apr-2016 12:01:59	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-144940-A-3	Lab Sample ID:	440-144940-3	Worklist Smp#:	8
Client ID:	DBMW-4-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Bromate		8.617	8.637	8.630	8.637	8.637					0.000 - 0.000	8.632
Bromide		16.530	16.547	16.600	16.620	16.693					0.000 - 0.000	16.598
Chlorate		18.010	18.043	18.053	18.067	18.027					0.000 - 0.000	18.040
Dichloroacetic acid(Surr)	14.517	14.520	14.533	14.500	14.513	14.490					13.482 - 15.511	14.512

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Bromate	14349	19044 14698	14750	14388	Lin	3388.08196	14577.9338							1.0000		0.9950
Bromide	26042	23576 24541	25629	26061	Lin	160772.070	24672.7328							0.9990		0.9950
Chlorate	22433	21362 22252	23416	23379	Lin	35196.8608	22223.5543							1.0000		0.9950
Dichloroacetic acid(Surr)	13223 12831	13029 12797	13075	13067	Ave		13003.6499				1.2		15.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Bromate	Lin	1471315	95313	184560	360048	718151	0.000000 100	5.01	12.5	25.0	50.1
Bromide	Lin	24540865	1178813	3203639	6515129	13021197	0.000000 1000	50.0	125	250	500
Chlorate	Lin	8900719	427235	1170778	2337921	4486665	0.000000 400	20.0	50.0	100	200
Dichloroacetic acid(Surr)	Ave	13139591 12716735	12947051	12992376	12984873	12750586	994 994	994	994	994	994

Curve Type Legend:

Ave = Average
Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	28-Jan-2016 08:07:59	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-002				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:35	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	14.517	14.513	0.004	13139591	993.7	1010.5	

Reagents:

WC3001LCS_00034	Amount Added: 0.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

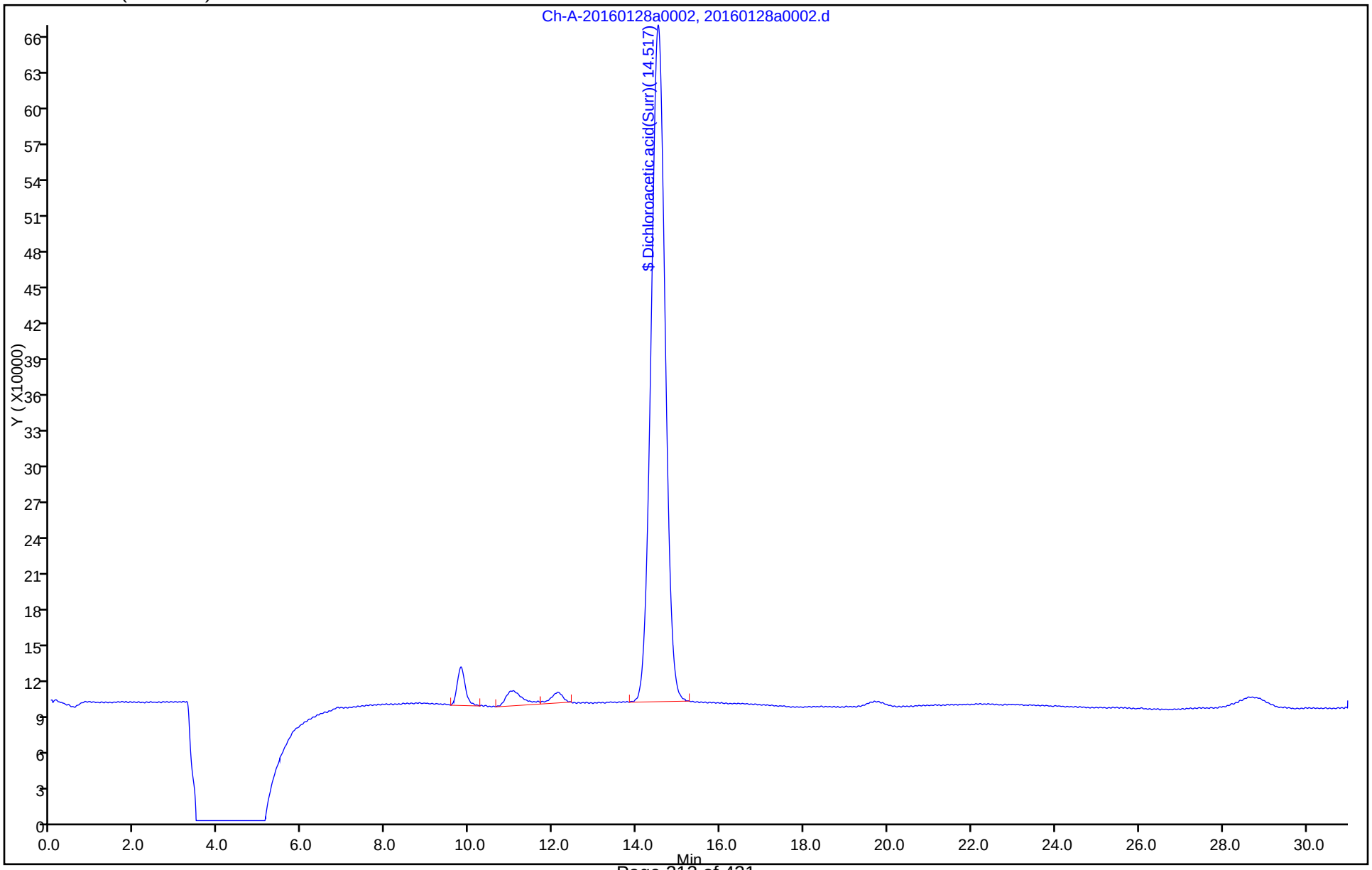
Report Date: 28-Jan-2016 11:28:36 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d

Injection Date:	28-Jan-2016 08:07:59	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std0			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d				
Lims ID:	std1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	28-Jan-2016 08:41:10	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-003				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:37	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				
First Level Reviewer: zakhrabovy		Date:	28-Jan-2016 09:17:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.547	7.547	0.000	495358	NC	NC	
3 Bromate	8.617	8.617	0.000	95313	5.01	6.31	
$ 6 Dichloroacetic acid(Surr)	14.520	14.513	0.007	12947051	993.7	995.6	
4 Bromide	16.530	16.530	0.000	1178813	50.0	41.3	
2 Chlorate	18.010	18.010	0.000	427235	20.0	17.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

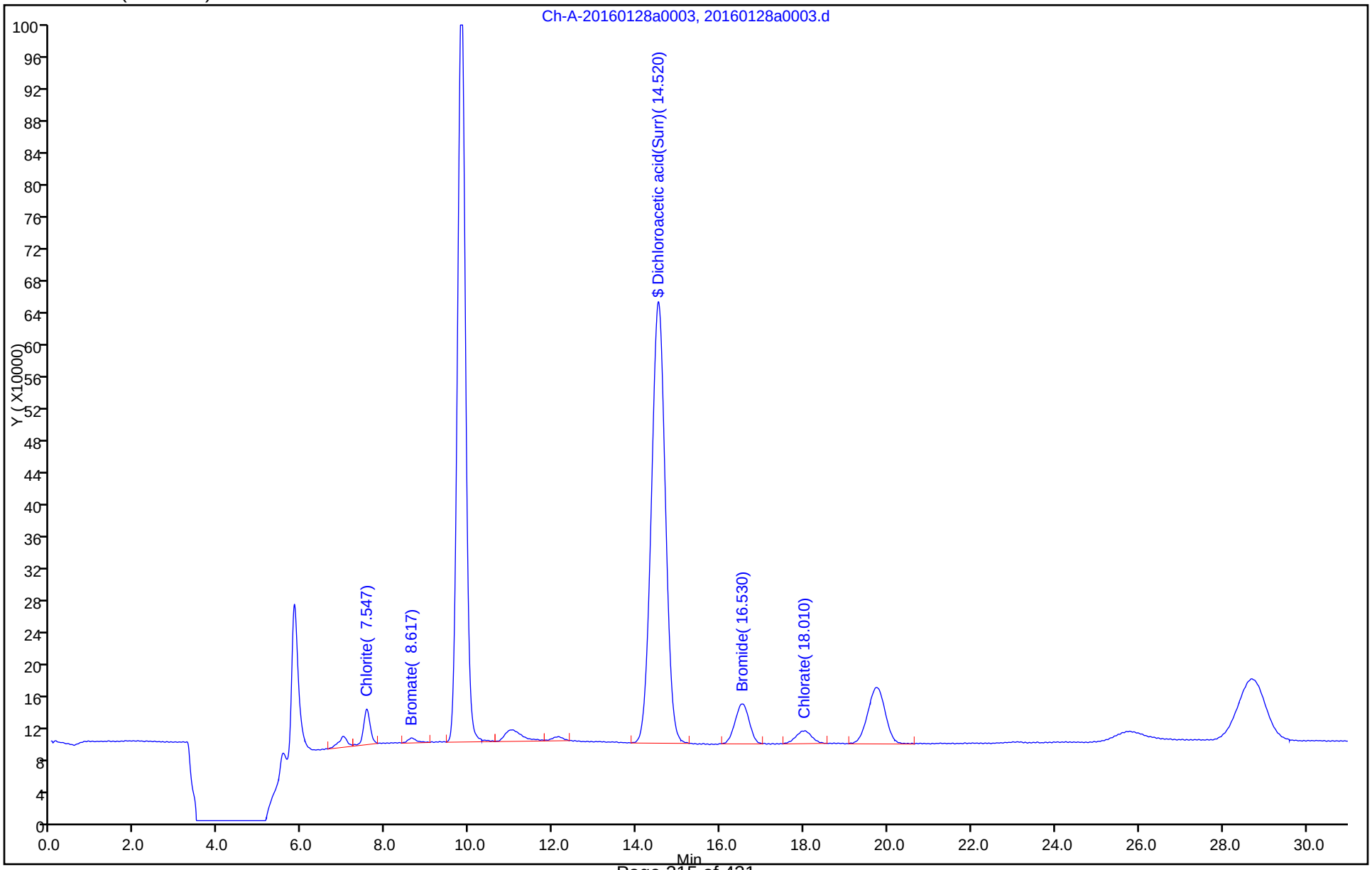
Report Date: 28-Jan-2016 11:28:37 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d

Injection Date:	28-Jan-2016 08:41:10	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std1			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	28-Jan-2016 09:14:20	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-004				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:38	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 09:50:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.557	7.547	0.010	1353340	NC	NC	
3 Bromate	8.637	8.617	0.020	184560	12.5	12.4	
$ 6 Dichloroacetic acid(Surr)	14.533	14.513	0.020	12992376	993.7	999.1	
4 Bromide	16.547	16.530	0.017	3203639	125.0	123.3	
2 Chlorate	18.043	18.010	0.033	1170778	50.0	51.1	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

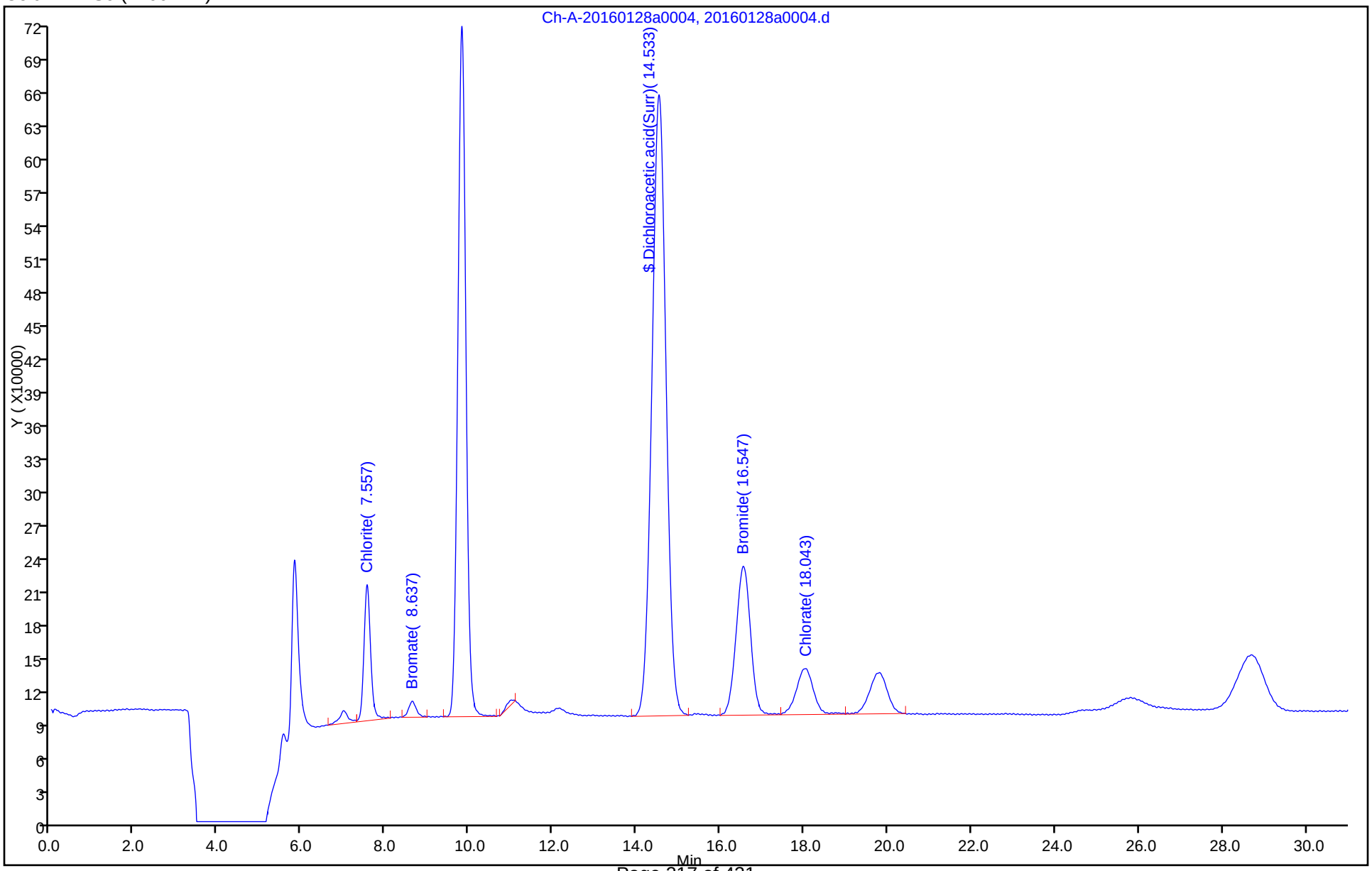
WC3001LCS_00034	Amount Added: 62.50	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 28-Jan-2016 11:28:38 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Injection Date:	28-Jan-2016 09:14:20	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std2			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	28-Jan-2016 09:47:31	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-005				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:23:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	2752443	NC	NC	
3 Bromate	8.630	8.617	0.013	360048	25.0	24.5	
$ 6 Dichloroacetic acid(Surr)	14.500	14.513	-0.013	12984873	993.7	998.6	
4 Bromide	16.600	16.530	0.070	6515129	250.0	257.5	
2 Chlorate	18.053	18.010	0.043	2337921	100.0	103.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

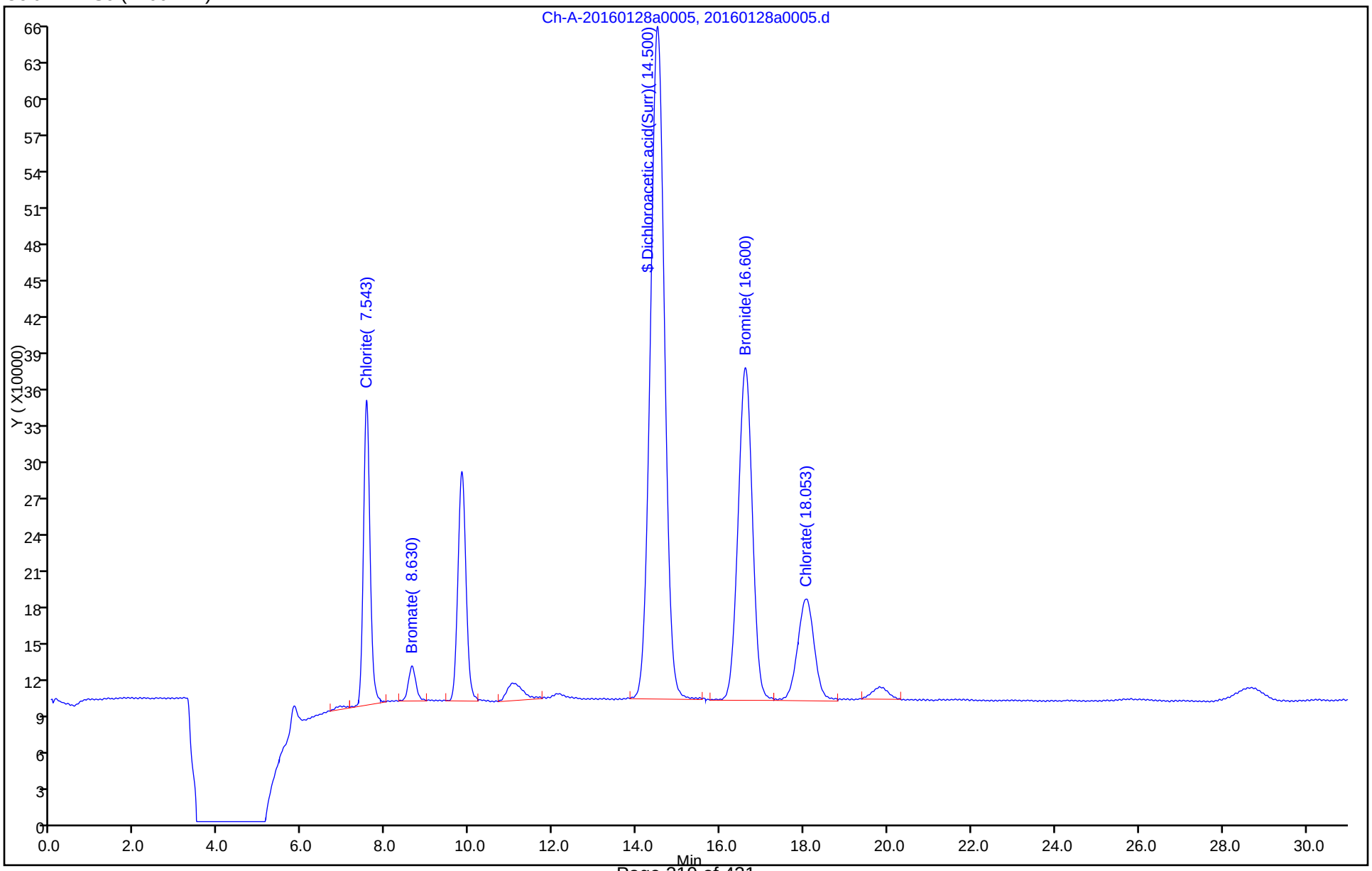
Report Date: 28-Jan-2016 11:28:39 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d

Injection Date:	28-Jan-2016 09:47:31	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std3			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	28-Jan-2016 10:20:42	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-006				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:57:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.550	7.547	0.003	5566429	NC	NC	
3 Bromate	8.637	8.617	0.020	718151	50.1	49.0	
$ 6 Dichloroacetic acid(Surr)	14.513	14.513	0.000	12750586	993.7	980.5	
4 Bromide	16.620	16.530	0.090	13021197	500.0	521.2	
2 Chlorate	18.067	18.010	0.057	4486665	200.0	200.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

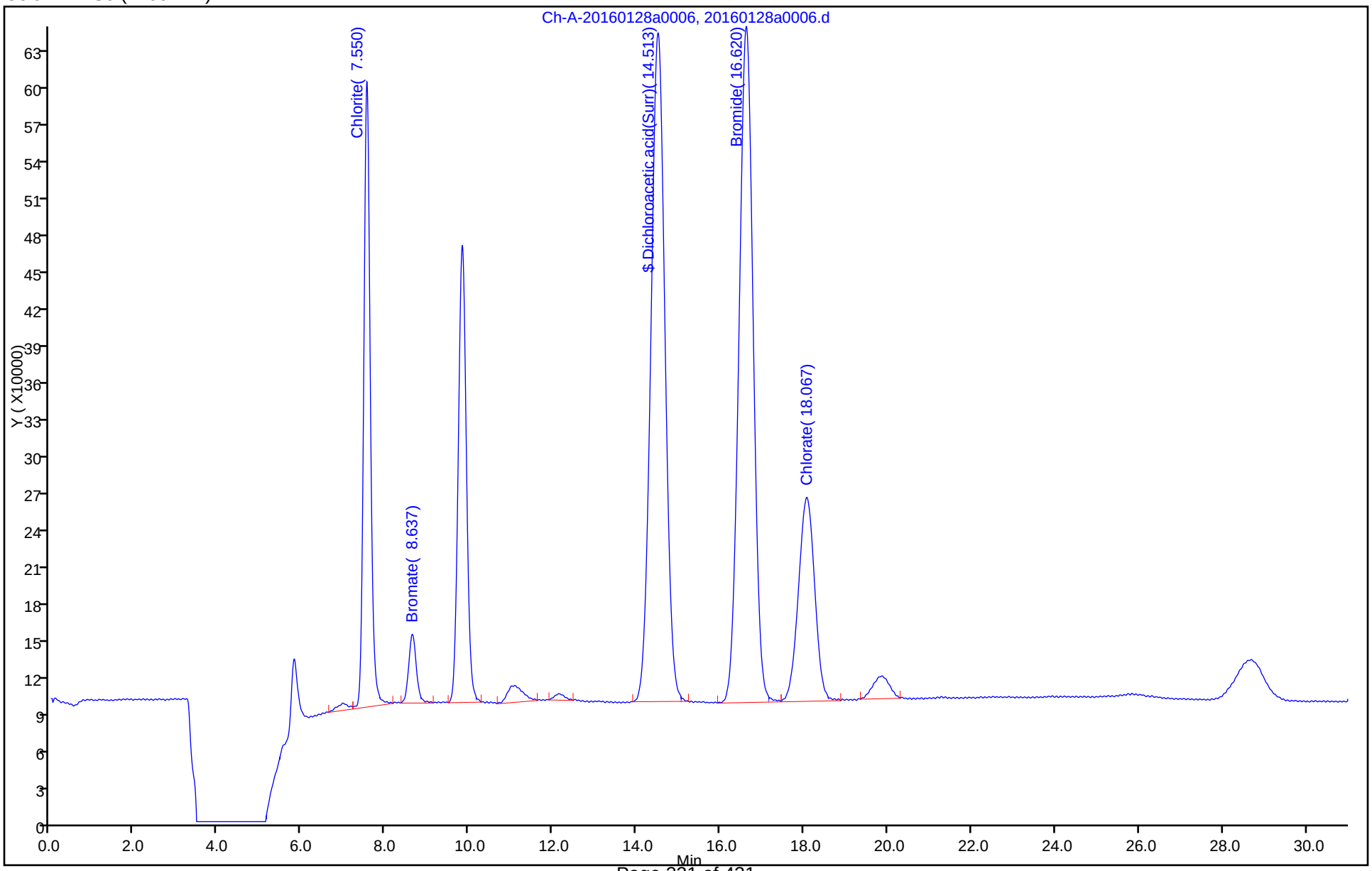
Report Date: 28-Jan-2016 11:28:40 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d

Injection Date:	28-Jan-2016 10:20:42	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std4			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	28-Jan-2016 10:53:53	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-007				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 12:05:32	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:05:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.580	7.547	0.033	11051100	NC	NC	
3 Bromate	8.637	8.617	0.020	1471315	100.1	100.7	
$ 6 Dichloroacetic acid(Surr)	14.490	14.513	-0.023	12716735	993.7	977.9	
4 Bromide	16.693	16.530	0.163	24540865	1000.0	988.1	
2 Chlorate	18.027	18.010	0.017	8900719	400.0	398.9	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

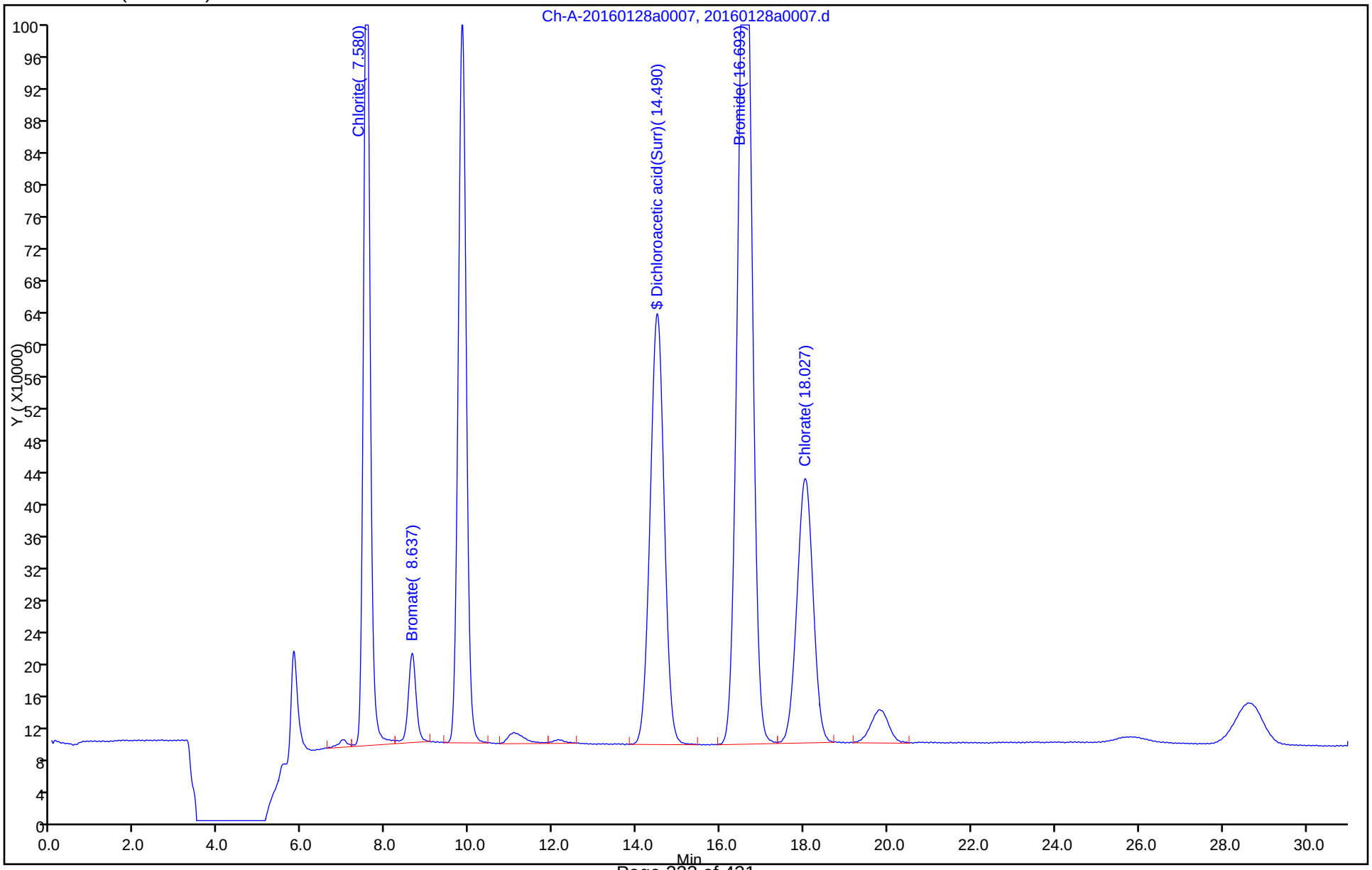
Report Date: 28-Jan-2016 12:05:34 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Injection Date:	28-Jan-2016 10:53:53	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std5			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		13546		27.7	30.0	-7.8	15.0
Bromide	Lin		25814		307	300	2.5	15.0
Chlorate	Lin		22301		119	120	-1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	12897		986	994	-0.8	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.62	8.01	9.22
Bromide	16.52	15.37	17.69
Chlorate	17.98	17.11	18.91
Dichloroacetic acid(Surr)	14.51	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 28-Jan-2016 11:30:56 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 68747 Name: 440-0068747-008
Operator ID: irvinstwet3 Instrument ID: IC-7
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 29-Jan-2016 05:10:00 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK019

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:08:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	3264833	NC	NC	
3 Bromate	8.623	8.617	0.006	406799	30.0	27.7	M
$ 6 Dichloroacetic acid(Surr)	14.510	14.513	-0.003	12815970	993.7	985.6	
4 Bromide	16.520	16.530	-0.010	7744059	300.0	307.4	
2 Chlorate	17.980	18.010	-0.030	2678751	120.1	119.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001ICV_00023 Amount Added: 150.00 Units: uL
WCDCA_00031 Amount Added: 10.00 Units: uL Run Reagent

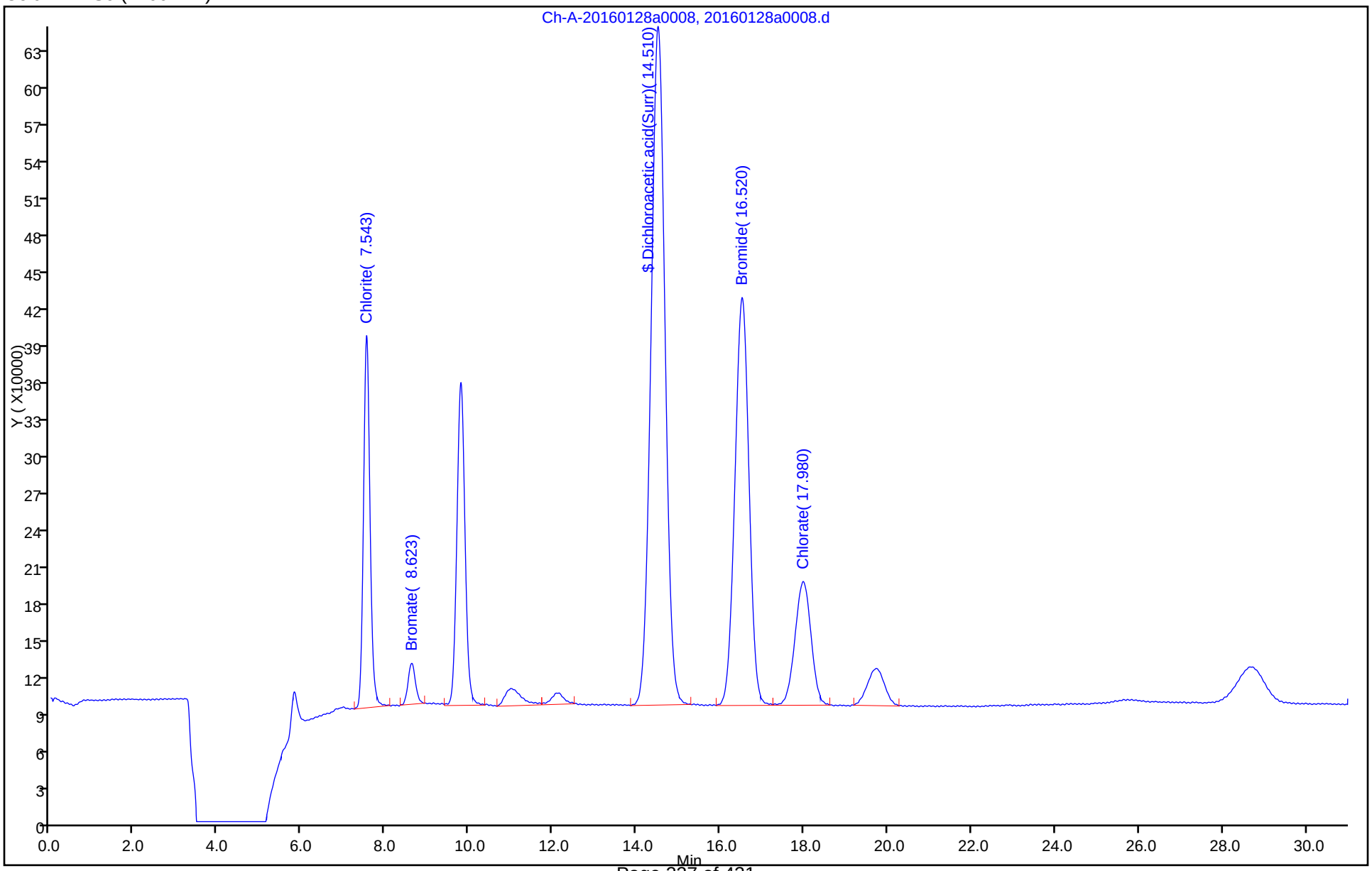
Report Date: 29-Jan-2016 05:10:43 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d

Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



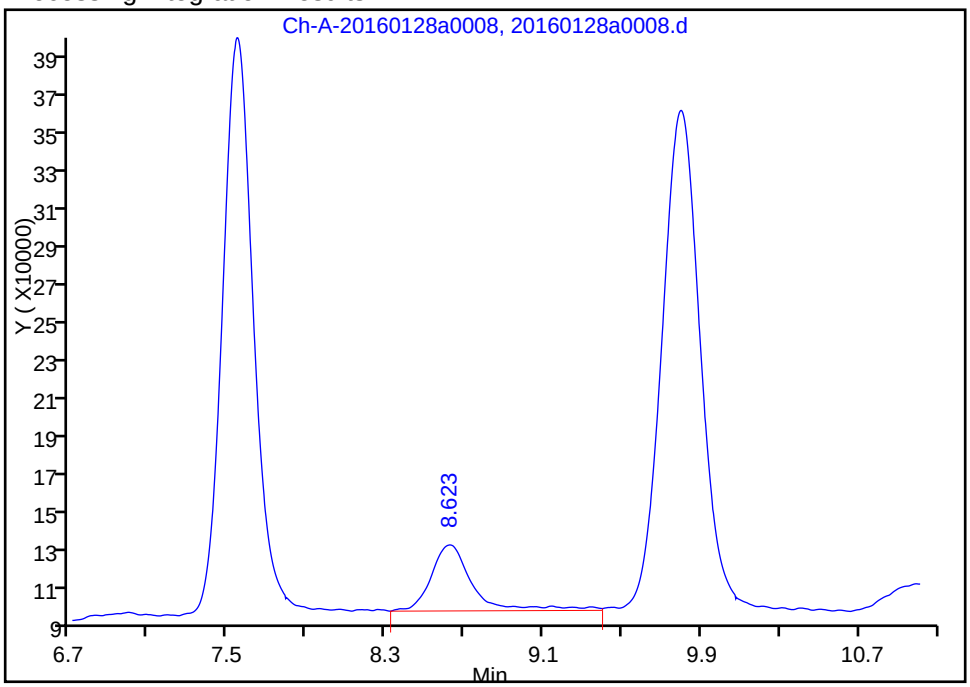
TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d				
Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7		
Lims ID:	ICV				
Client ID:					
Operator ID:	irvinstwet3	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

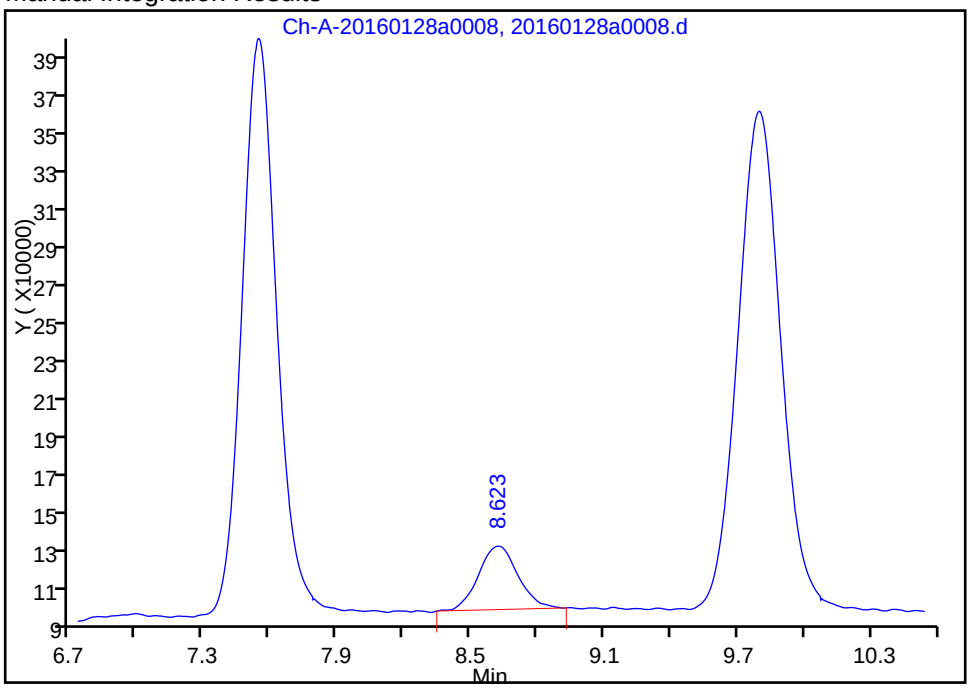
Processing Integration Results

RT: 8.62
Area: 504886
Amount: 34.401166
Amount Units: ug/l



Manual Integration Results

RT: 8.62
Area: 406799
Amount: 27.672709
Amount Units: ug/l



Reviewer: zakhrabovy, 28-Jan-2016 12:06:15
Audit Action: Manually Integrated
Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15365		52.5	50.1	4.9	15.0
Bromide	Lin		26519		531	500	6.2	15.0
Chlorate	Lin		22895		204	200	2.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	13554		1040	994	4.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.35	7.64	8.79
Bromide	15.40	14.00	16.10
Chlorate	16.57	15.42	17.04
Dichloroacetic acid(Surr)	13.57	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a016.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	23-Apr-2016 16:27:25	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-016				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:34	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:11:34

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.390	7.267	0.123	5519566	NC	NC	
3 Bromate	8.353	8.213	0.140	768996	50.1	52.5	
$ 6 Dichloroacetic acid(Surr)	13.570	13.370	0.200	13468399	993.7	1035.7	
4 Bromide	15.400	15.050	0.350	13259731	500.0	530.9	
2 Chlorate	16.567	16.230	0.337	4578974	200.0	204.5	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

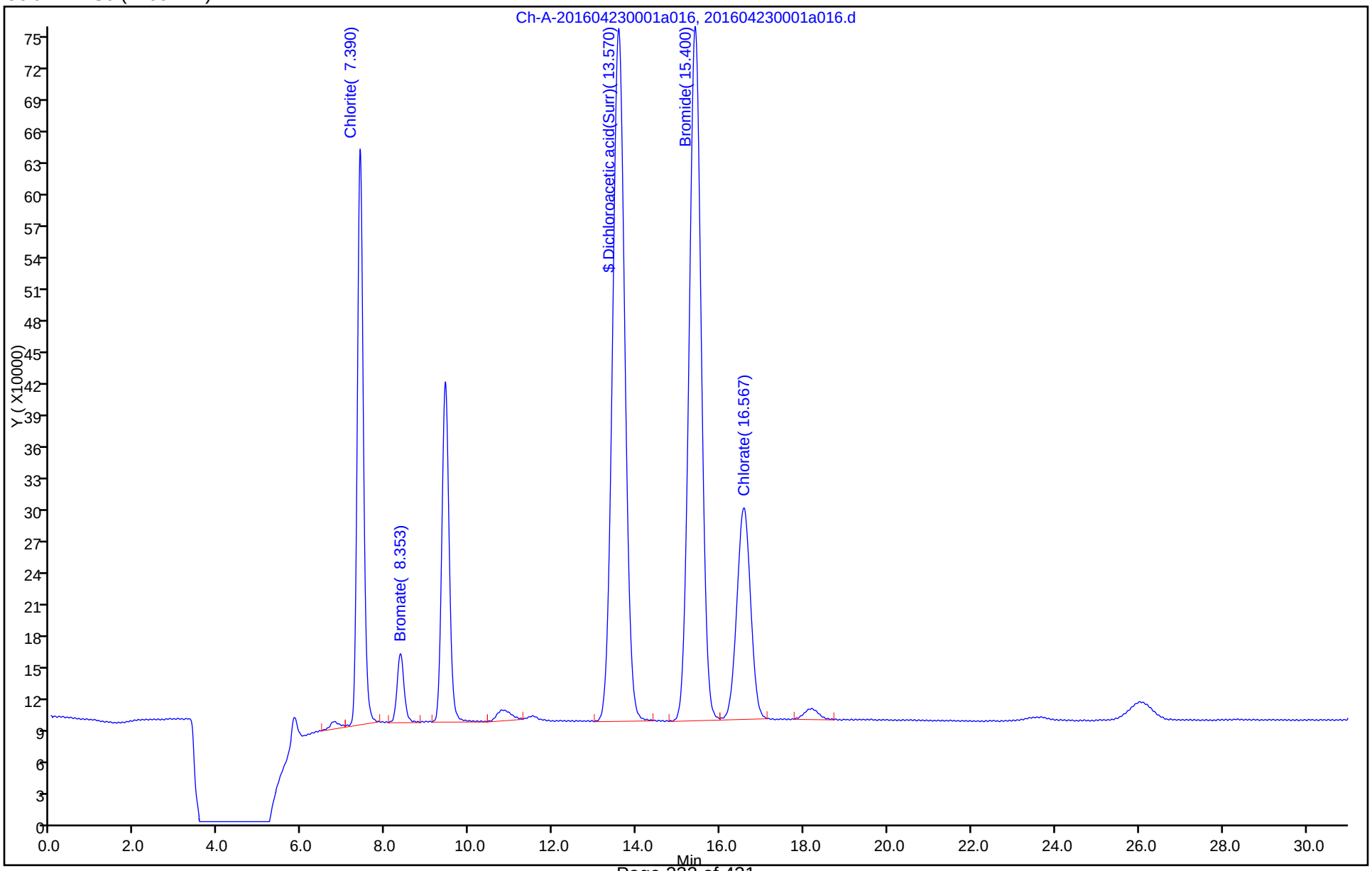
Report Date: 24-Apr-2016 05:11:35 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a016.d

Injection Date:	23-Apr-2016 16:27:25	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/28 Calibration Date: 04/23/2016 23:05

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a028.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14896		253	250	1.3	15.0
Bromide	Lin		25645		2530	2500	1.3	15.0
Chlorate	Lin		22310		988	1000	-1.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	1366		10400	9940	-89.5*	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/28 Calibration Date: 04/23/2016 23:05

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a028.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.30	7.64	8.79
Bromide	15.28	14.00	16.10
Chlorate	16.43	15.42	17.04
Dichloroacetic acid(Surr)	13.51	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a028.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	23-Apr-2016 23:05:35	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	#: 001 Name: 440-0072215-028				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:40:50	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 05:15:10		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.350	7.267	0.083	2712042	NC	NC	M
3 Bromate	8.303	8.213	0.090	372779	2.50	25.3	M
$ 6 Dichloroacetic acid(Surr)	13.507	13.370	0.137	13571794	99.4	1043.7	
4 Bromide	15.277	15.050	0.227	6411286	25.0	253.3	
2 Chlorate	16.430	16.230	0.200	2230972	10.0	98.8	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

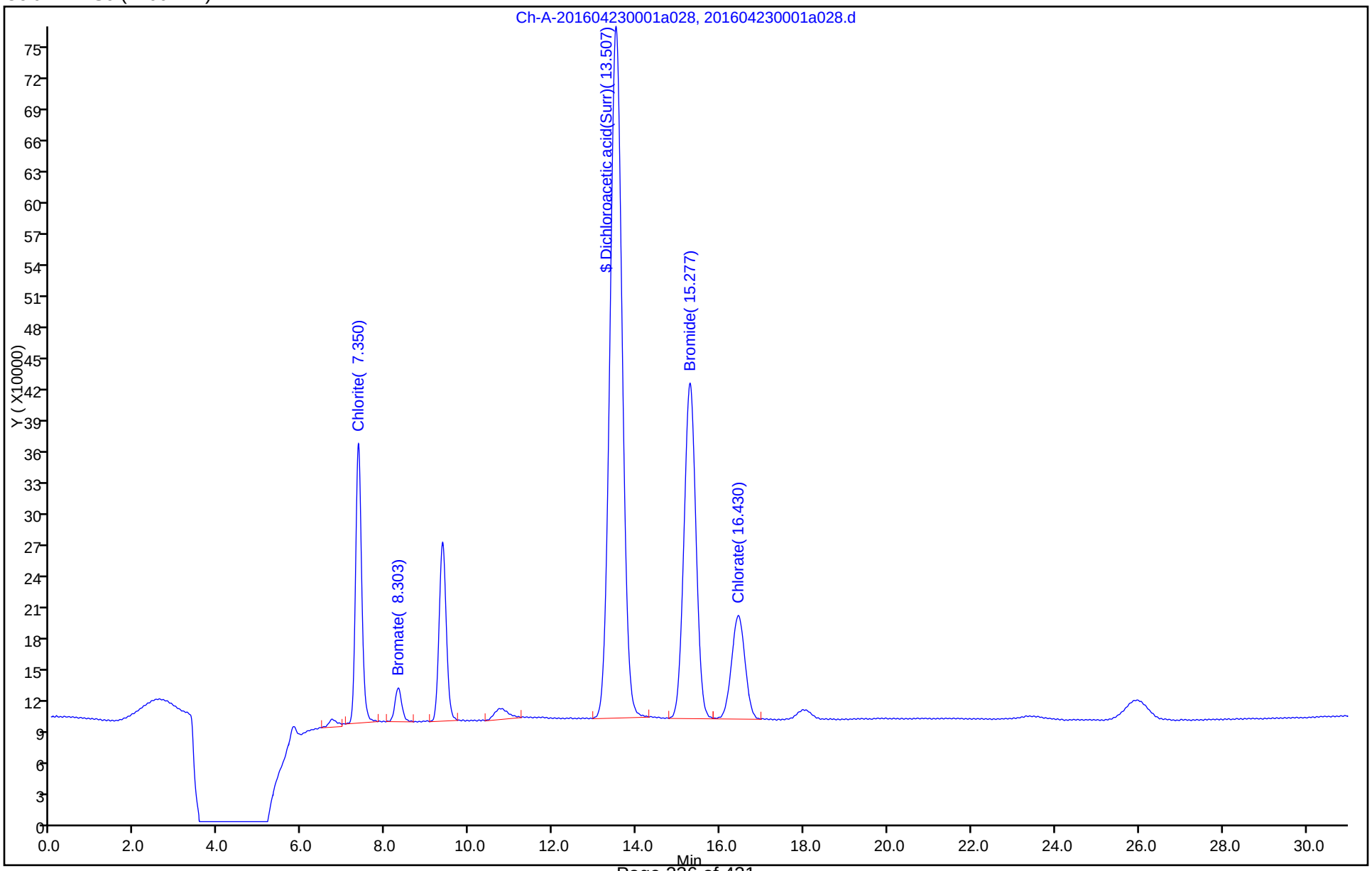
Report Date: 24-Apr-2016 05:40:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a028.d

Injection Date:	23-Apr-2016 23:05:35	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine

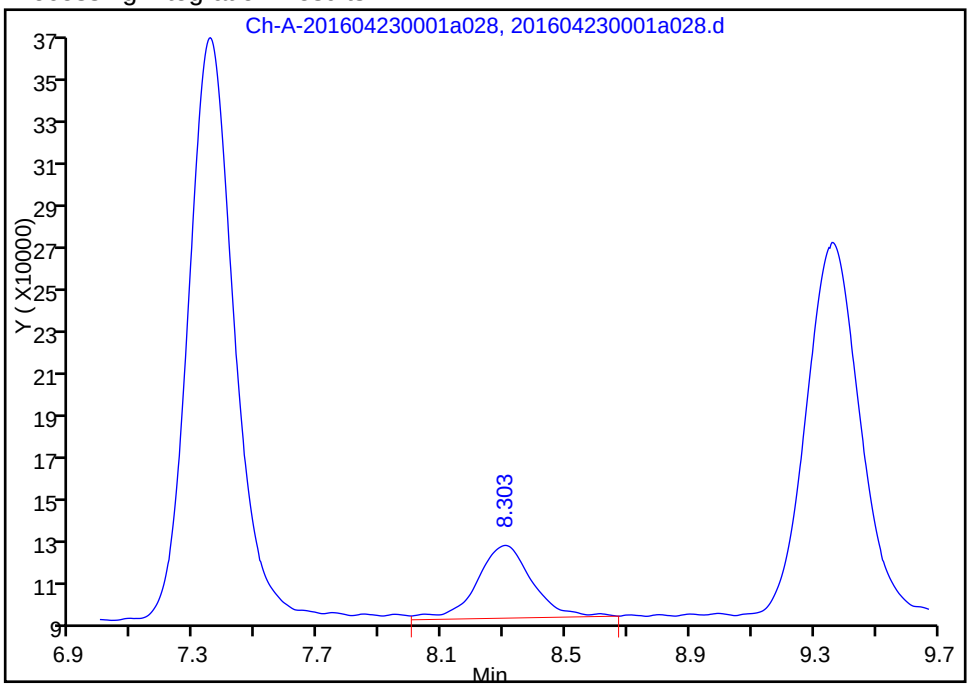
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a028.d				
Injection Date:	23-Apr-2016 23:05:35	Instrument ID:	IC-7		
Lims ID:	CCV				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

Signal: 1

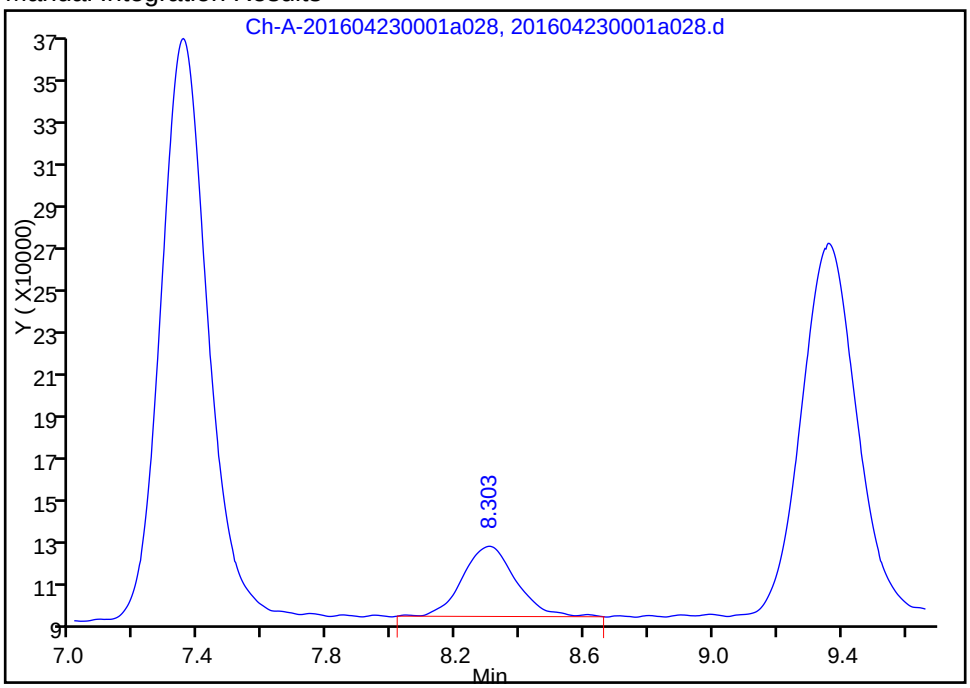
Processing Integration Results

RT: 8.30
Area: 416670
Amount: 28.349828
Amount Units: ug/l



Manual Integration Results

RT: 8.30
Area: 372779
Amount: 25.339045
Amount Units: ug/l



Reviewer: zakhrabovy, 24-Apr-2016 05:15:10
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/40 Calibration Date: 04/24/2016 05:53

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a040.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14376		49.1	50.1	-1.8	15.0
Bromide	Lin		25906		518	500	3.7	15.0
Chlorate	Lin		22197		198	200	-0.9	15.0
Dichloroacetic acid(Surr)	Ave	13004	13392		1020	994	3.0	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/40 Calibration Date: 04/24/2016 05:53

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a040.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.26	7.64	8.79
Bromide	15.17	14.00	16.10
Chlorate	16.31	15.42	17.04
Dichloroacetic acid(Surr)	13.43	13.48	15.51

Form VII 300.1B

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a040.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Apr-2016 05:53:10 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 440-0072215-040
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7
Sublist: chrom-300.1_C7*sub6

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 24-Apr-2016 06:33:24 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK005

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 06:33:24

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.317	7.267	0.050	5430540	NC	NC	M
3 Bromate	8.263	8.213	0.050	719521	50.1	49.1	M
$ 6 Dichloroacetic acid(Surr)	13.430	13.370	0.060	13307749	993.7	1023.4	
4 Bromide	15.173	15.050	0.123	12952859	500.0	518.5	
2 Chlorate	16.313	16.230	0.083	4439394	200.0	198.2	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 250.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

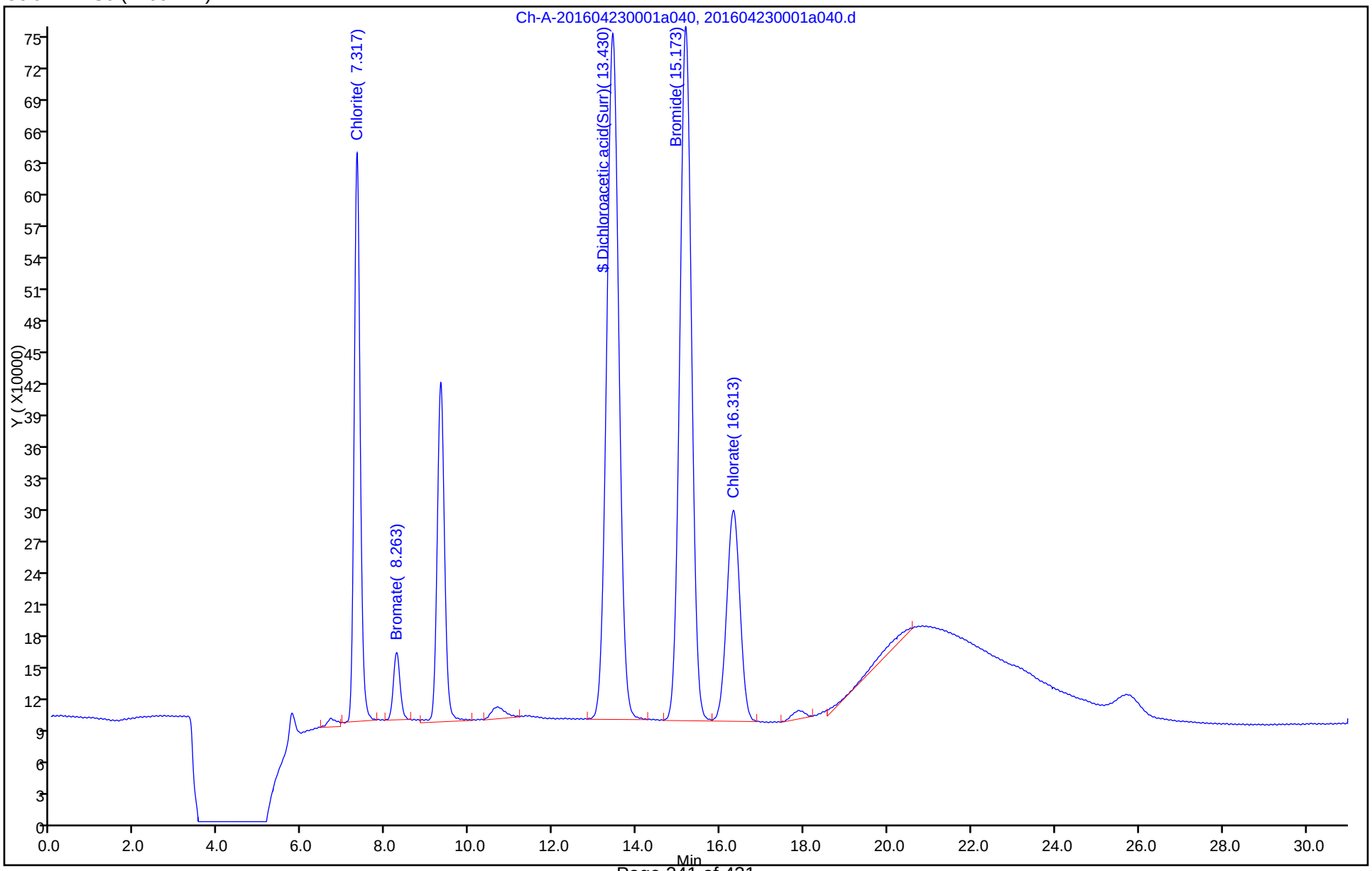
Report Date: 24-Apr-2016 06:33:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a040.d

Injection Date:	24-Apr-2016 05:53:10	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

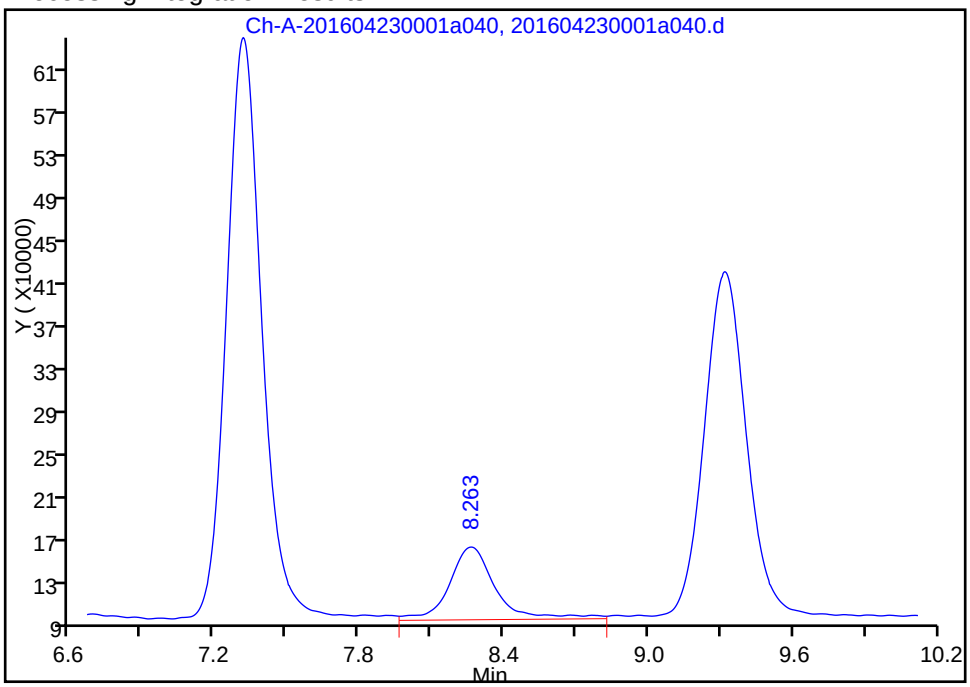
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a040.d				
Injection Date:	24-Apr-2016 05:53:10	Instrument ID:	IC-7		
Lims ID:	CCV				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

Signal: 1

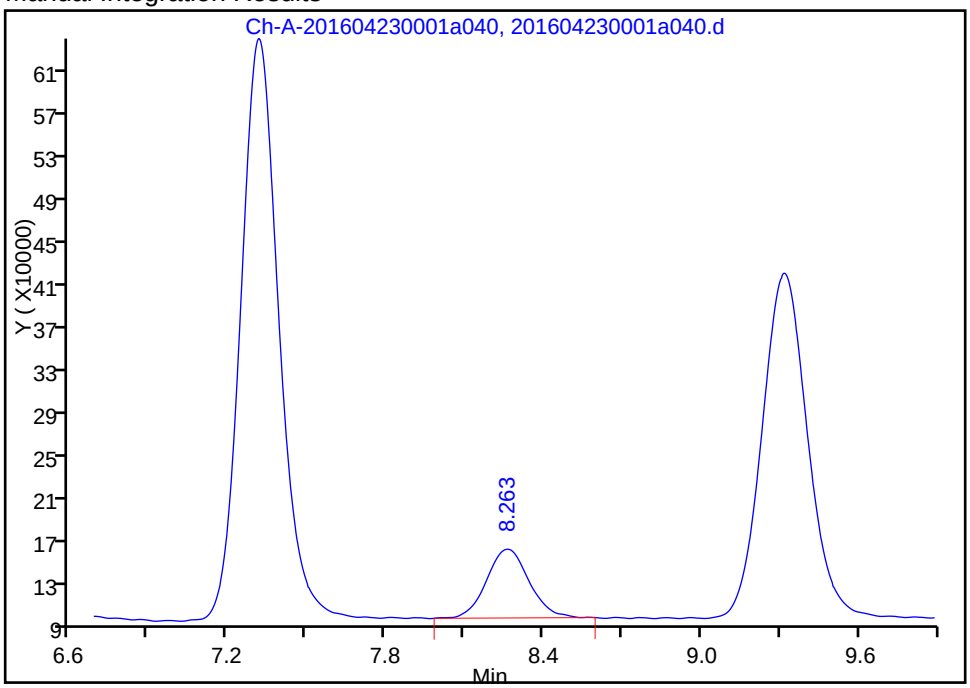
Processing Integration Results

RT: 8.26
Area: 906551
Amount: 61.954110
Amount Units: ug/l



Manual Integration Results

RT: 8.26
Area: 719521
Amount: 49.124446
Amount Units: ug/l



Reviewer: zakhrabovy, 24-Apr-2016 06:33:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/47 Calibration Date: 04/24/2016 09:45

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a047.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15302		26.0	25.0	4.0	15.0
Bromide	Lin		26182		259	250	3.5	15.0
Chlorate	Lin		22928		102	100	1.6	15.0
Dichloroacetic acid(Surr)	Ave	13004	12713		971	994	-2.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-326094/47 Calibration Date: 04/24/2016 09:45

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a047.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.26	7.64	8.79
Bromide	15.26	14.00	16.10
Chlorate	16.40	15.42	17.04
Dichloroacetic acid(Surr)	13.46	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a047.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Apr-2016 09:45:25 ALS Bottle#: 0 Worklist Smp#: 47
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 440-0072215-047
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7
Sublist: chrom-300.1_C7*sub6

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 24-Apr-2016 10:35:30 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK005

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 10:35:30

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.317	7.267	0.050	2910467	NC	NC	
3 Bromate	8.263	8.213	0.050	382924	25.0	26.0	M
$ 6 Dichloroacetic acid(Surr)	13.460	13.370	0.090	12632678	993.7	971.5	
4 Bromide	15.257	15.050	0.207	6545390	250.0	258.8	
2 Chlorate	16.400	16.230	0.170	2292778	100.0	101.6	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 125.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

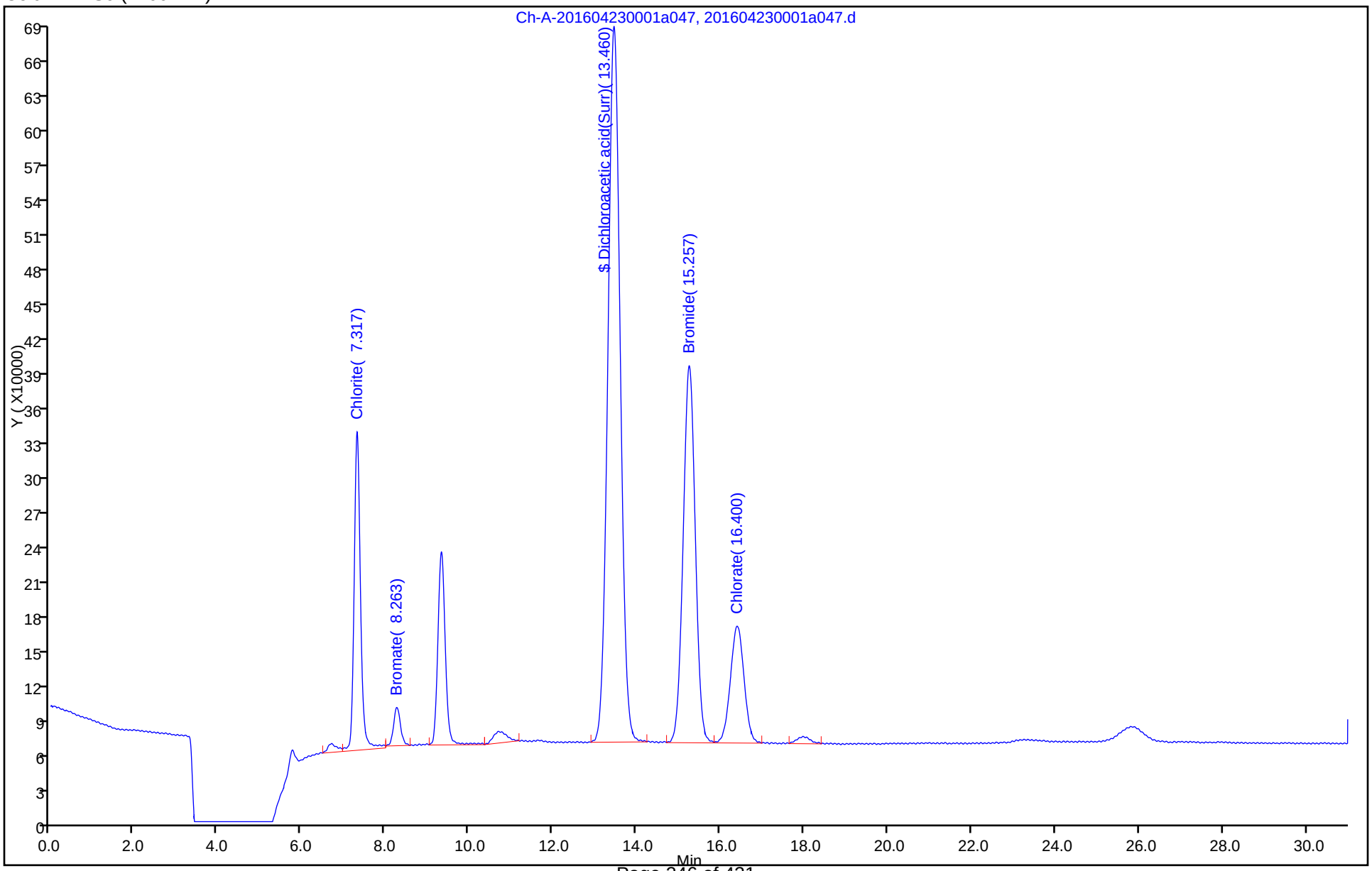
Report Date: 24-Apr-2016 10:35:36 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a047.d

Injection Date:	24-Apr-2016 09:45:25	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	47
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

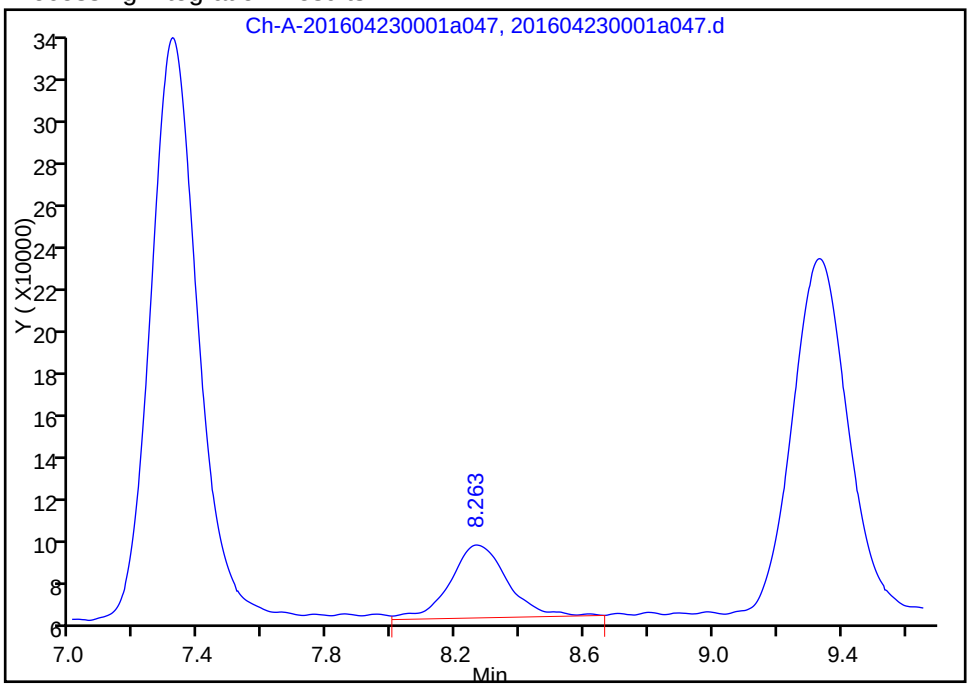
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a047.d				
Injection Date:	24-Apr-2016 09:45:25	Instrument ID:	IC-7		
Lims ID:	CCV				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	47
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

Signal: 1

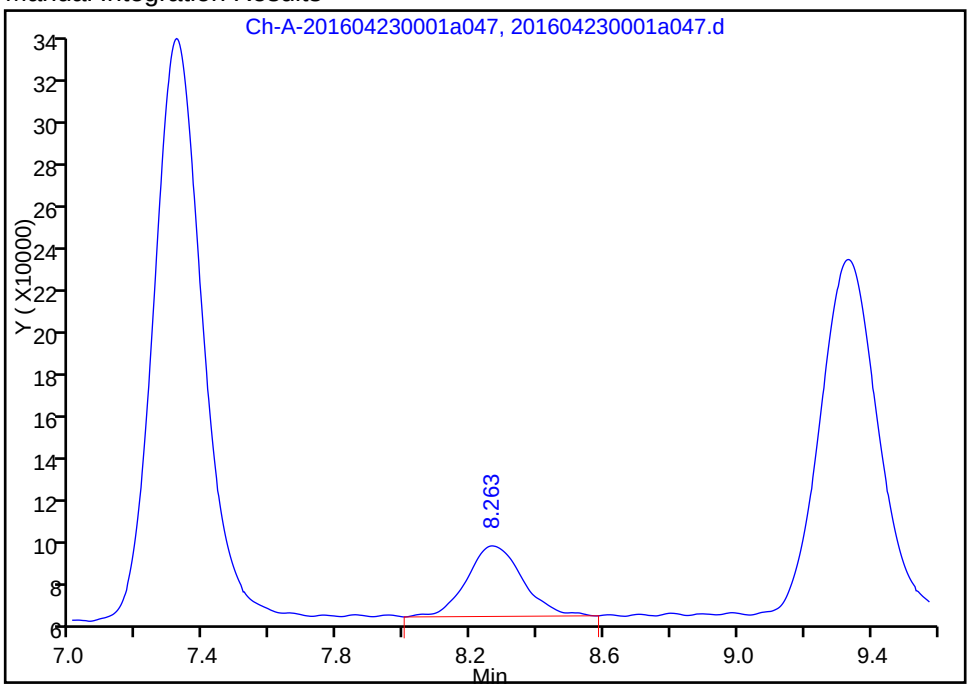
Processing Integration Results

RT: 8.26
Area: 422400
Amount: 28.742888
Amount Units: ug/l



Manual Integration Results

RT: 8.26
Area: 382924
Amount: 26.034960
Amount Units: ug/l



Reviewer: zakhrabovy, 24-Apr-2016 10:35:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-326094/5
Matrix: Water
Lab File ID: 201604230001a005.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 10:22
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a005.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Apr-2016 10:22:27	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-005				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.527	13.370	0.157	13408777	993.7	1031.2	
$ 1 Dichloroacetic acid	13.527	13.833	-0.306	13408777		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

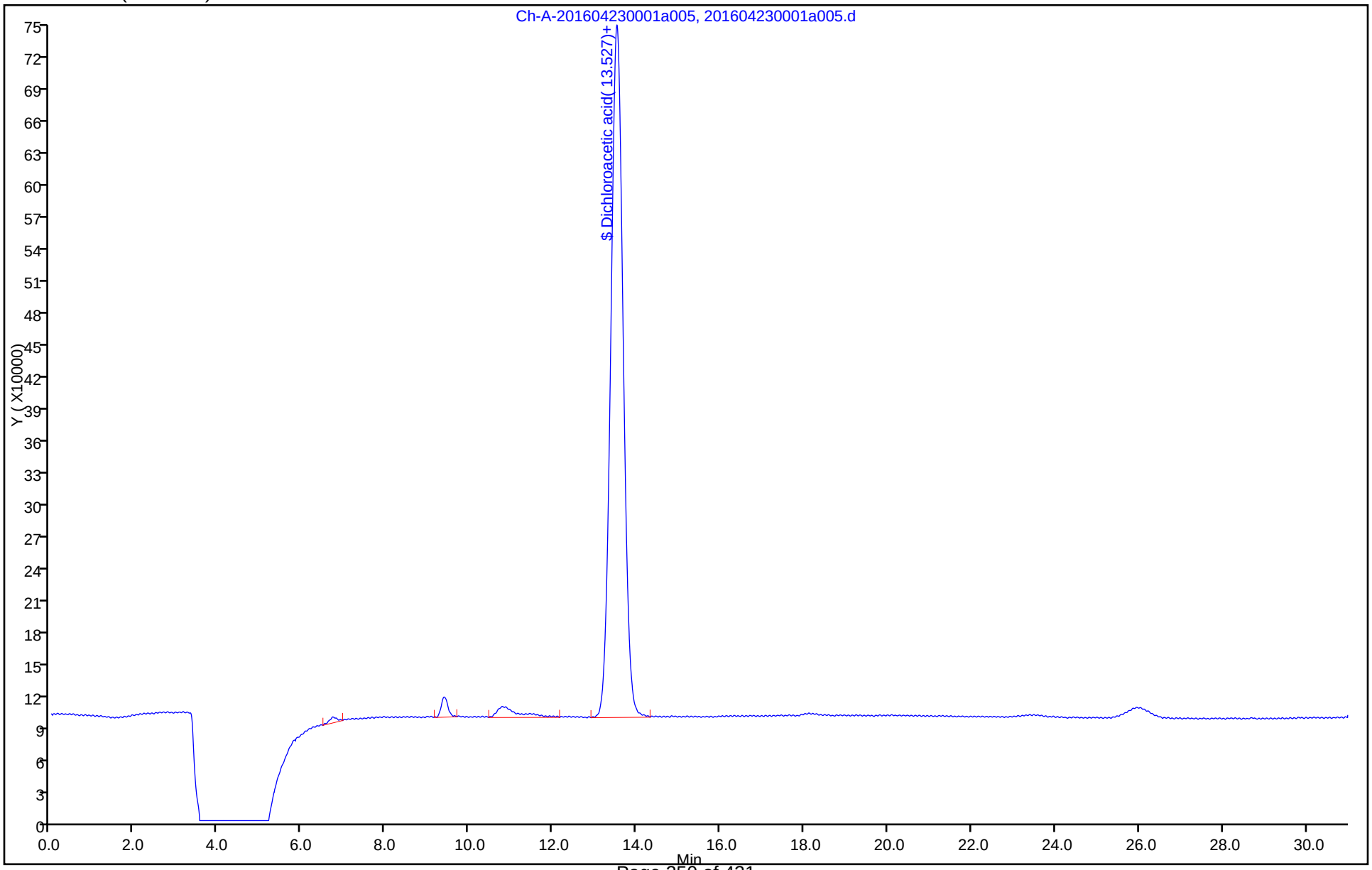
Report Date: 23-Apr-2016 12:25:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a005.d

Injection Date:	23-Apr-2016 10:22:27	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MB			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/17
Matrix: Water
Lab File ID: 201604230001a017.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 17:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a017.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	23-Apr-2016 17:00:36	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-017				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:11:45	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 05:11:45		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.460	13.370	0.090	13361097	993.7	1027.5	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

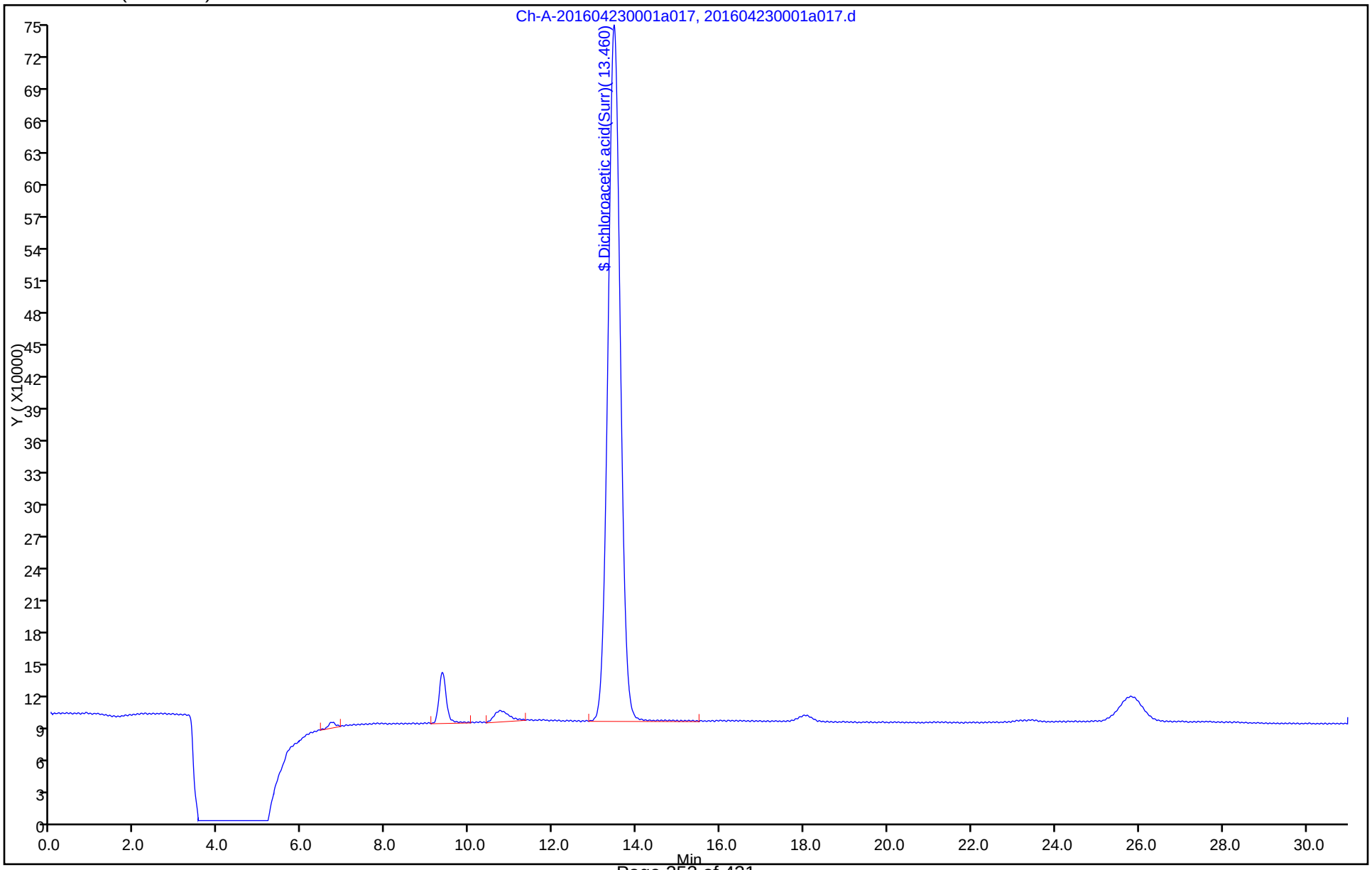
Report Date: 24-Apr-2016 05:11:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a017.d

Injection Date:	23-Apr-2016 17:00:36	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/29
Matrix: Water
Lab File ID: 201604230001a029.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 23:38
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a029.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	23-Apr-2016 23:38:45	ALS Bottle#:	0	Worklist Smp#:	29
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-029				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 05:40:50	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 05:15:17		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.500	13.370	0.130	13412952	993.7	1031.5	
$ 1 Dichloroacetic acid	13.500	13.833	-0.333	13412952		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

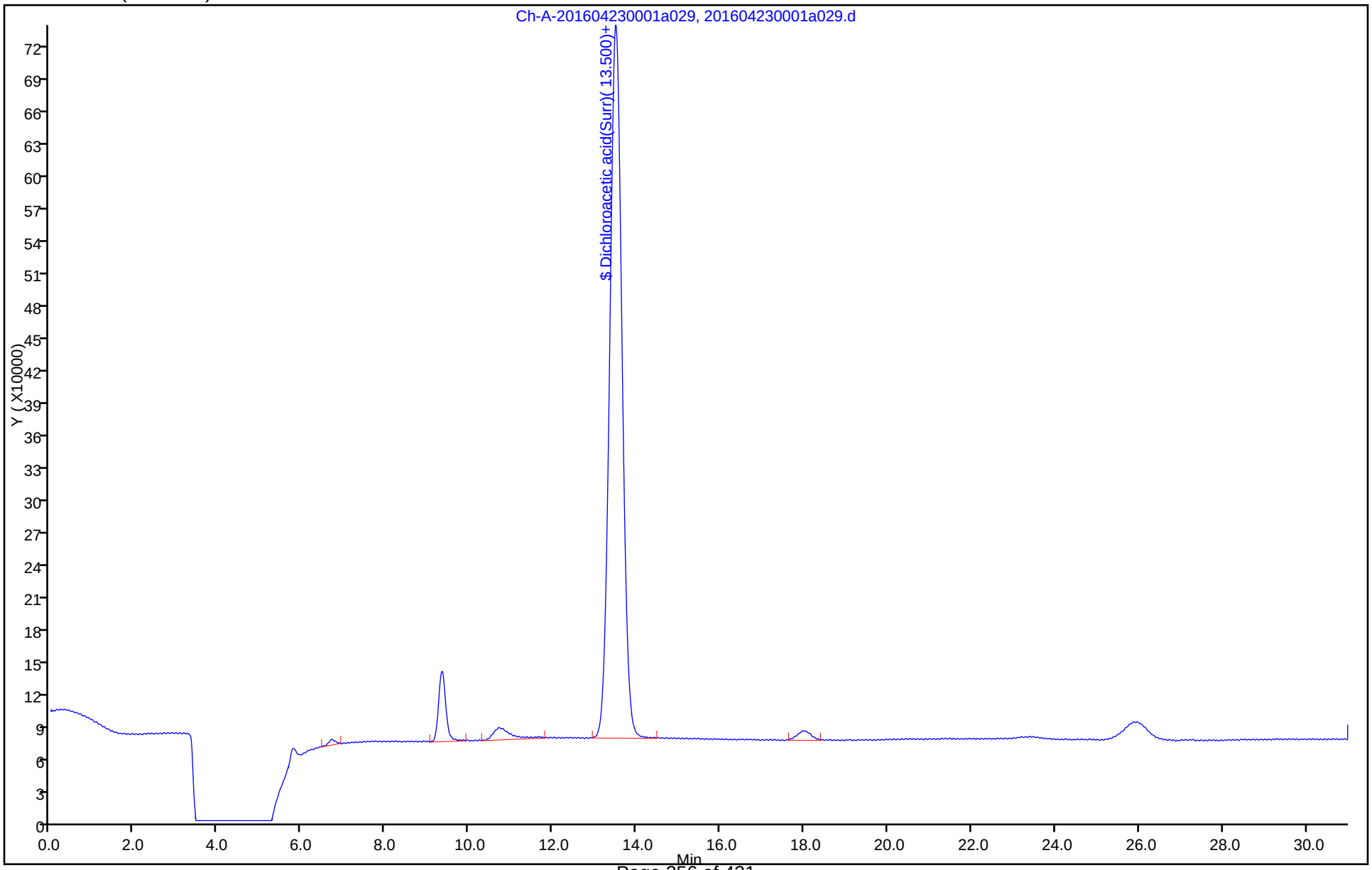
Report Date: 24-Apr-2016 05:40:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a029.d

Injection Date:	23-Apr-2016 23:38:45	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/41
Matrix: Water
Lab File ID: 201604230001a041.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/24/2016 06:26
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a041.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	24-Apr-2016 06:26:20	ALS Bottle#:	0	Worklist Smp#:	41
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-041				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 07:55:05	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 07:55:05		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.437	13.370	0.067	13474962	993.7	1036.2	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

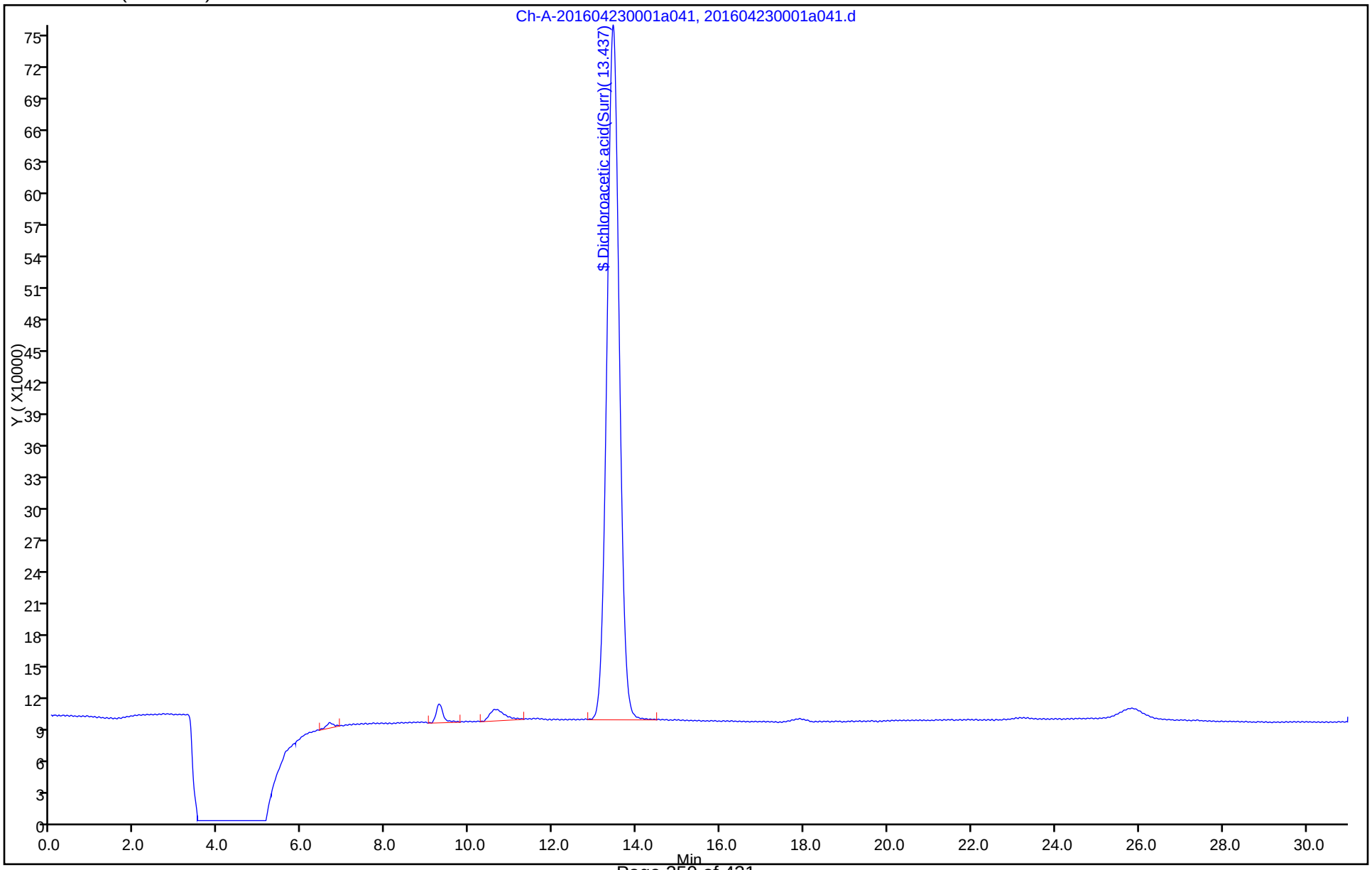
Report Date: 24-Apr-2016 07:55:06 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a041.d

Injection Date:	24-Apr-2016 06:26:20	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/55
Matrix: Water
Lab File ID: 201604230001a048.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/24/2016 10:18
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	111		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a048.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	24-Apr-2016 10:18:36	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-048				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	24-Apr-2016 10:57:23	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	24-Apr-2016 10:57:42		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.530	13.370	0.160	14386746	993.7	1106.4	
$ 1 Dichloroacetic acid	13.530	13.833	-0.303	14386746		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

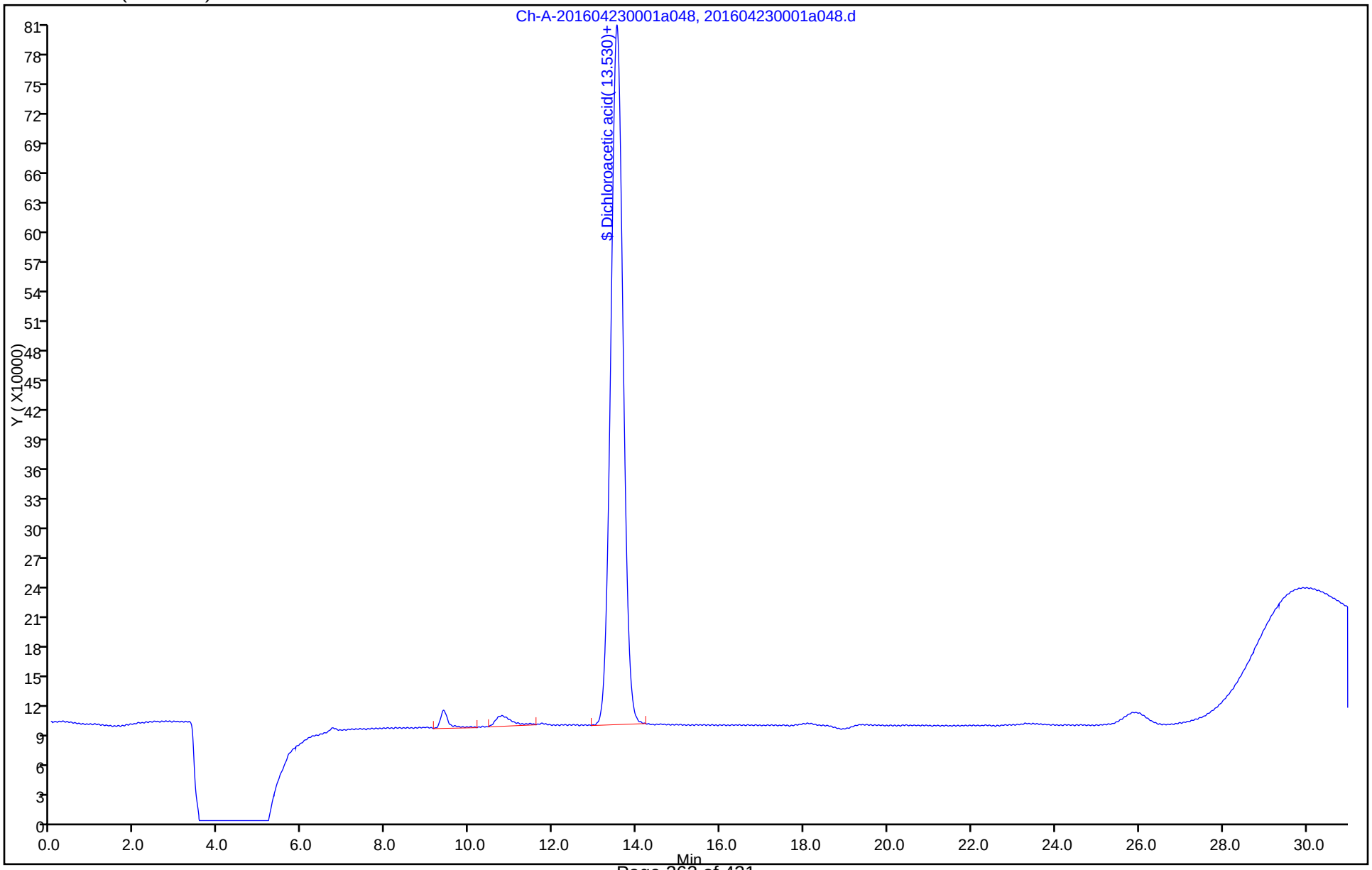
Report Date: 24-Apr-2016 10:57:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a048.d

Injection Date:	24-Apr-2016 10:18:36	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	55
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-326094/4
Matrix: Water
Lab File ID: 201604230001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	98.0		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a004.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Apr-2016 09:49:16	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-004				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK018				
First Level Reviewer: zakhrabovy		Date:	23-Apr-2016 12:24:27		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.423	7.267	0.156	2651883	NC	NC	M
3 Bromate	8.393	8.213	0.180	343399	25.0	23.3	M
$ 6 Dichloroacetic acid(Surr)	13.633	13.370	0.263	13574777	993.7	1043.9	
4 Bromide	15.460	15.050	0.410	6355912	250.0	251.1	
2 Chlorate	16.613	16.230	0.383	2213018	100.0	98.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

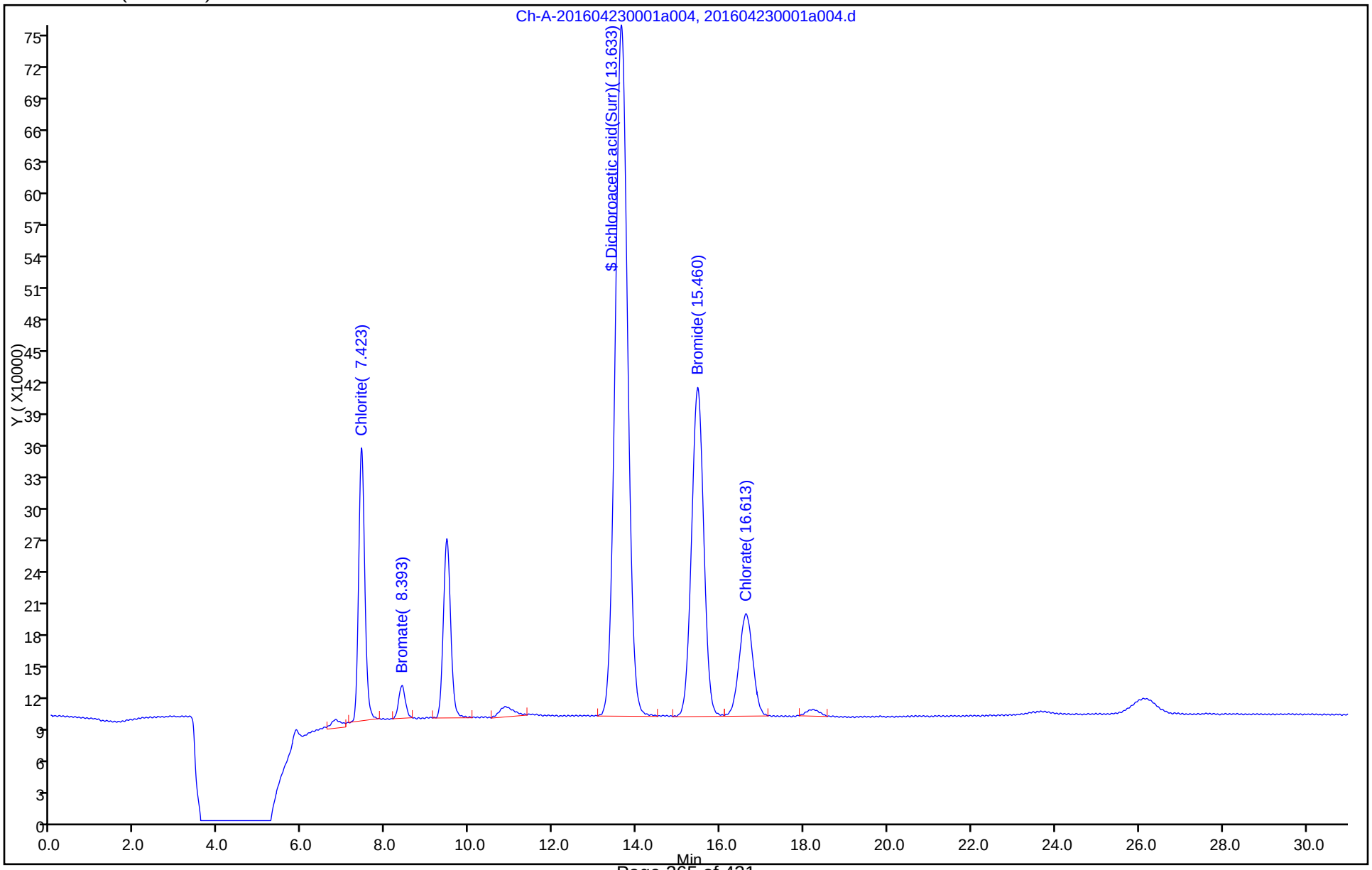
Report Date: 23-Apr-2016 12:25:18 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a004.d

Injection Date:	23-Apr-2016 09:49:16	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-326094/3
Matrix: Water
Lab File ID: 201604230001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.0	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	23-Apr-2016 09:16:05	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072215-003				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	23-Apr-2016 12:24:40	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK018	

First Level Reviewer: zakhrabovy Date: 23-Apr-2016 12:23:55

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	5 Chlorite	7.343	7.267	0.076	576282	NC	NC	M
	3 Bromate	8.287	8.213	0.074	78404	5.01	5.15	
$	6 Dichloroacetic acid(Surr)	13.520	13.370	0.150	13644290	993.7	1049.3	
$	1 Dichloroacetic acid	13.520	13.833	-0.313	13644290		NC	
	4 Bromide	15.320	15.050	0.270	1366163	50.0	48.9	
	2 Chlorate	16.467	16.230	0.237	457537	20.0	19.0	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

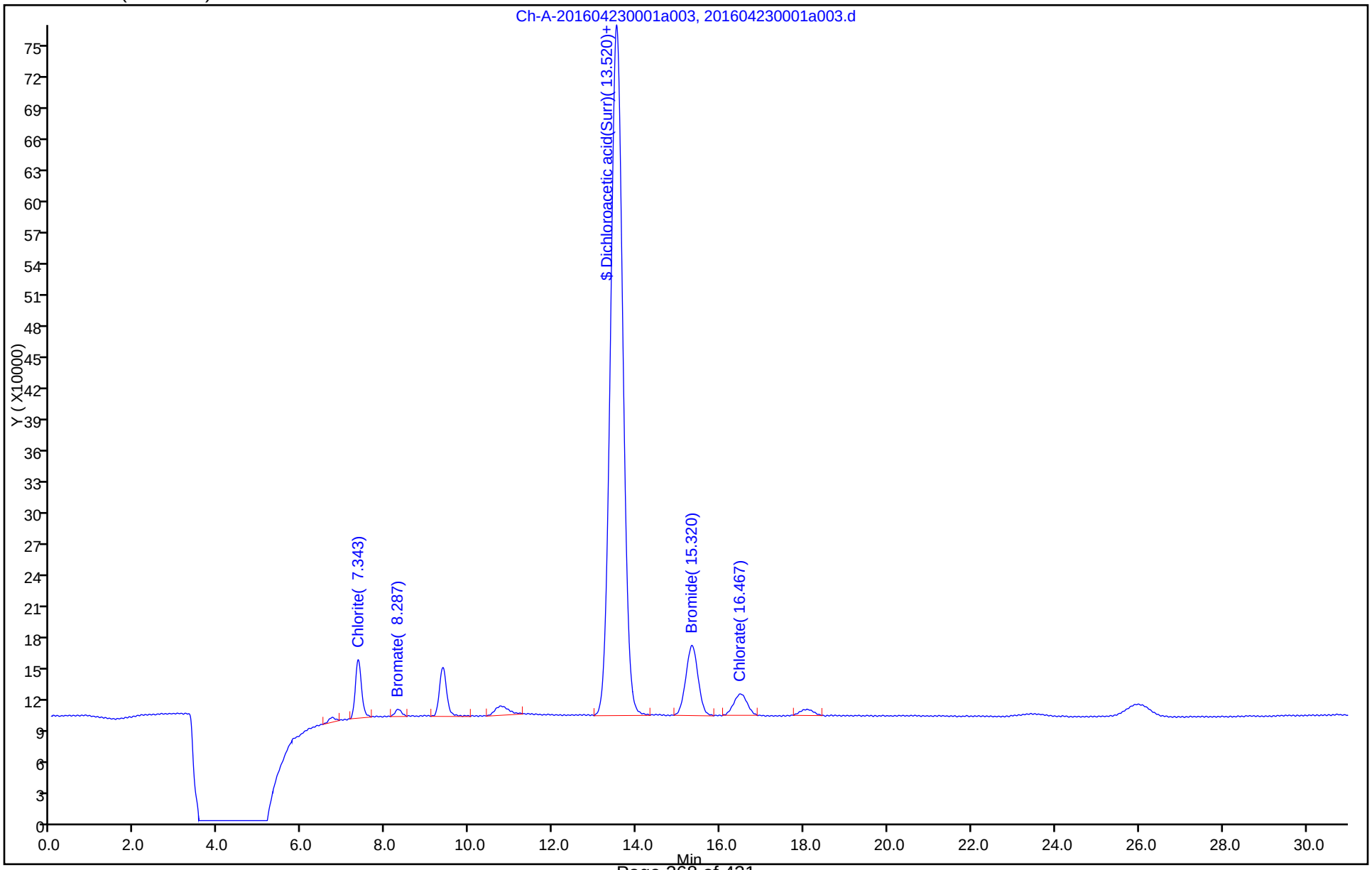
Report Date: 23-Apr-2016 12:25:17 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d

Injection Date:	23-Apr-2016 09:16:05	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

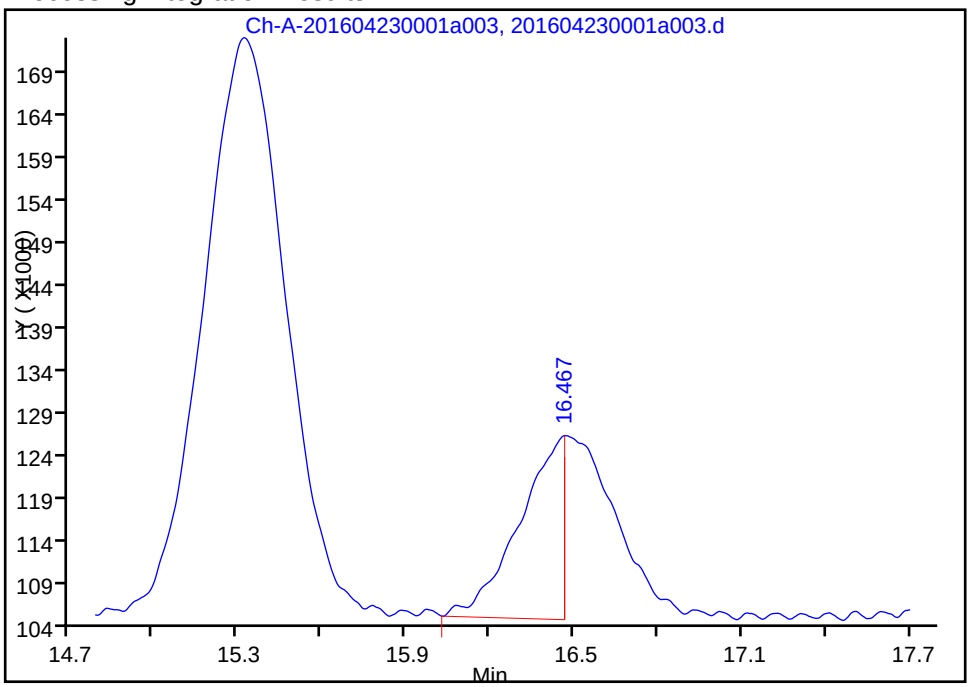
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a003.d				
Injection Date:	23-Apr-2016 09:16:05	Instrument ID:	IC-7		
Lims ID:	MRL				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

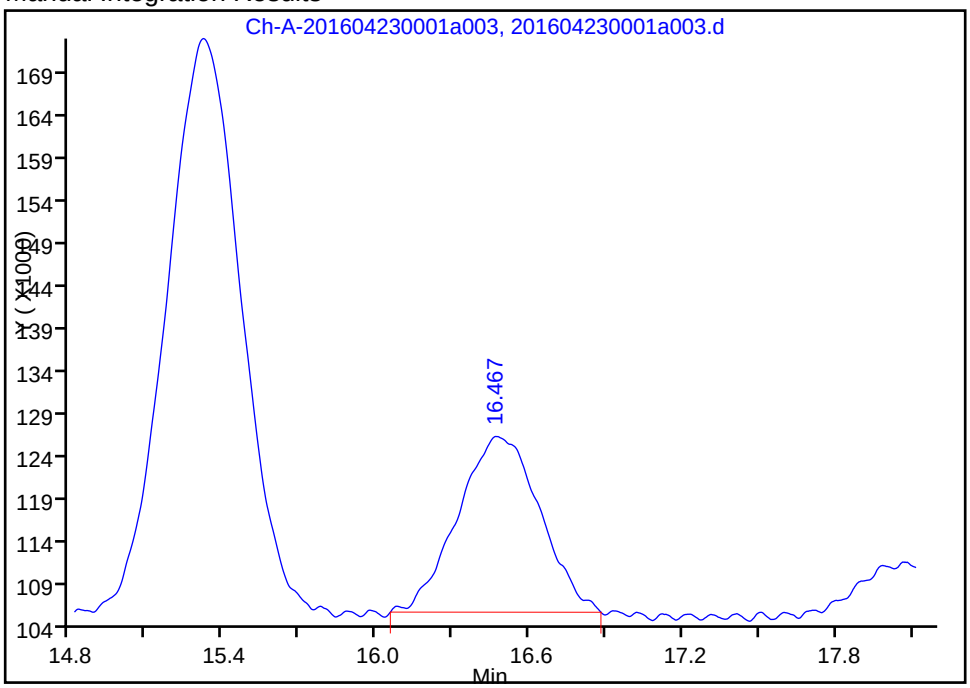
Processing Integration Results

RT: 16.47
Area: 230772
Amount: 8.800354
Amount Units: ug/l



Manual Integration Results

RT: 16.47
Area: 457537
Amount: 19.004167
Amount Units: ug/l



Reviewer: zakhrabovy, 23-Apr-2016 12:23:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-1 MS
Matrix: Water
Lab File ID: 201604230001a010.d
Analysis Method: 300.1B
Date Collected: 04/21/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 13:08
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	426		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a010.d				
Lims ID:	440-145185-A-1 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	23-Apr-2016 13:08:21	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072215-010				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	24-Apr-2016 05:09:26	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK005	

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:09:26

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.323	7.267	0.056	2654737	NC	NC	
3 Bromate	8.303	8.213	0.090	234163	25.0	15.8	M
$ 6 Dichloroacetic acid(Surr)	13.500	13.370	0.130	13379963	496.9	1028.9	
$ 1 Dichloroacetic acid	13.500	13.833	-0.333	13379963		NC	
4 Bromide	15.300	15.050	0.250	8878764	250.0	353.3	
2 Chlorate	16.453	16.230	0.223	4763487	100.0	212.8	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

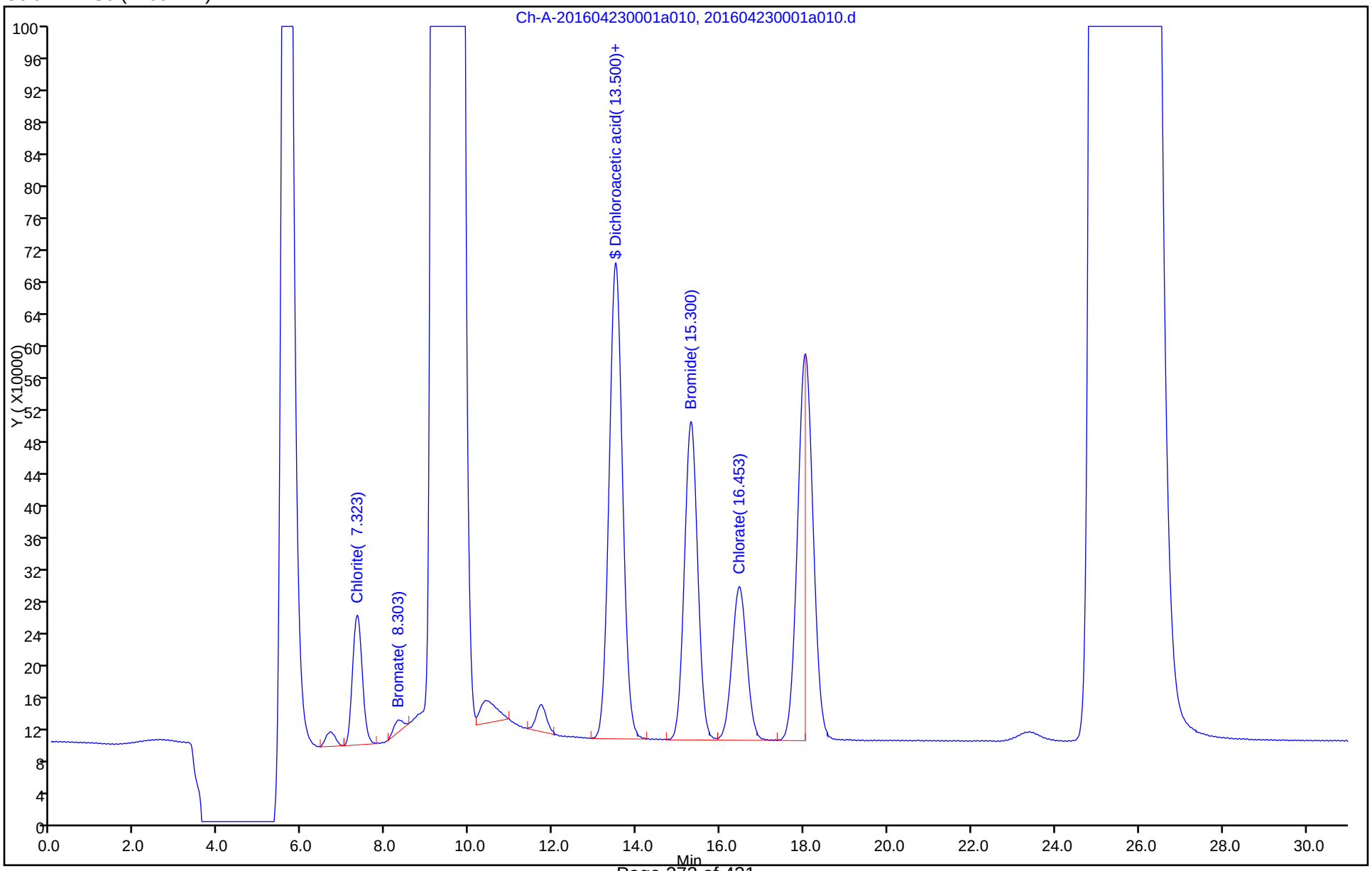
Report Date: 24-Apr-2016 05:09:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a010.d

Injection Date:	23-Apr-2016 13:08:21	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145185-A-1 MS			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-2 MS
Matrix: Water
Lab File ID: 201604230001a019.d
Analysis Method: 300.1B
Date Collected: 04/22/2016 06:54
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 18:06
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	437		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a019.d				
Lims ID:	440-145185-A-2 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	23-Apr-2016 18:06:58	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072215-019				
Misc. Info.:	Study: 72215 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	24-Apr-2016 05:12:16	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK005	

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:12:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.340	7.267	0.073	2706838	NC	NC	
3 Bromate	8.337	8.213	0.124	253850	25.0	17.2	M
$ 6 Dichloroacetic acid(Surr)	13.553	13.370	0.183	13636859	496.9	1048.7	
$ 1 Dichloroacetic acid	13.553	13.833	-0.280	13636859		NC	
4 Bromide	15.380	15.050	0.330	8659564	250.0	344.5	
2 Chlorate	16.527	16.230	0.297	4885910	100.0	218.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

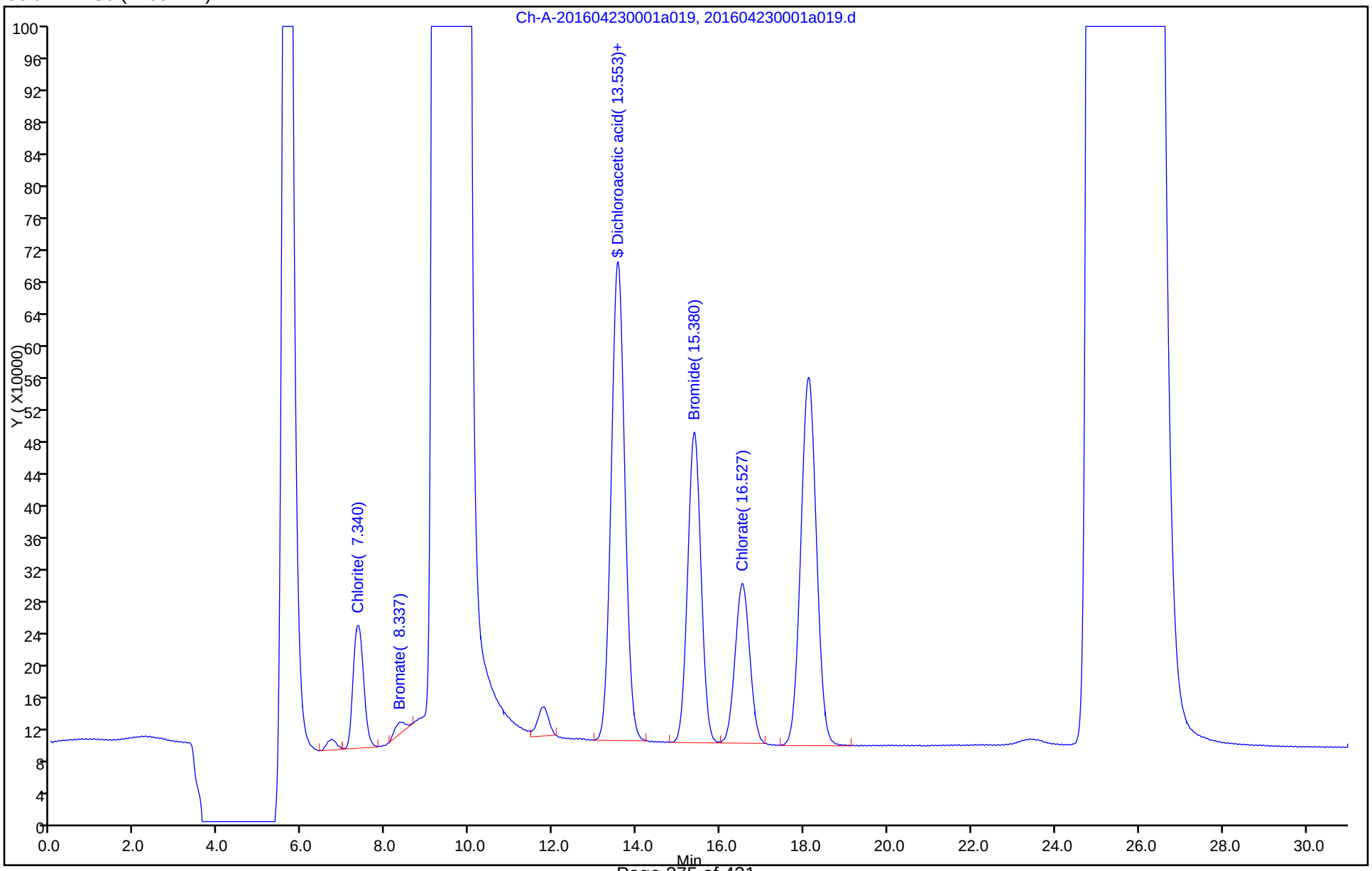
Report Date: 24-Apr-2016 05:12:16 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a019.d

Injection Date:	23-Apr-2016 18:06:58	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145185-A-2 MS			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-1 MSD
Matrix: Water
Lab File ID: 201604230001a011.d
Analysis Method: 300.1B
Date Collected: 04/21/2016 10:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 13:41
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	424		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a011.d
Lims ID: 440-145185-A-1 MSD
Client ID:
Sample Type: MSD
Inject. Date: 23-Apr-2016 13:41:31 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: #: 001 Name: 440-0072215-011
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 24-Apr-2016 05:09:44 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK005

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:09:44

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.310	7.267	0.043	2686815	NC	NC	
3 Bromate	8.300	8.213	0.087	233246	25.0	15.8	M
$ 6 Dichloroacetic acid(Surr)	13.487	13.370	0.117	13579579	496.9	1044.3	
$ 1 Dichloroacetic acid	13.487	13.833	-0.346	13579579		NC	
4 Bromide	15.297	15.050	0.247	8835279	250.0	351.6	
2 Chlorate	16.450	16.230	0.220	4743441	100.0	211.9	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 250.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

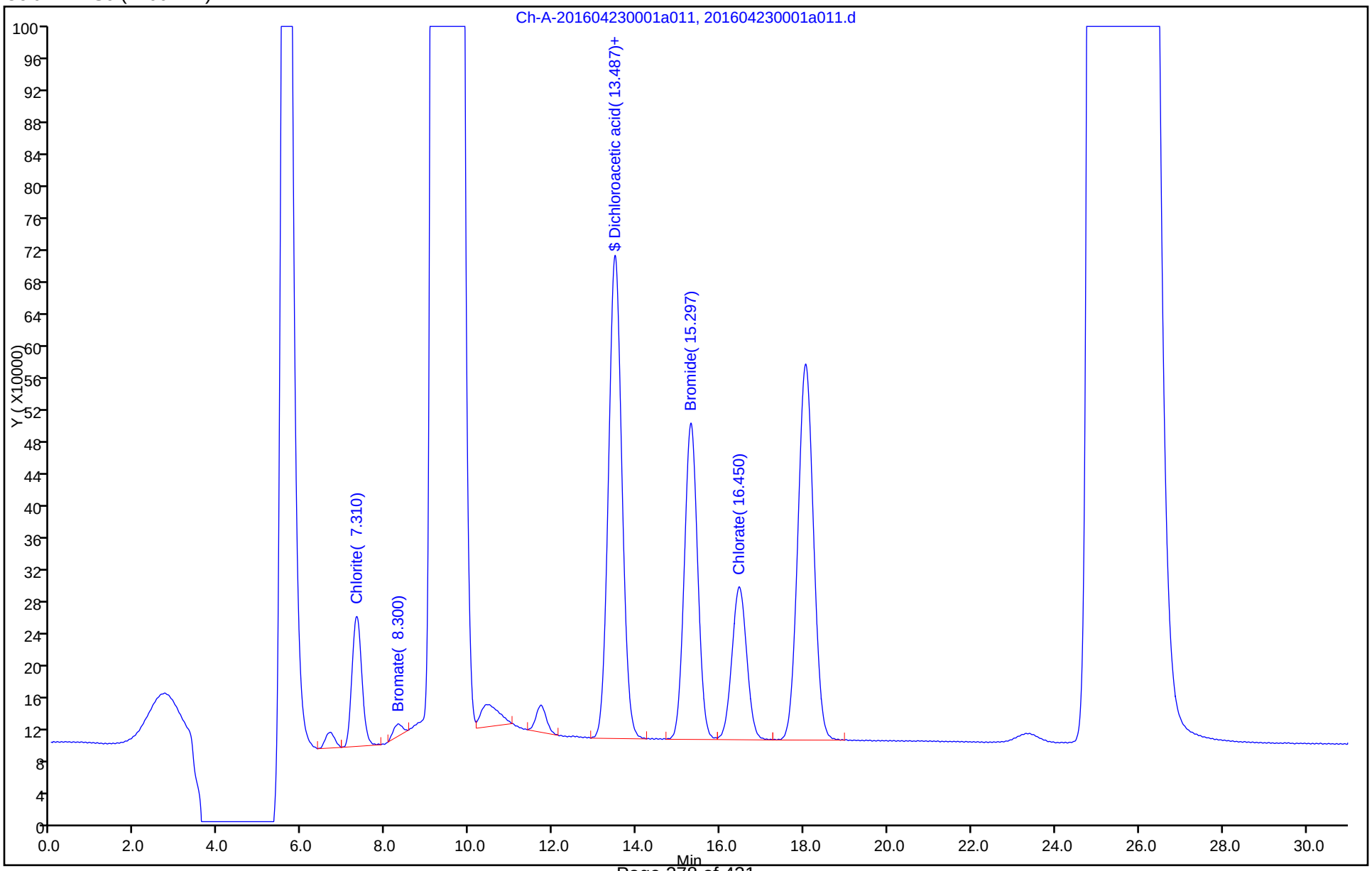
Report Date: 24-Apr-2016 05:09:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a011.d

Injection Date:	23-Apr-2016 13:41:31	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145185-A-1 MSD			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-2 MSD
Matrix: Water
Lab File ID: 201604230001a020.d
Analysis Method: 300.1B
Date Collected: 04/22/2016 06:54
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 18:40
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	446		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a020.d
Lims ID: 440-145185-A-2 MSD
Client ID:
Sample Type: MSD
Inject. Date: 23-Apr-2016 18:40:08 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: #: 001 Name: 440-0072215-020
Misc. Info.: Study: 72215 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 24-Apr-2016 05:12:42 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK005

First Level Reviewer: zakhrabovy Date: 24-Apr-2016 05:12:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.280	7.267	0.013	2743651	NC	NC	
3 Bromate	8.263	8.213	0.050	237904	25.0	16.1	M
$ 6 Dichloroacetic acid(Surr)	13.457	13.370	0.087	13483944	496.9	1036.9	
4 Bromide	15.207	15.050	0.157	8624361	250.0	343.0	
2 Chlorate	16.370	16.230	0.140	4991767	100.0	223.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034 Amount Added: 250.00 Units: uL
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

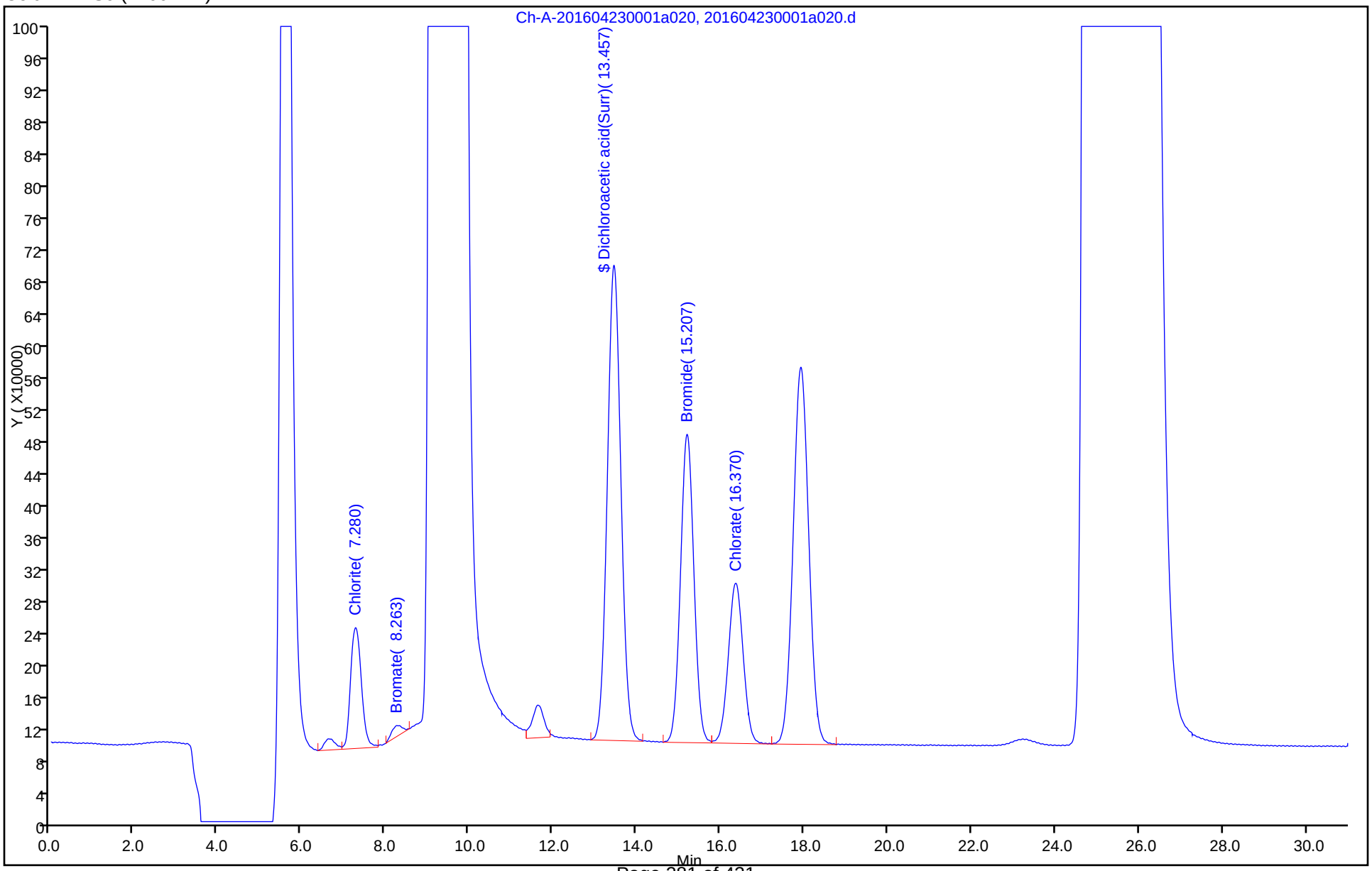
Report Date: 24-Apr-2016 05:12:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160423-72215.b\201604230001a020.d

Injection Date:	23-Apr-2016 18:40:08	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145185-A-2 MSD			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		01/28/2016 07:34	1		AS9-HC 4(mm)
STD0 440-308526/2 IC		01/28/2016 08:07	1	20160128a0002.d	AS9-HC 4(mm)
STD1 440-308526/3 IC		01/28/2016 08:41	1	20160128a0003.d	AS9-HC 4(mm)
STD2 440-308526/4 IC		01/28/2016 09:14	1	20160128a0004.d	AS9-HC 4(mm)
STD3 440-308526/5 IC		01/28/2016 09:47	1	20160128a0005.d	AS9-HC 4(mm)
STD4 440-308526/6 IC		01/28/2016 10:20	1	20160128a0006.d	AS9-HC 4(mm)
STD5 440-308526/7 IC		01/28/2016 10:53	1	20160128a0007.d	AS9-HC 4(mm)
ICV 440-308526/8		01/28/2016 11:30	1		AS9-HC 4(mm)
ICB 440-308526/9		01/28/2016 12:04	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 12:37	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:10	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:43	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:16	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:50	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:23	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:56	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 16:29	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 17:02	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 18:42	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 19:15	5		AS9-HC 4(mm)
CCV 440-308526/23		01/28/2016 19:48	1		AS9-HC 4(mm)
CCB 440-308526/24		01/28/2016 20:21	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 20:54	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 21:28	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 22:01	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:20	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:53	1		AS9-HC 4(mm)
CCV 440-308526/35		01/29/2016 02:26	1		AS9-HC 4(mm)
CCB 440-308526/36		01/29/2016 02:59	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 03:33	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 04:09	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:01	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:34	10		AS9-HC 4(mm)
CCV 440-308526/47		01/29/2016 09:08	1		AS9-HC 4(mm)
CCB 440-308526/48		01/29/2016 09:41	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 10:14	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:20	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:54	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 12:27	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:00	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:33	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:06	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:39	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 15:13	10		AS9-HC 4(mm)
CCV 440-308526/59		01/29/2016 15:46	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 440-308526/60		01/29/2016 16:19	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/23/2016 08:09

Analysis Batch Number: 326094 End Date: 04/24/2016 10:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/23/2016 08:09	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 08:42	1		AS9-HC 4(mm)
MRL 440-326094/3		04/23/2016 09:16	1	201604230001a003.d	AS9-HC 4(mm)
LCS 440-326094/4		04/23/2016 09:49	1	201604230001a004.d	AS9-HC 4(mm)
MB 440-326094/5		04/23/2016 10:22	1	201604230001a005.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 10:55	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 11:28	5		AS9-HC 4(mm)
440-144940-3		04/23/2016 12:01	500	201604230001a008.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:35	1		AS9-HC 4(mm)
440-145185-A-1 MS		04/23/2016 13:08	2	201604230001a010.d	AS9-HC 4(mm)
440-145185-A-1 MSD		04/23/2016 13:41	2	201604230001a011.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 14:14	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 14:47	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 15:21	100		AS9-HC 4(mm)
440-144940-1		04/23/2016 15:54	1000	201604230001a015.d	AS9-HC 4(mm)
CCV 440-326094/16		04/23/2016 16:27	1	201604230001a016.d	AS9-HC 4(mm)
CCB 440-326094/17		04/23/2016 17:00	1	201604230001a017.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 17:33	1		AS9-HC 4(mm)
440-145185-A-2 MS		04/23/2016 18:06	2	201604230001a019.d	AS9-HC 4(mm)
440-145185-A-2 MSD		04/23/2016 18:40	2	201604230001a020.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 20:52	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:26	10		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:59	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 22:32	10		AS9-HC 4(mm)
CCV 440-326094/28		04/23/2016 23:05	10	201604230001a028.d	AS9-HC 4(mm)
CCB 440-326094/29		04/23/2016 23:38	1	201604230001a029.d	AS9-HC 4(mm)
ZZZZZ		04/24/2016 00:45	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 01:51	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 02:57	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:04	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:37	1000		AS9-HC 4(mm)
ZZZZZ		04/24/2016 05:19	10000		AS9-HC 4(mm)
CCV 440-326094/40		04/24/2016 05:53	1	201604230001a040.d	AS9-HC 4(mm)
CCB 440-326094/41		04/24/2016 06:26	1	201604230001a041.d	AS9-HC 4(mm)
ZZZZZ		04/24/2016 07:32	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 08:39	1		AS9-HC 4(mm)
440-144940-2		04/24/2016 09:12	1	201604230001a046.d	AS9-HC 4(mm)
CCV 440-326094/47		04/24/2016 09:45	1	201604230001a047.d	AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/23/2016 08:09

Analysis Batch Number: 326094 End Date: 04/24/2016 10:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 440-326094/55		04/24/2016 10:18	1	201604230001a048.d	AS9-HC 4(mm)

300.1B

Method 314

Perchlorate (IC) by Method 314

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_2.d

Lab ID: LCS 440-327049/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	24.7	99	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160502_37.d

Lab ID: LCS 440-327714/37 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	24.5	98	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_5.d

Lab ID: MRL 440-327049/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Perchlorate	4.00	3.84 J	96	75-125	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160502_39.d

Lab ID: 440-144516-A-7 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	25.0	450000	477000	95936	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160502_40.d

Lab ID: 440-144516-A-7 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perchlorate	25.0	465000	47070	3	20	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160428_4.d

Lab ID: INF 440-327049/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	25.0	23.1	93	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab File ID: 20160428_3.d Lab Sample ID: MB 440-327049/3

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 04/28/2016 08:33

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-327049/2	20160428_2.d	04/28/2016 08:16
	CCB 440-327049/1003	20160428_3-CCB.d	04/28/2016 08:33
	CCB 440-327049/27	20160428_27.d	04/28/2016 15:12
DBMW-5-20160419	440-144940-1	20160428_28.d	04/28/2016 15:29
DBMW-4-20160419	440-144940-3	20160428_30.d	04/28/2016 16:03
	CCB 440-327049/38	20160428_38.d	04/28/2016 18:18

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab File ID: 20160502_36.d Lab Sample ID: MB 440-327714/36

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 05/02/2016 18:40

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-327714/37	20160502_37.d	05/02/2016 18:57
	440-144516-A-7 MS	20160502_39.d	05/02/2016 19:31
	440-144516-A-7 MSD	20160502_40.d	05/02/2016 19:47
	CCB 440-327714/46	20160502_46.d	05/02/2016 21:29
	CCB 440-327714/55	20160502_55.d	05/03/2016 00:00
DBMW-4-20160419-EB	440-144940-2	20160502_60.d	05/03/2016 01:25
	CCB 440-327714/63	20160502_63.d	05/03/2016 02:15

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-5-20160419
Lab Sample ID: 440-144940-1
Matrix: Water
Lab File ID: 20160428_28.d
Analysis Method: 314.0
Date Collected: 04/19/2016 09:30
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 15:29
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	6900		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_28.d				
Lims ID:	440-144940-B-1				
Client ID:	DBMW-5-20160419				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 15:29:00	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-028				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	29-Apr-2016 10:58:18	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.047	12.057	-0.010	12716390	68.9	

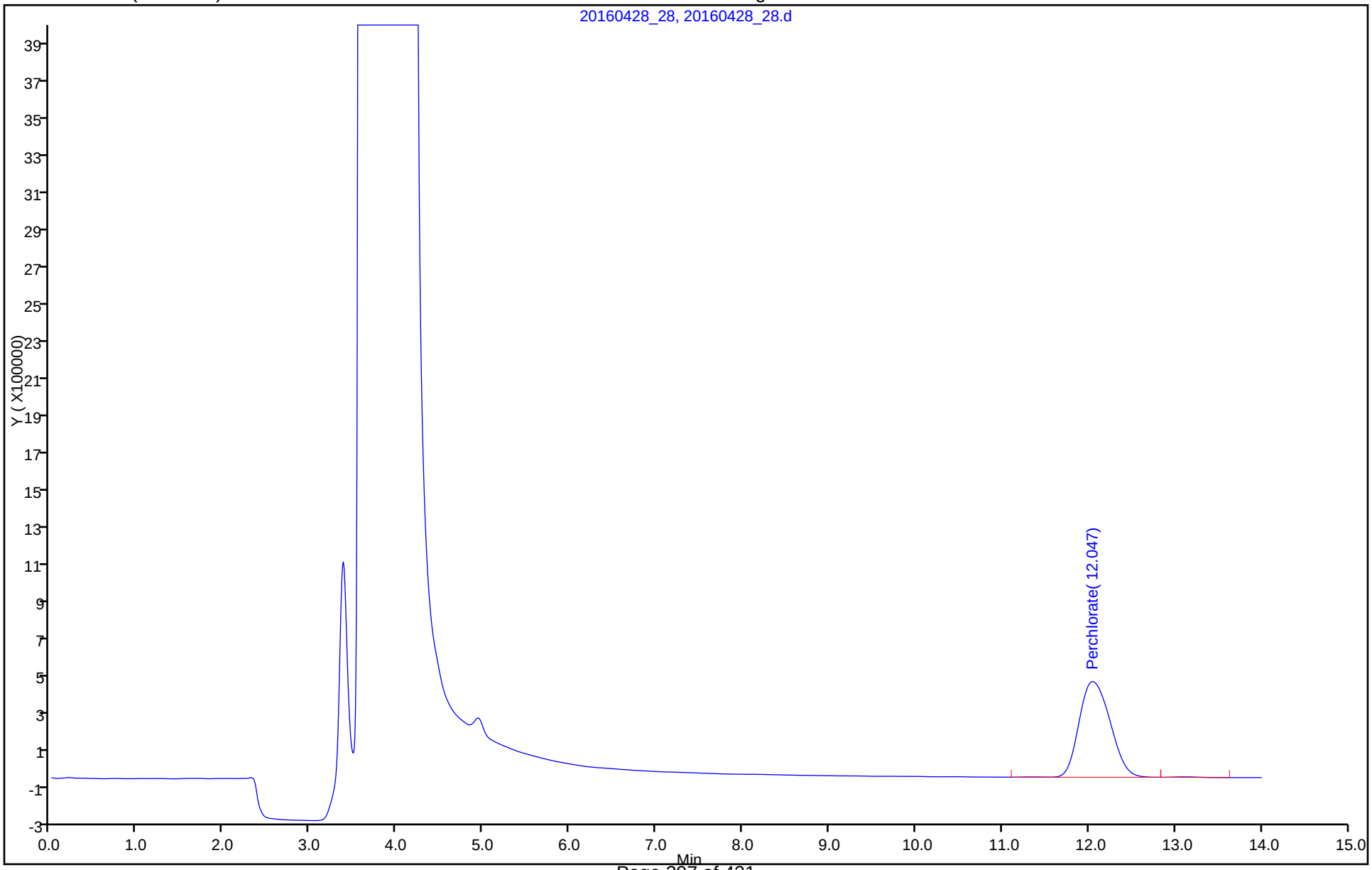
Report Date: 29-Apr-2016 10:58:24 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_28.d

Injection Date:	28-Apr-2016 15:29:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144940-B-1	Lab Sample ID:	440-144940-1	Worklist Smp#:	28
Client ID:	DBMW-5-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419-EB
Lab Sample ID: 440-144940-2
Matrix: Water
Lab File ID: 20160502_60.d
Analysis Method: 314.0
Date Collected: 04/19/2016 11:30
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 01:25
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_60.d				
Lims ID:	440-144940-B-2				
Client ID:	DBMW-4-20160419-EB				
Sample Type:	Client				
Inject. Date:	03-May-2016 01:25:00	ALS Bottle#:	0	Worklist Smp#:	60
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-060				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 09:32:36	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

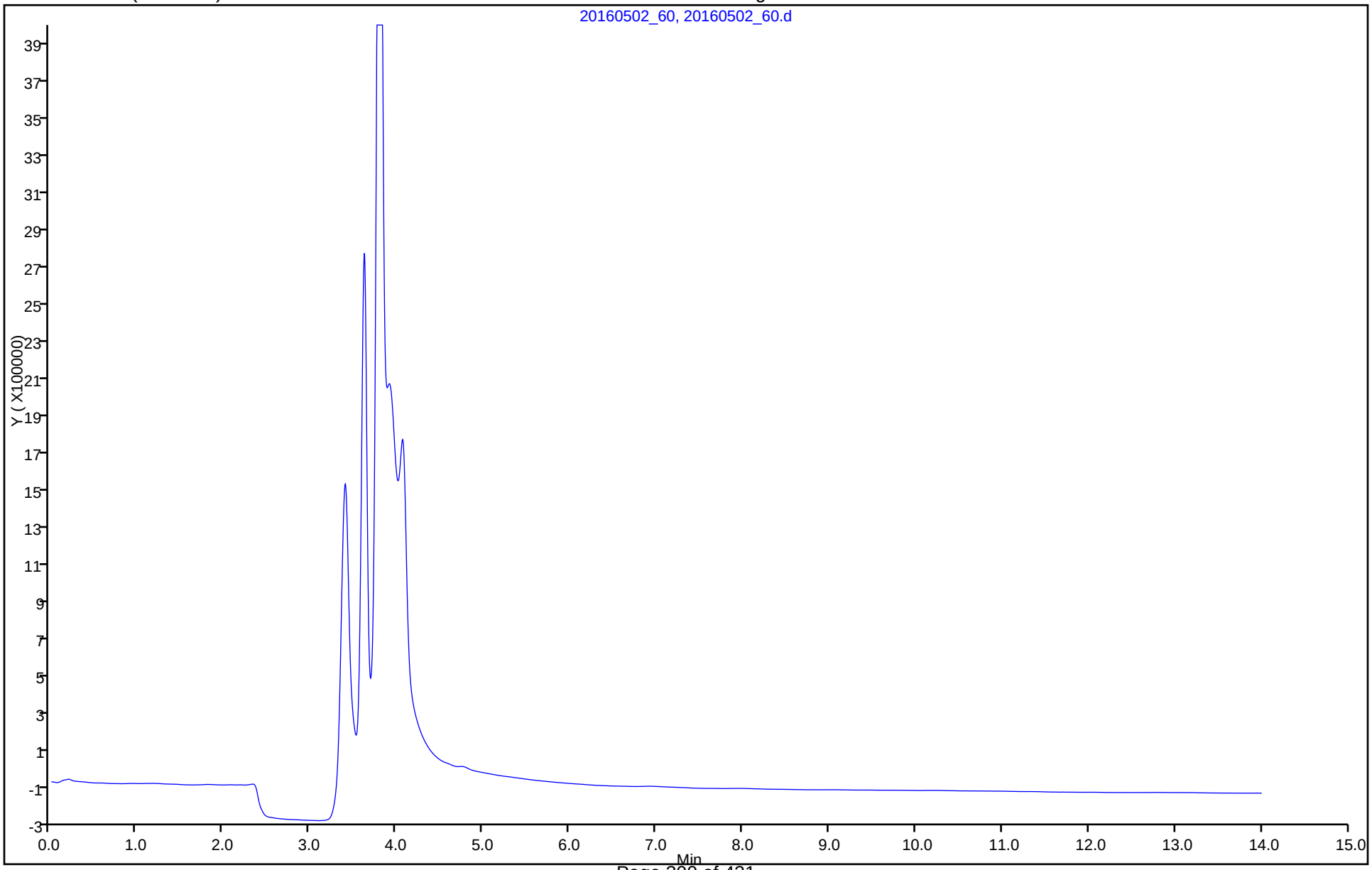
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 09:33:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_60.d				
Injection Date:	03-May-2016 01:25:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144940-B-2	Lab Sample ID:	440-144940-2	Worklist Smp#:	60
Client ID:	DBMW-4-20160419-EB				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID: DBMW-4-20160419
Lab Sample ID: 440-144940-3
Matrix: Water
Lab File ID: 20160428_30.d
Analysis Method: 314.0
Date Collected: 04/19/2016 11:00
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 16:03
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	6000		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_30.d				
Lims ID:	440-144940-B-3				
Client ID:	DBMW-4-20160419				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 16:03:00	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072408-030				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	29-Apr-2016 10:58:18	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.044	12.057	-0.013	10980918	60.0	

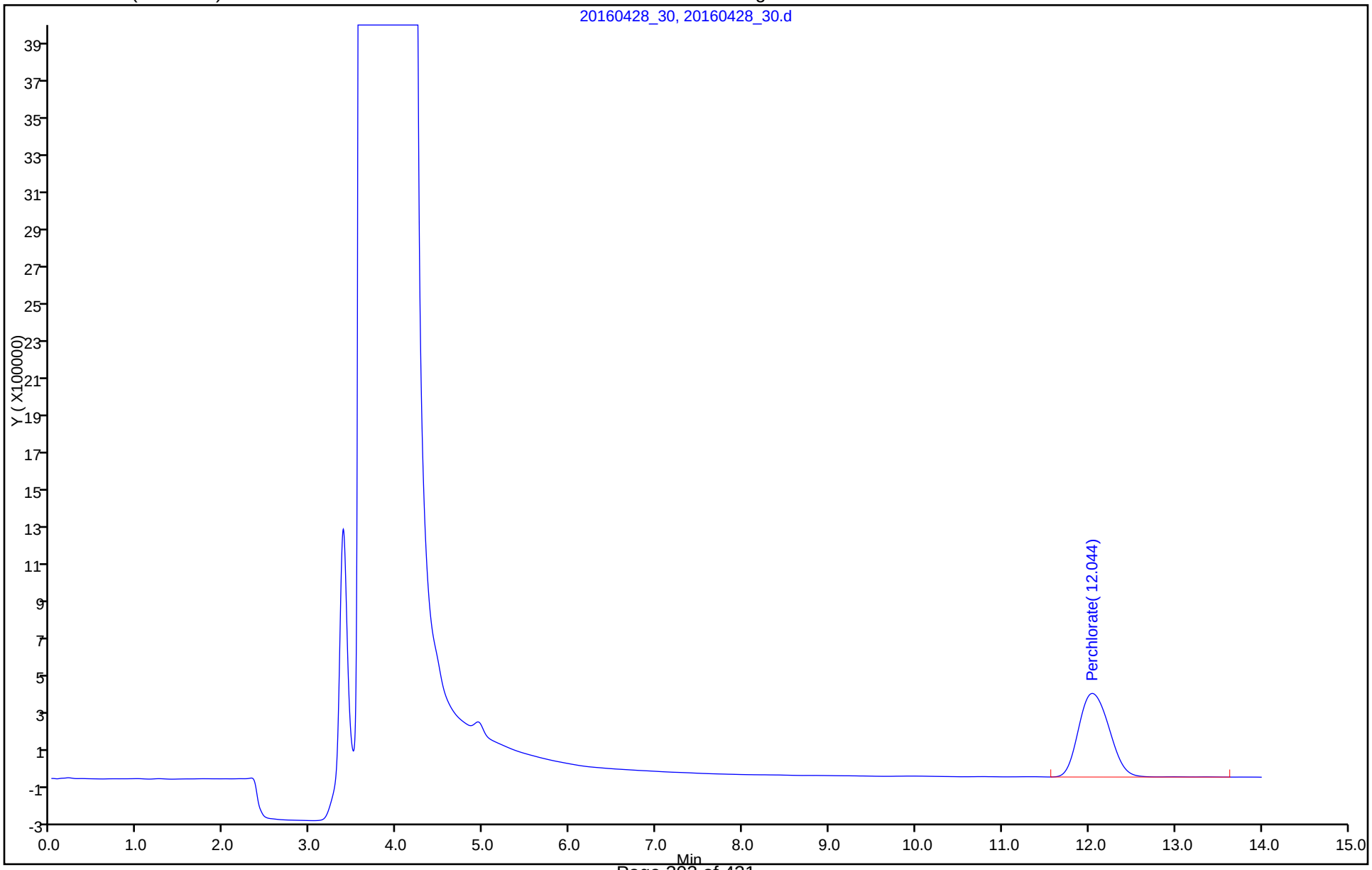
Report Date: 29-Apr-2016 10:58:23 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_30.d

Injection Date:	28-Apr-2016 16:03:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144940-B-3	Lab Sample ID:	440-144940-3	Worklist Smp#:	30
Client ID:	DBMW-4-20160419				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Perchlorate	12.640	12.654	12.647	12.651	12.621	12.594	12.571				12.008 - 13.272	12.625

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Perchlorate	201999 176880	208422 181735	193440 189815	178617	Qua	43397.2609	171899.532	174.932115						1.0000		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-144940-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perchlorate	Qua	201999 9086740	416844 18981540	773758	1786170	4421988	1.00 50.0	2.00 100	4.00	10.0	25.0

Curve Type Legend:

Qua = Quadratic

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	22-Apr-2016 15:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:54	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:23		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.640	12.640	0.000	201999	1.00	0.9218	

Reagents:

WCCLO41st-10_00001 Amount Added: 10.00 Units: uL

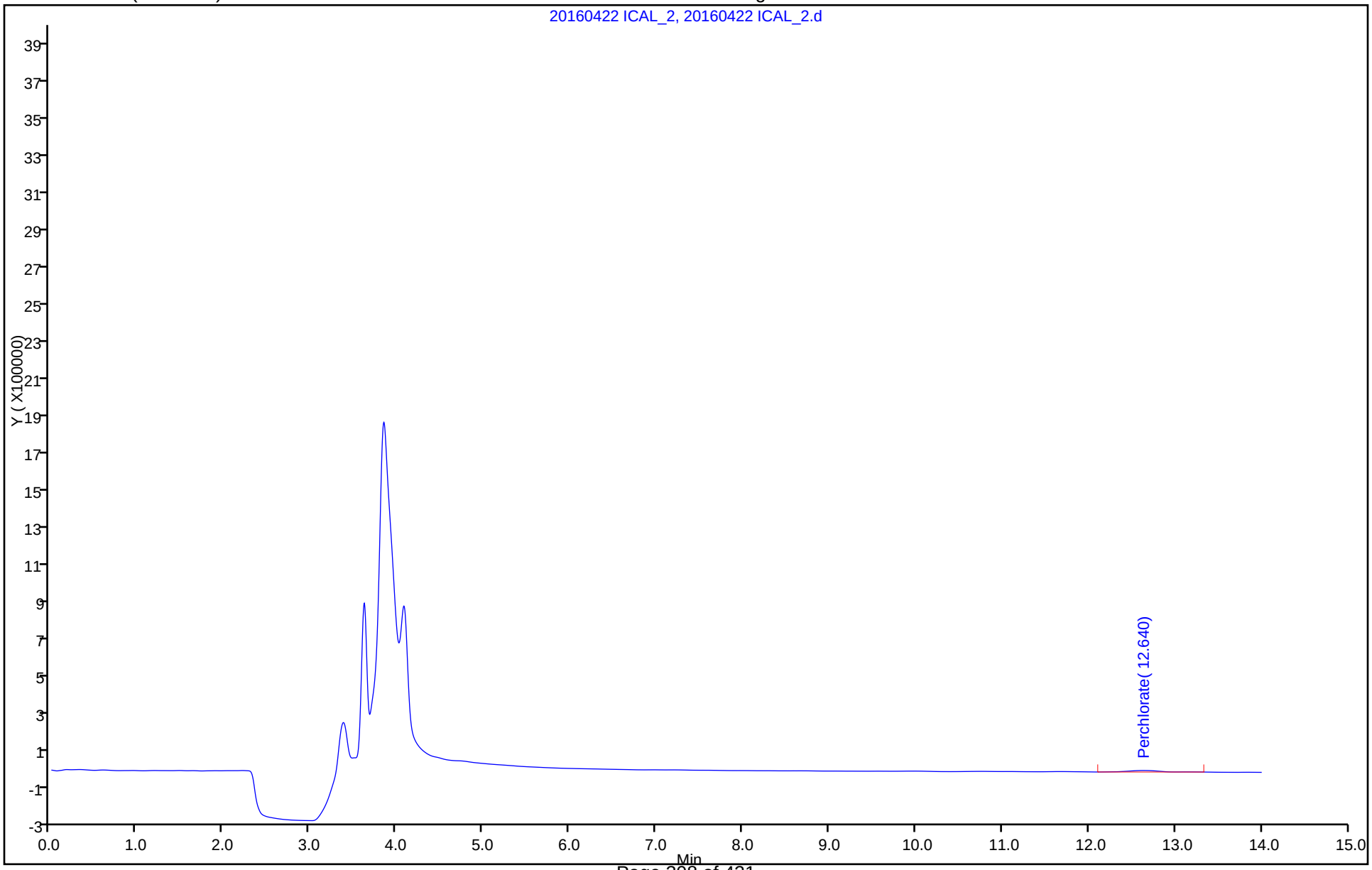
Report Date: 25-Apr-2016 05:36:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d

Injection Date:	22-Apr-2016 15:16:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std2			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	22-Apr-2016 15:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.654	12.640	0.014	416844	2.00	2.17	

Reagents:

WCCLO41st-10_00001 Amount Added: 20.00 Units: uL

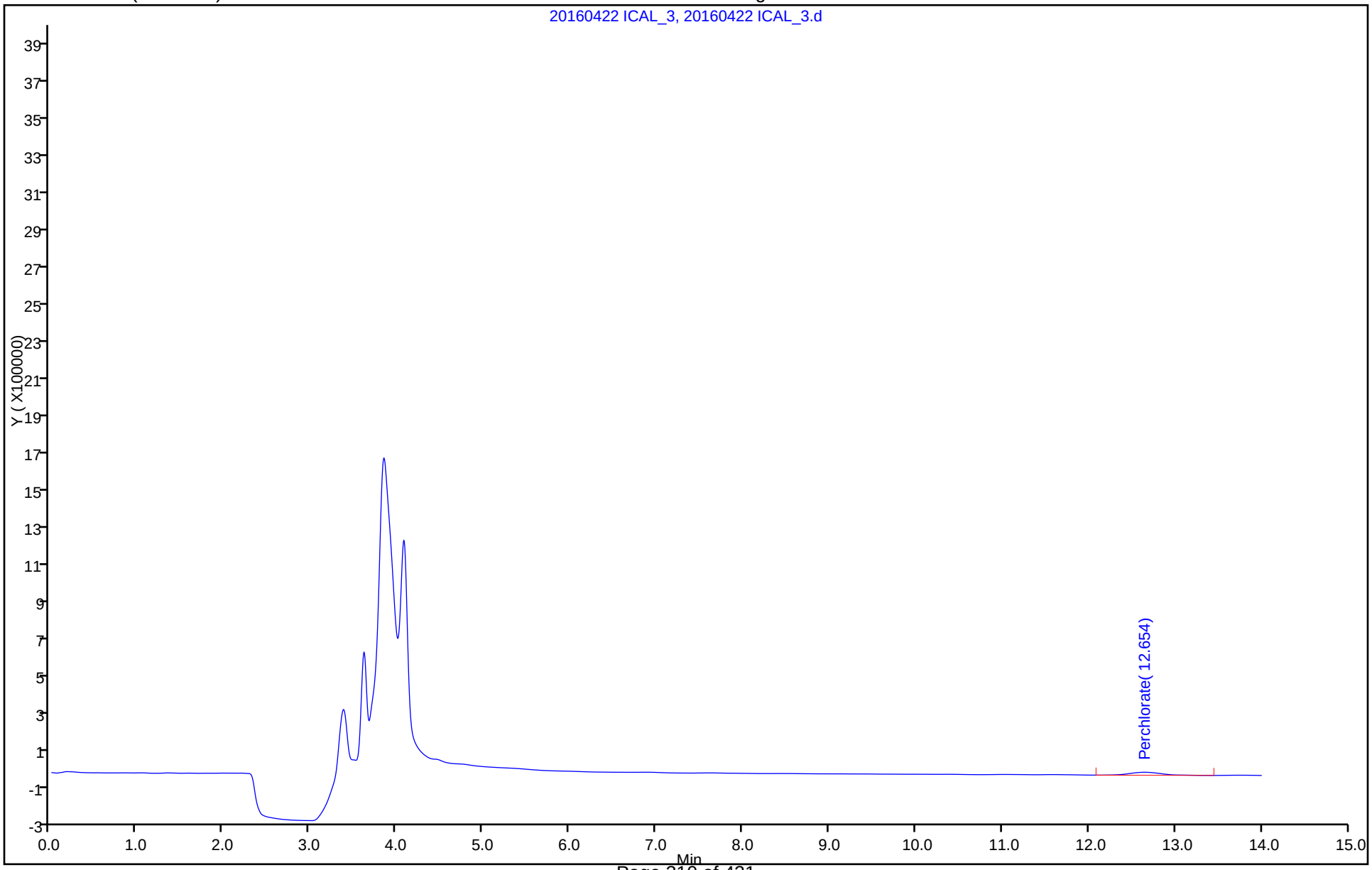
Report Date: 25-Apr-2016 05:36:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d

Injection Date:	22-Apr-2016 15:33:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std3			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	22-Apr-2016 15:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:49		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.647	12.640	0.007	773758	4.00	4.23	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

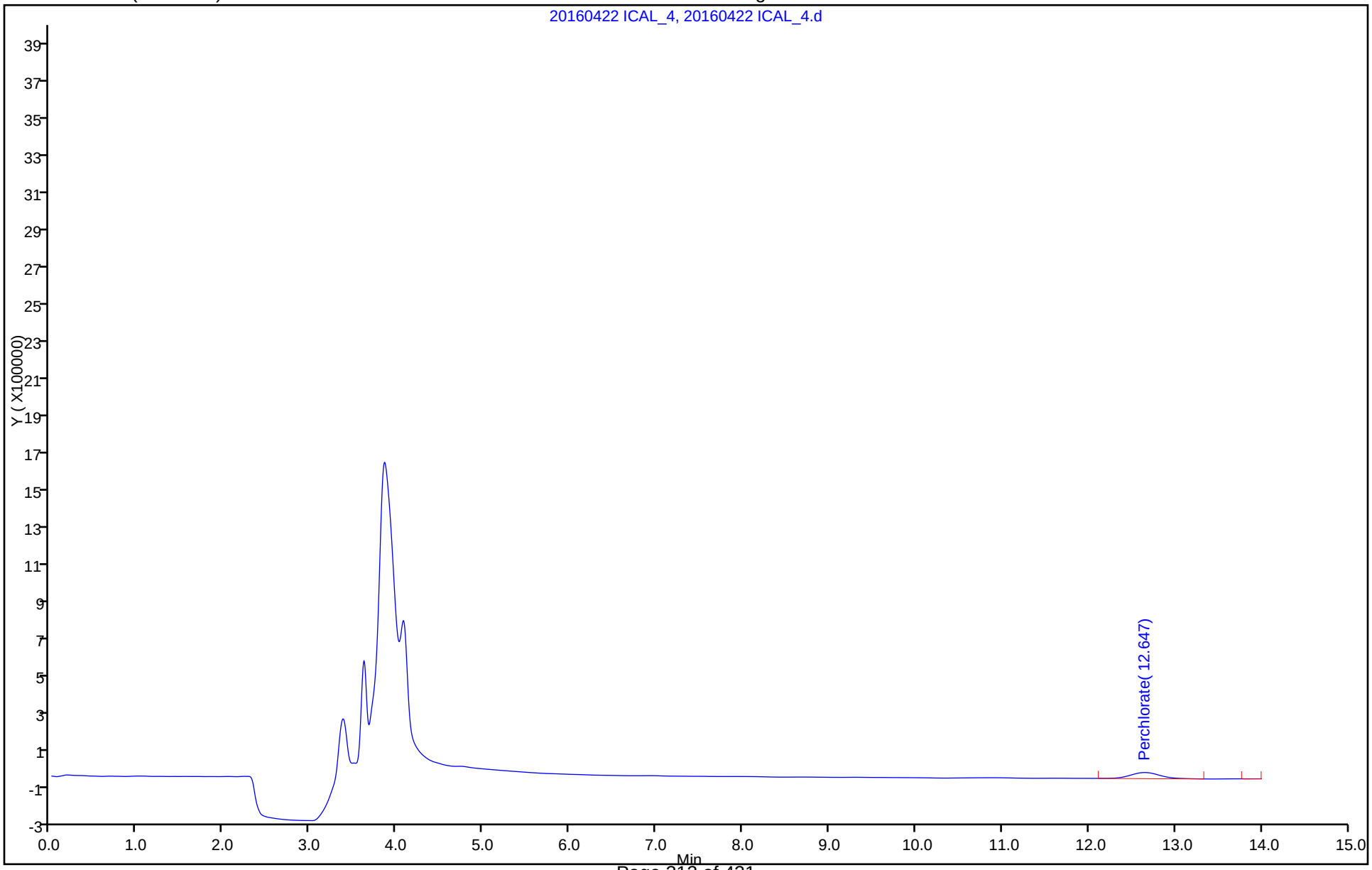
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d

Injection Date:	22-Apr-2016 15:50:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std4			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	22-Apr-2016 16:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:02		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.651	12.640	0.011	1786170	10.0	10.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 100.00 Units: uL

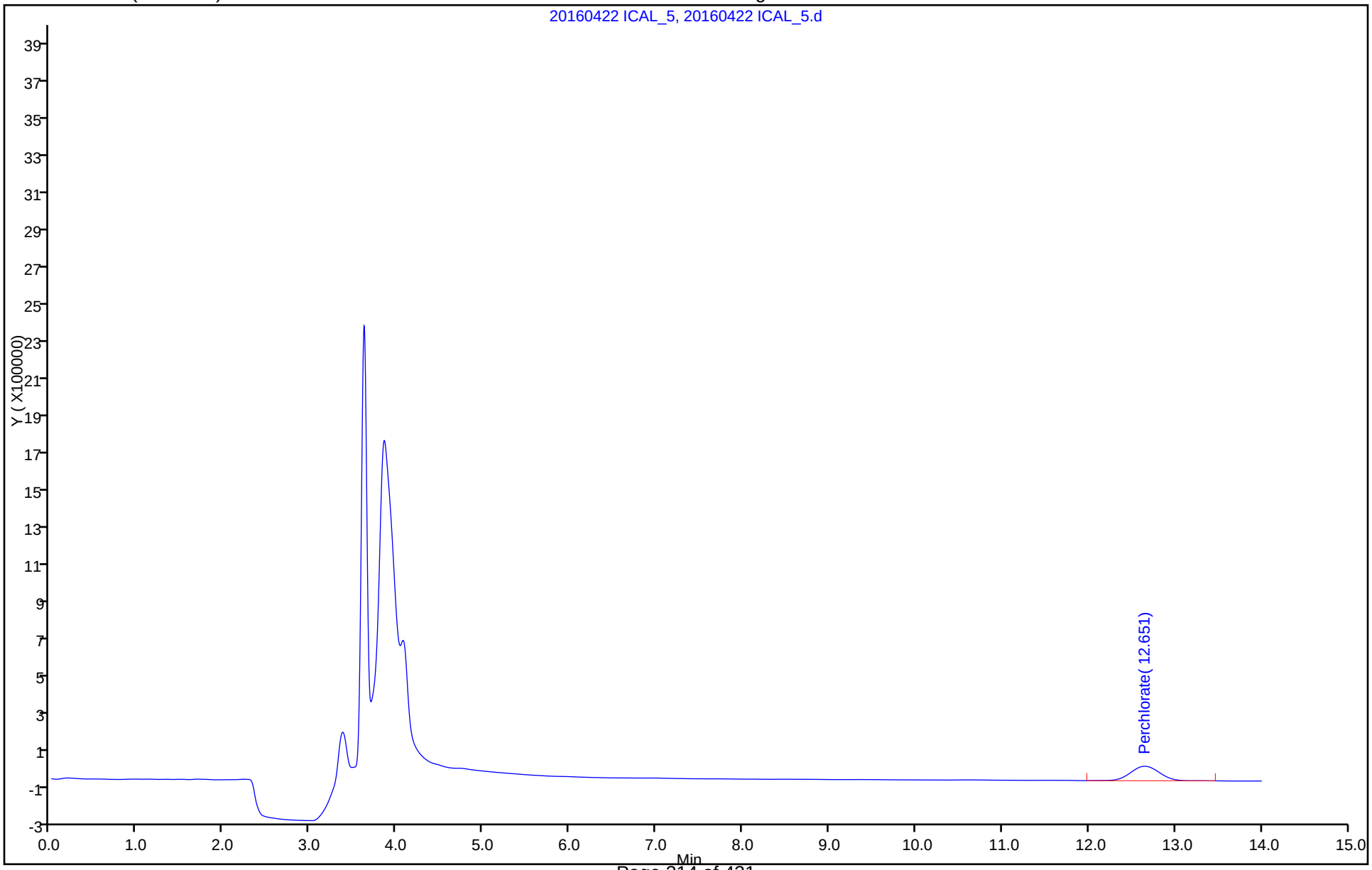
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d

Injection Date:	22-Apr-2016 16:07:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std5			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	22-Apr-2016 16:24:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-006				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:15		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.621	12.640	-0.019	4421988	25.0	24.8	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

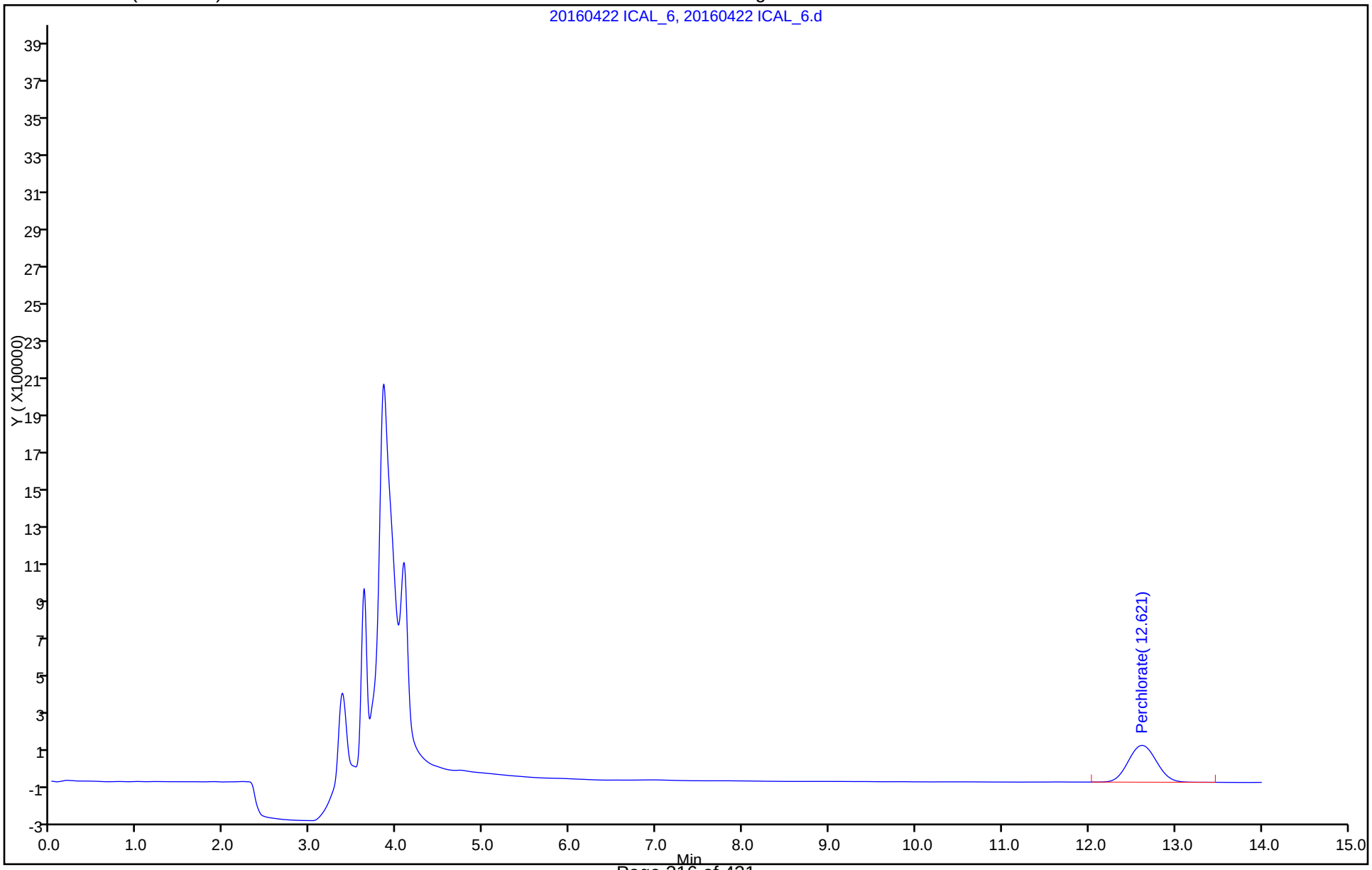
Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d

Injection Date:	22-Apr-2016 16:24:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std6			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	22-Apr-2016 16:41:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-007				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:57	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:26		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.594	12.640	-0.046	9086740	50.0	50.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 500.00 Units: uL

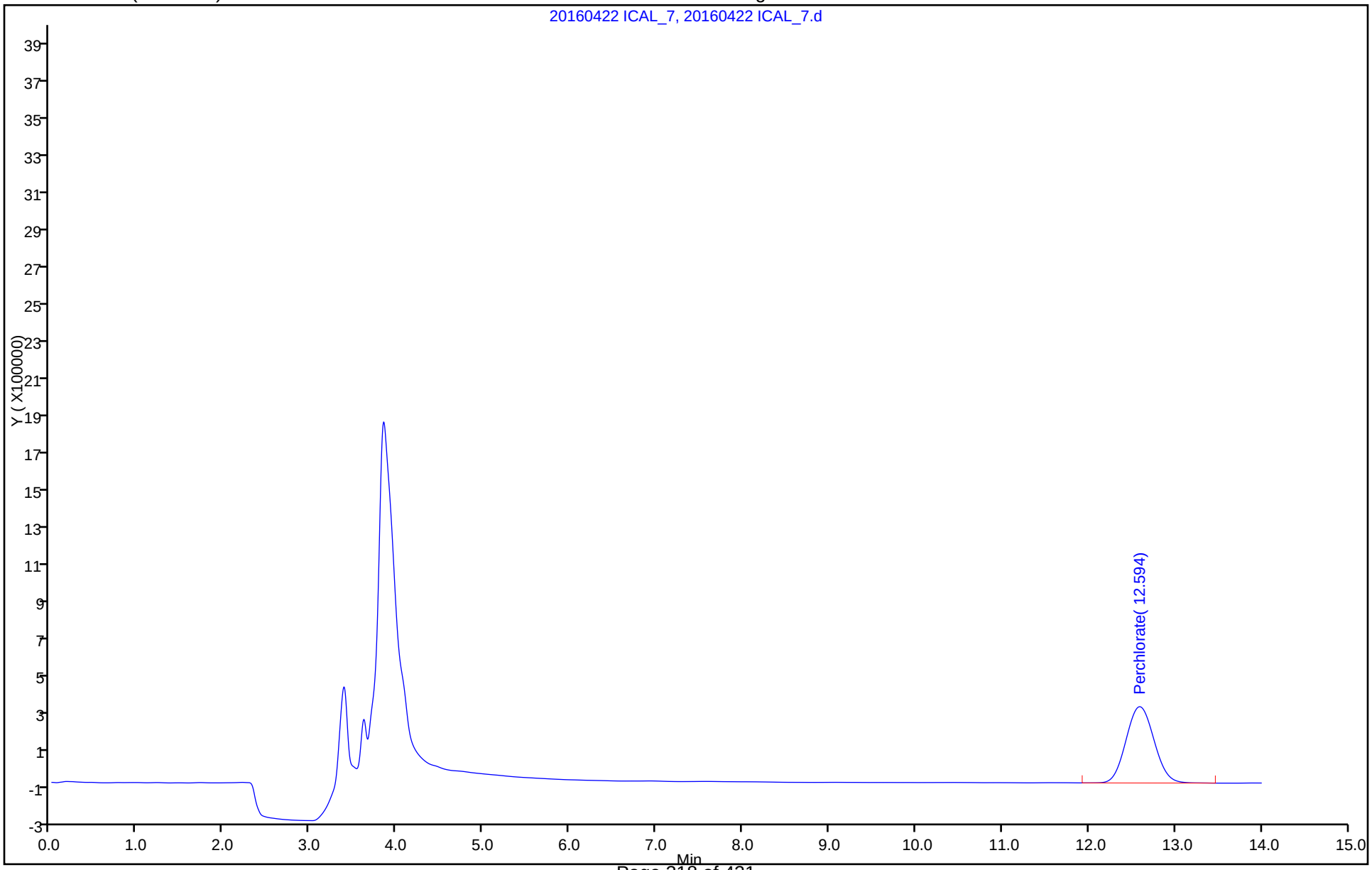
Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d

Injection Date:	22-Apr-2016 16:41:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std7			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	22-Apr-2016 16:58:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-008				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:58	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:38		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.571	12.640	-0.069	18981540	100.0	100.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 1000.00 Units: uL

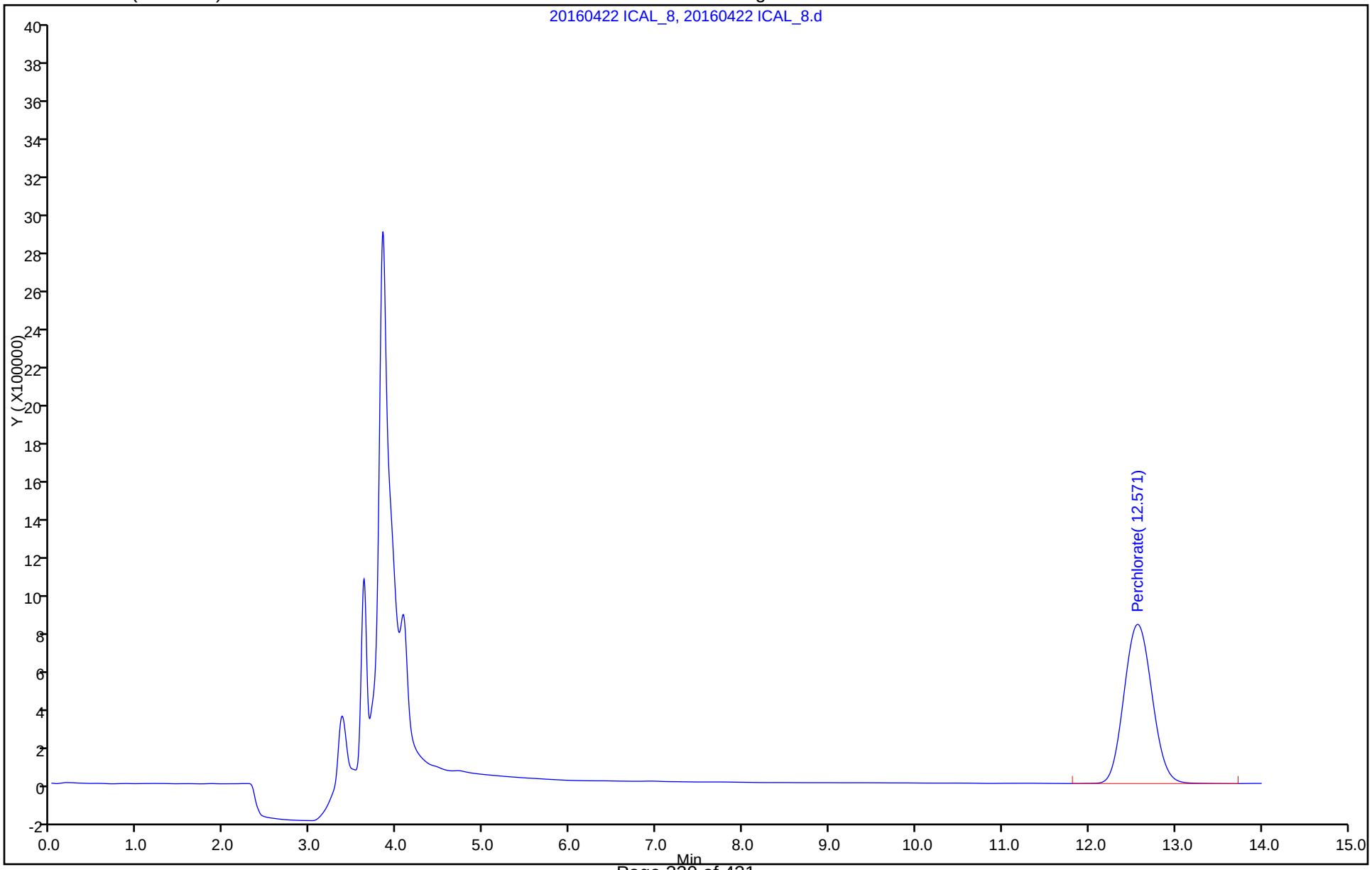
Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Injection Date:	22-Apr-2016 16:58:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std8			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				49.8	50.0	100	90-110

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.58	12.01	13.27

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d				
Lims ID:	icv				
Client ID:					
Sample Type:	ICV				
Inject. Date:	22-Apr-2016 17:14:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-009				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:58	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:50		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.581	12.640	-0.059	9029765	50.0	49.8	

Reagents:

WCCLO4ICV10_00019 Amount Added: 500.00 Units: uL

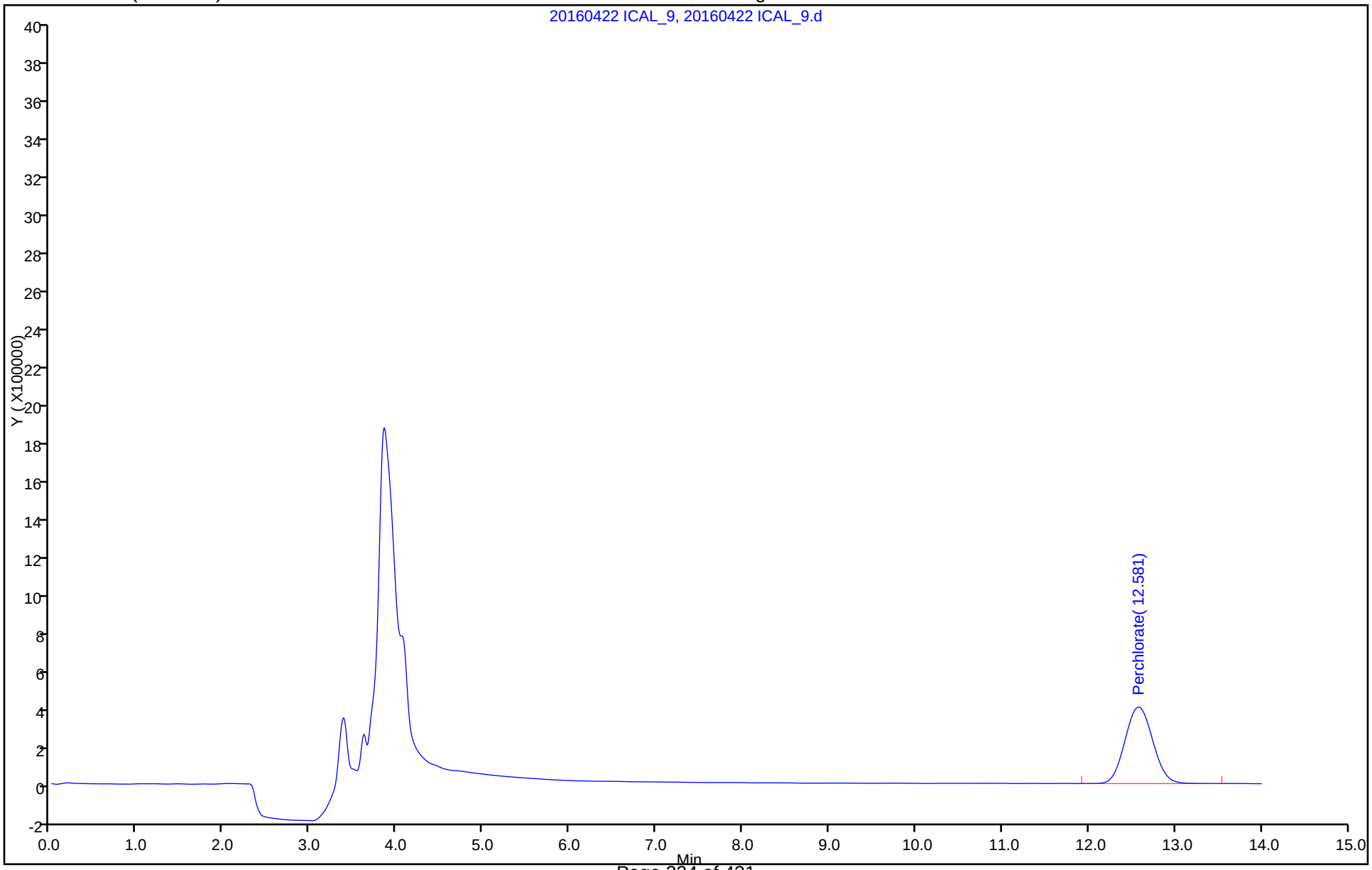
Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d

Injection Date:	22-Apr-2016 17:14:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	icv			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/1002 Calibration Date: 04/28/2016 08:16

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_2-CCV.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.7	25.0	99	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/1002 Calibration Date: 04/28/2016 08:16

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_2-CCV.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.07	11.46	12.66

Form VII 314.0

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 08:16:00	ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 08:51:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.071	12.061	0.010	4391606	25.0	24.7	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d

Injection Date: 28-Apr-2016 08:16:00 Instrument ID: IC-25 Operator ID:

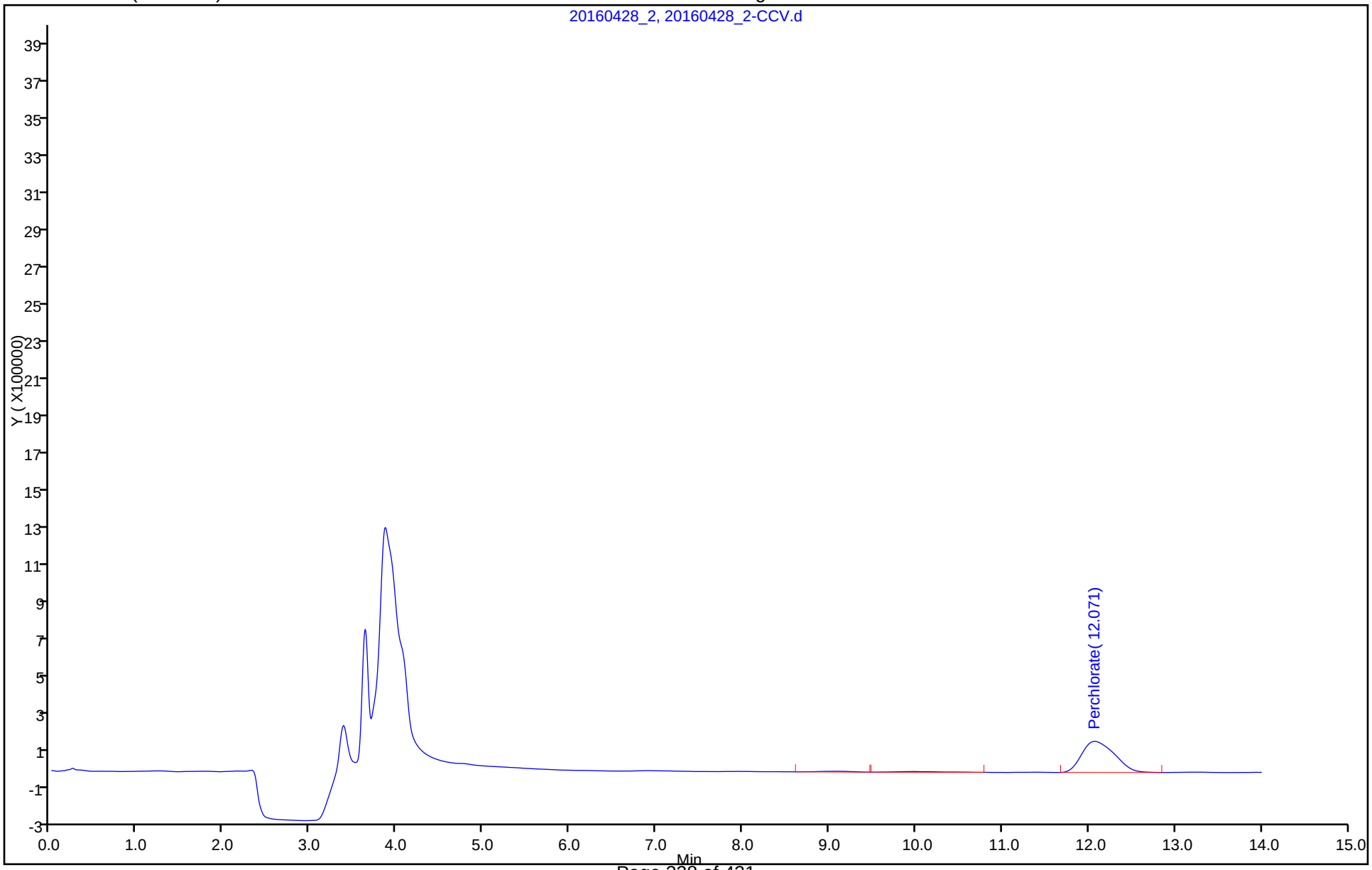
Lims ID: CCV Worklist Smp#: 1002

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Laboratories

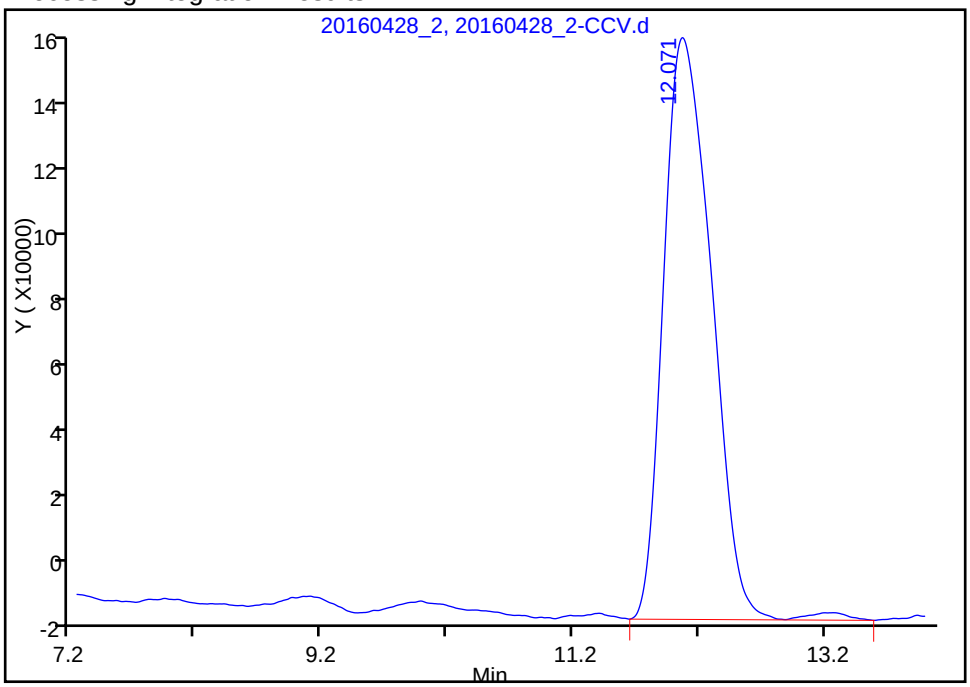
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2-CCV.d				
Injection Date:	28-Apr-2016 08:16:00	Instrument ID:	IC-25		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

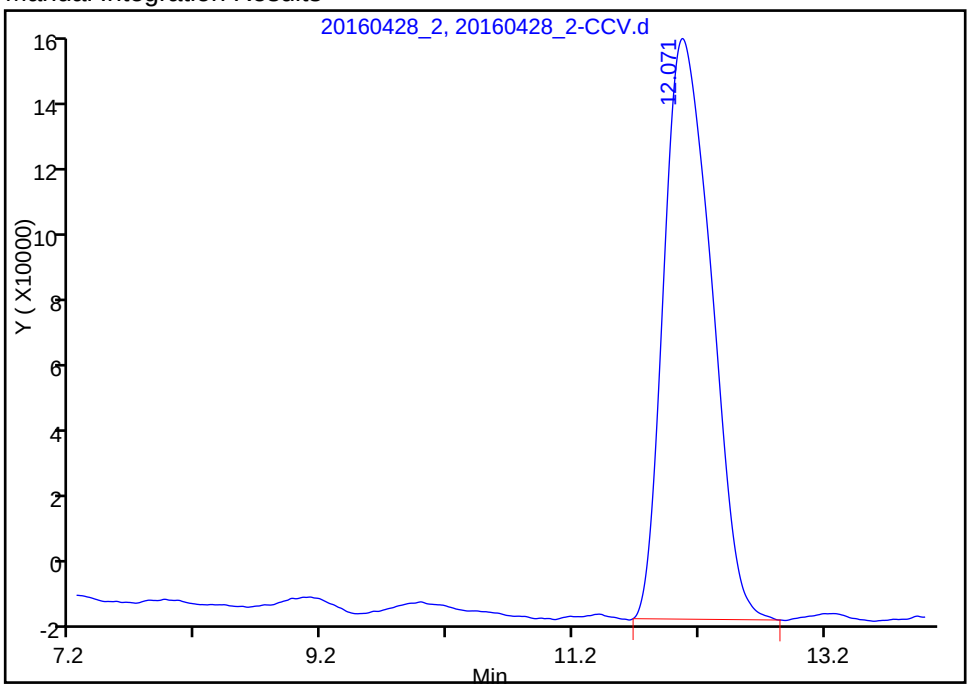
Processing Integration Results

RT: 12.07
Area: 4461649
Amount: 25.063274
Amount Units: ug/l



Manual Integration Results

RT: 12.07
Area: 4391606
Amount: 24.675440
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 08:51:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/16 Calibration Date: 04/28/2016 12:07

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_16.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.7	25.0	103	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/16 Calibration Date: 04/28/2016 12:07

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_16.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.07	11.47	12.68

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_16.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 12:07:00	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-016				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:44:27	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.074	12.074	0.000	4575447	25.0	25.7	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 12:44:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_16.d

Injection Date: 28-Apr-2016 12:07:00 Instrument ID: IC-25 Operator ID:

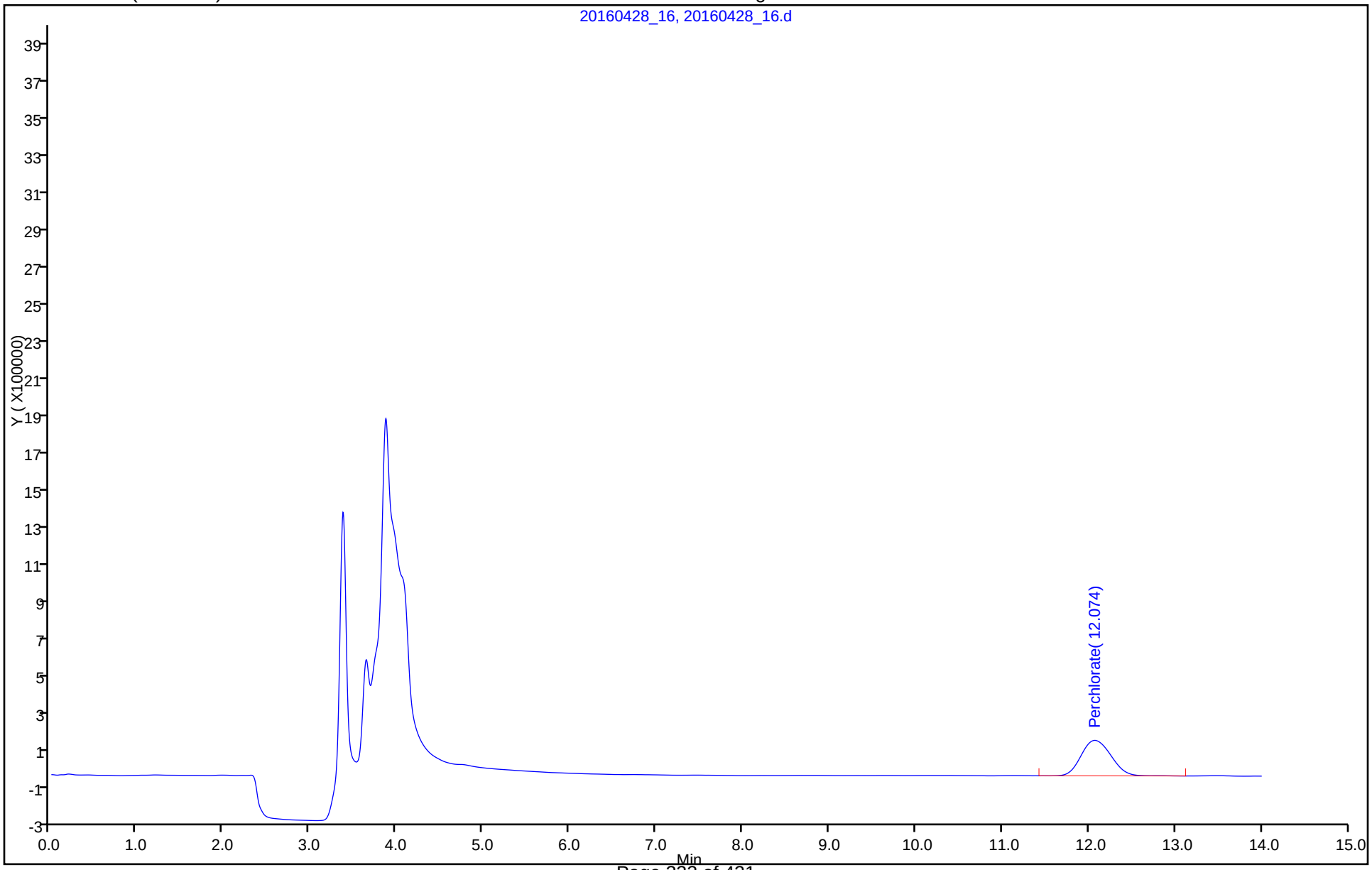
Lims ID: ccv 25 Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/26 Calibration Date: 04/28/2016 14:55

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_26.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				75.8	75.0	101	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/26 Calibration Date: 04/28/2016 14:55

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_26.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.00	11.40	12.60

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_26.d				
Lims ID:	ccv 75				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 14:55:00	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-026				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 15:24:25	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				
First Level Reviewer: hoangch		Date:	28-Apr-2016 15:23:48		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.004	12.004	0.000	14073764	75.0	75.8	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 750.00 Units: uL

Report Date: 28-Apr-2016 15:24:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_26.d

Injection Date: 28-Apr-2016 14:55:00 Instrument ID: IC-25 Operator ID:

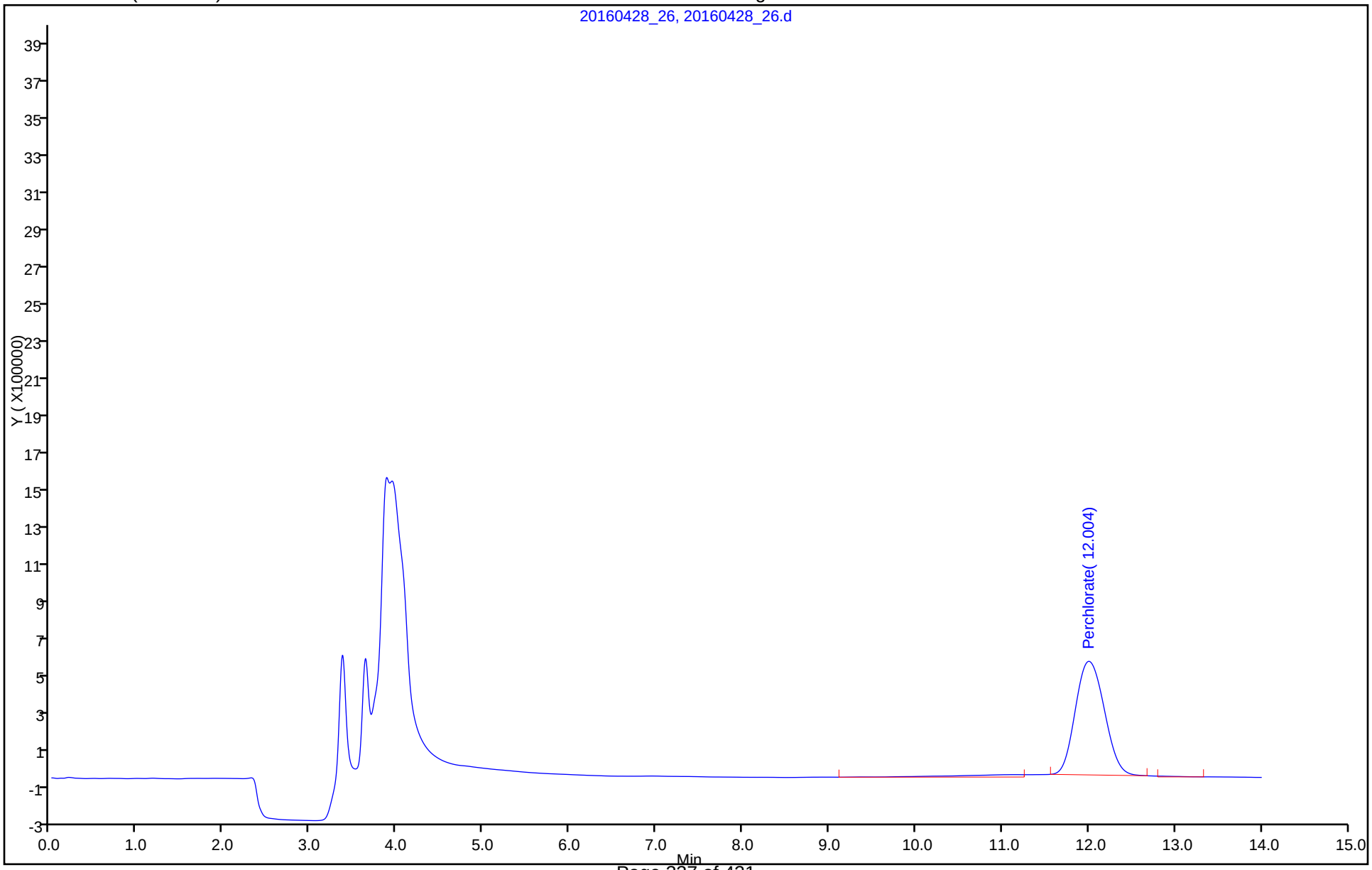
Lims ID: ccv 75 Worklist Smp#: 26

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

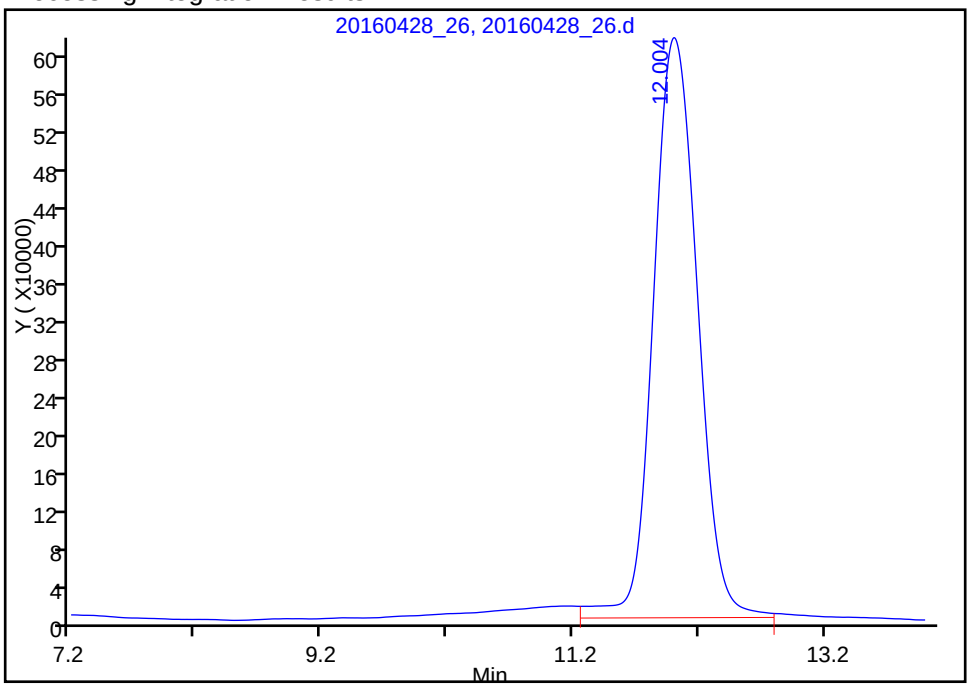
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_26.d				
Injection Date:	28-Apr-2016 14:55:00	Instrument ID:	IC-25		
Lims ID:	ccv 75				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

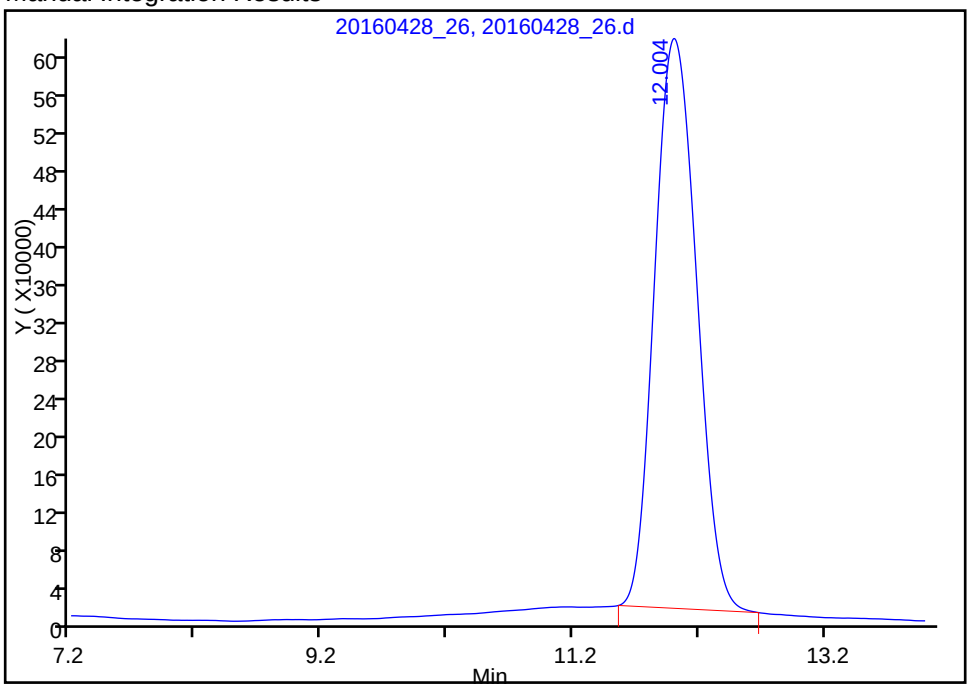
Processing Integration Results

RT: 12.00
Area: 15020225
Amount: 80.526549
Amount Units: ug/l



Manual Integration Results

RT: 12.00
Area: 14073764
Amount: 75.776238
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 15:23:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/37 Calibration Date: 04/28/2016 18:01

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_37.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.8	25.0	103	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327049/37 Calibration Date: 04/28/2016 18:01

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160428_37.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.06	11.45	12.66

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_37.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	28-Apr-2016 18:01:00	ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-037				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	29-Apr-2016 10:58:18	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.057	12.057	0.000	4588477	25.0	25.8	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 29-Apr-2016 10:58:18 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_37.d

Injection Date: 28-Apr-2016 18:01:00 Instrument ID: IC-25 Operator ID:

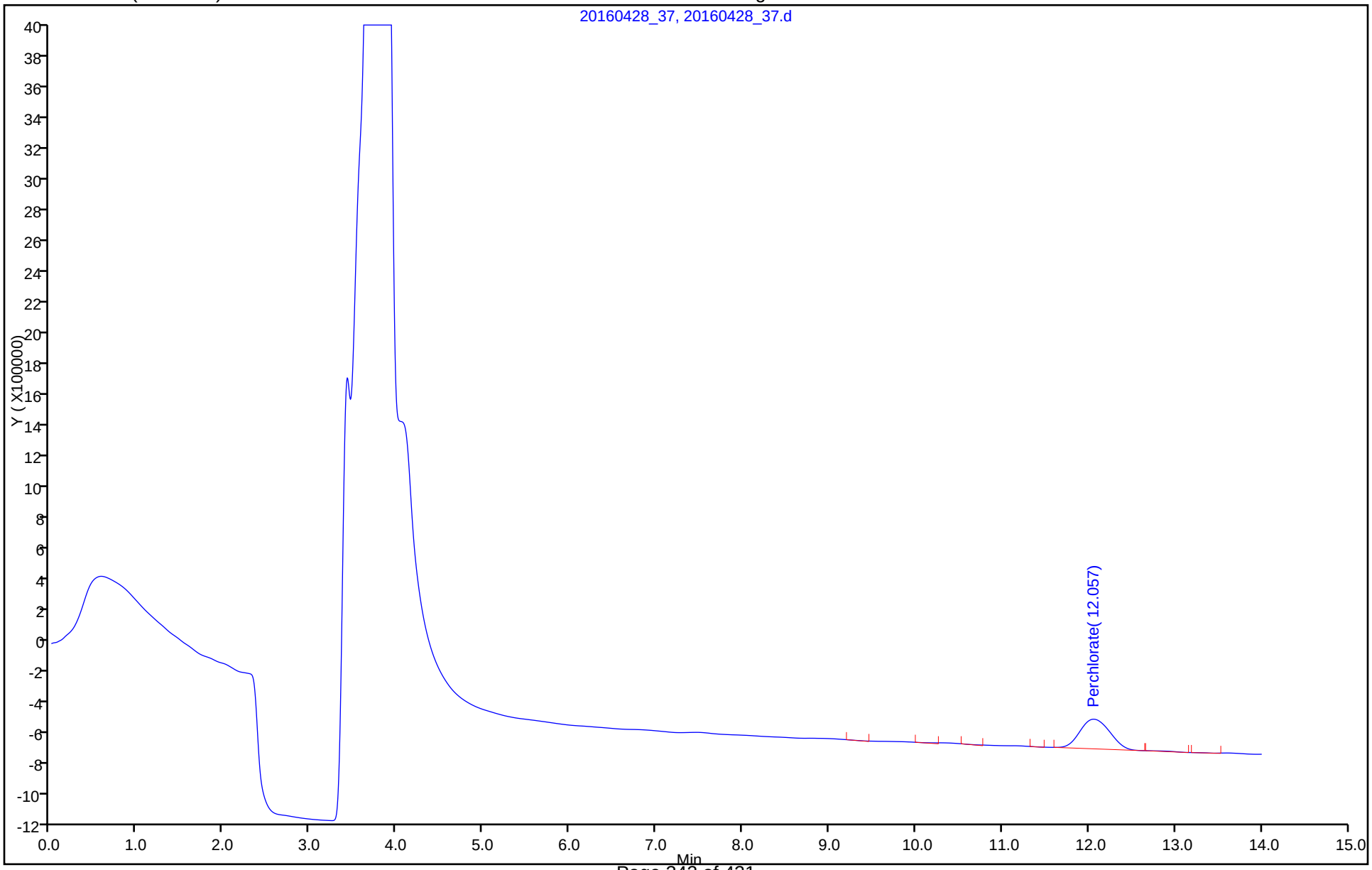
Lims ID: ccv 25 Worklist Smp#: 37

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327714/45 Calibration Date: 05/02/2016 21:12

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160502_45.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.9	25.0	99	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327714/45 Calibration Date: 05/02/2016 21:12

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160502_45.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.47	11.85	13.09

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_45.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	02-May-2016 21:12:00	ALS Bottle#:	0	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-045				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 09:31:34	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.471	12.471	0.000	4423729	25.0	24.9	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

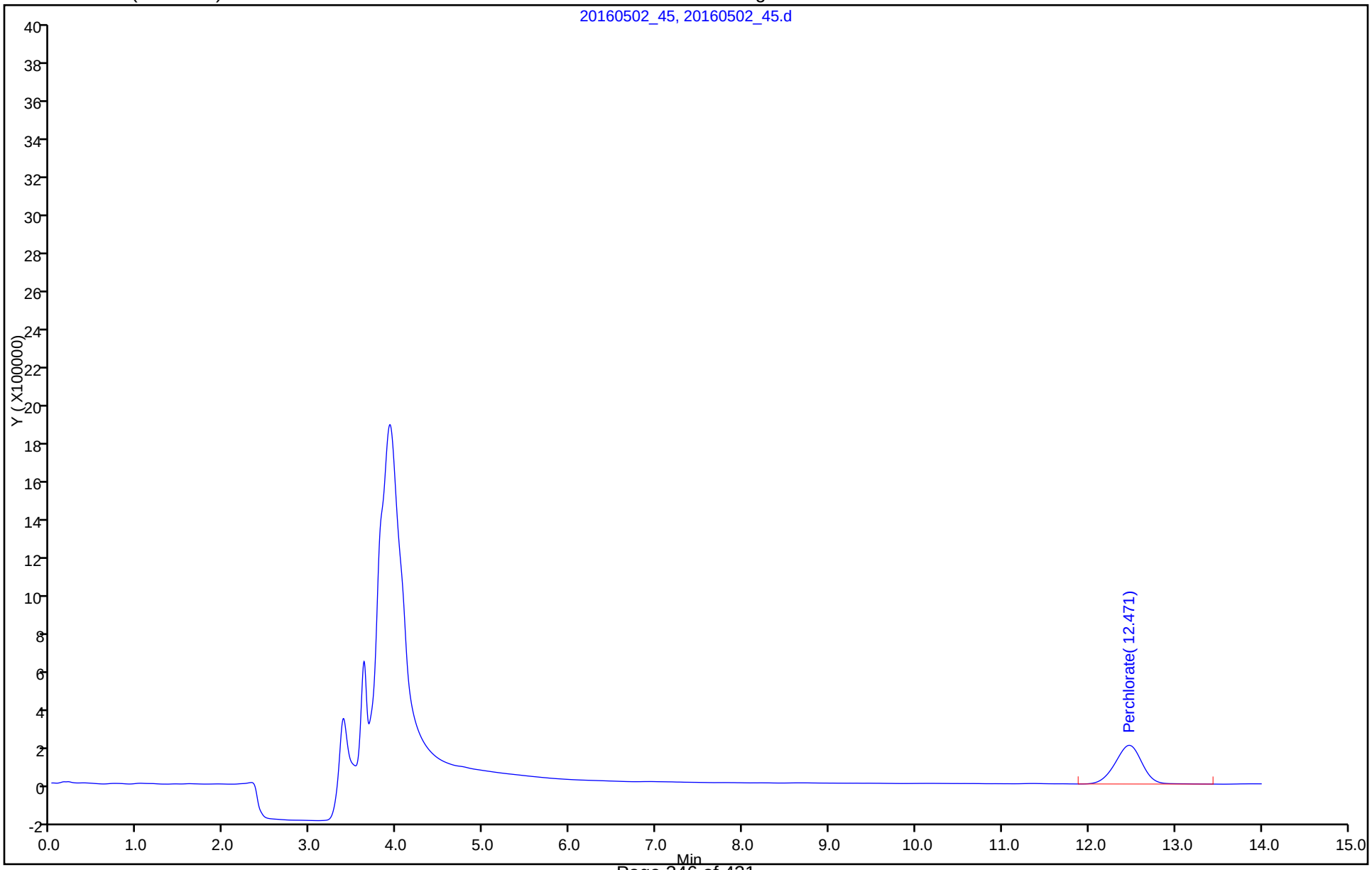
Report Date: 03-May-2016 09:31:35 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_45.d

Injection Date:	02-May-2016 21:12:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	ccv 25			Worklist Smp#:	45
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327714/54 Calibration Date: 05/02/2016 23:43

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160502_54.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				74.7	75.0	100	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327714/54 Calibration Date: 05/02/2016 23:43

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160502_54.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.48	11.85	13.10

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_54.d				
Lims ID:	ccv 75				
Client ID:					
Sample Type:	CCV				
Inject. Date:	02-May-2016 23:43:00	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-054				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 09:32:27	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.477	12.477	0.000	13854197	75.0	74.7	

Reagents:

WCCLO41st-10_00001 Amount Added: 750.00 Units: uL

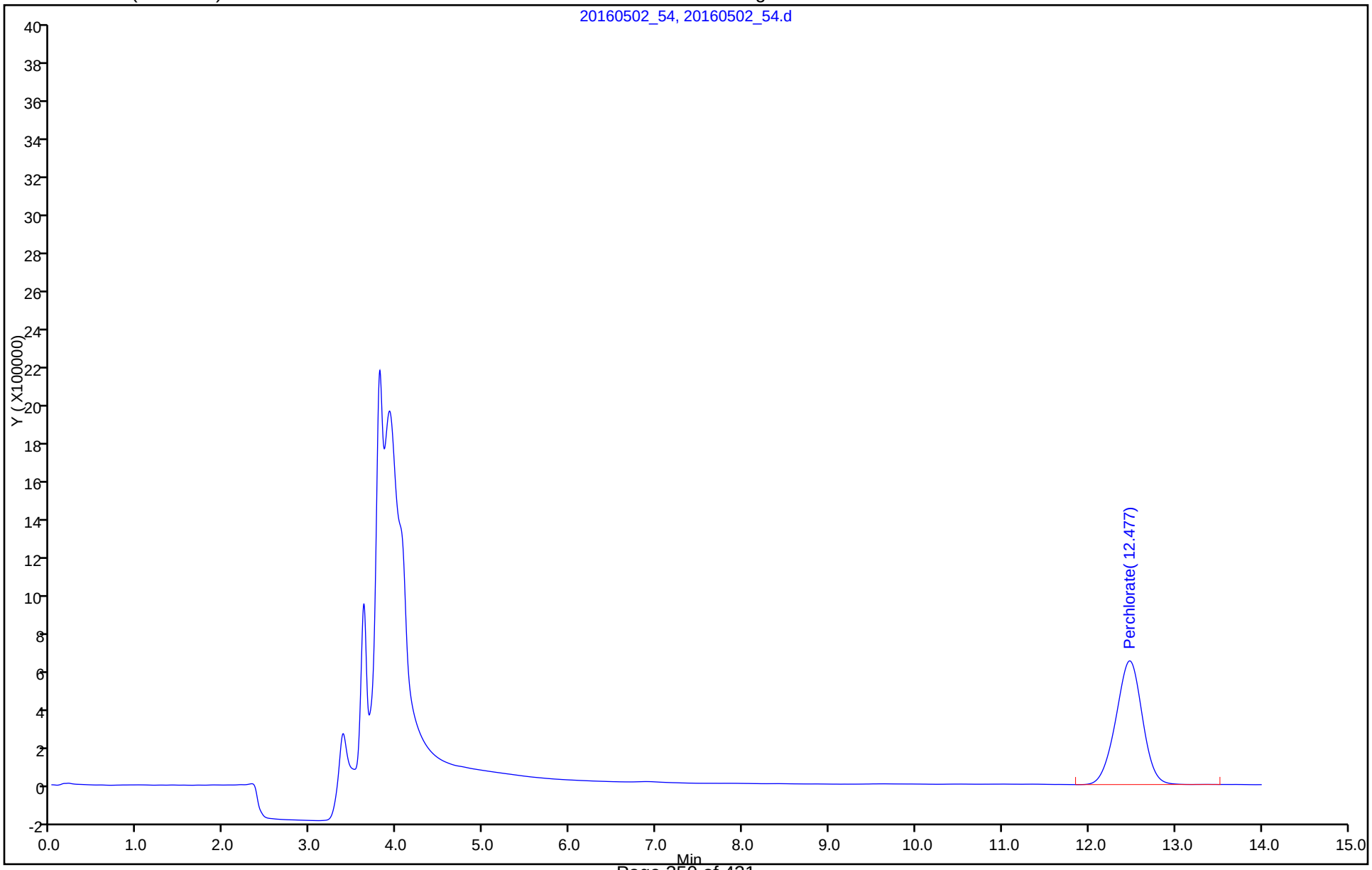
Report Date: 03-May-2016 09:32:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_54.d

Injection Date:	02-May-2016 23:43:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	ccv 75			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327714/62 Calibration Date: 05/03/2016 01:59

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160502_62.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.9	25.0	100	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Lab Sample ID: CCV 440-327714/62 Calibration Date: 05/03/2016 01:59

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160502_62.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.55	11.92	13.18

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_62.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	03-May-2016 01:59:00	ALS Bottle#:	0	Worklist Smp#:	62
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-062				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 09:33:21	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.547	12.547	0.000	4438213	25.0	24.9	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 03-May-2016 09:33:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_62.d

Injection Date: 03-May-2016 01:59:00 Instrument ID: IC-25 Operator ID:

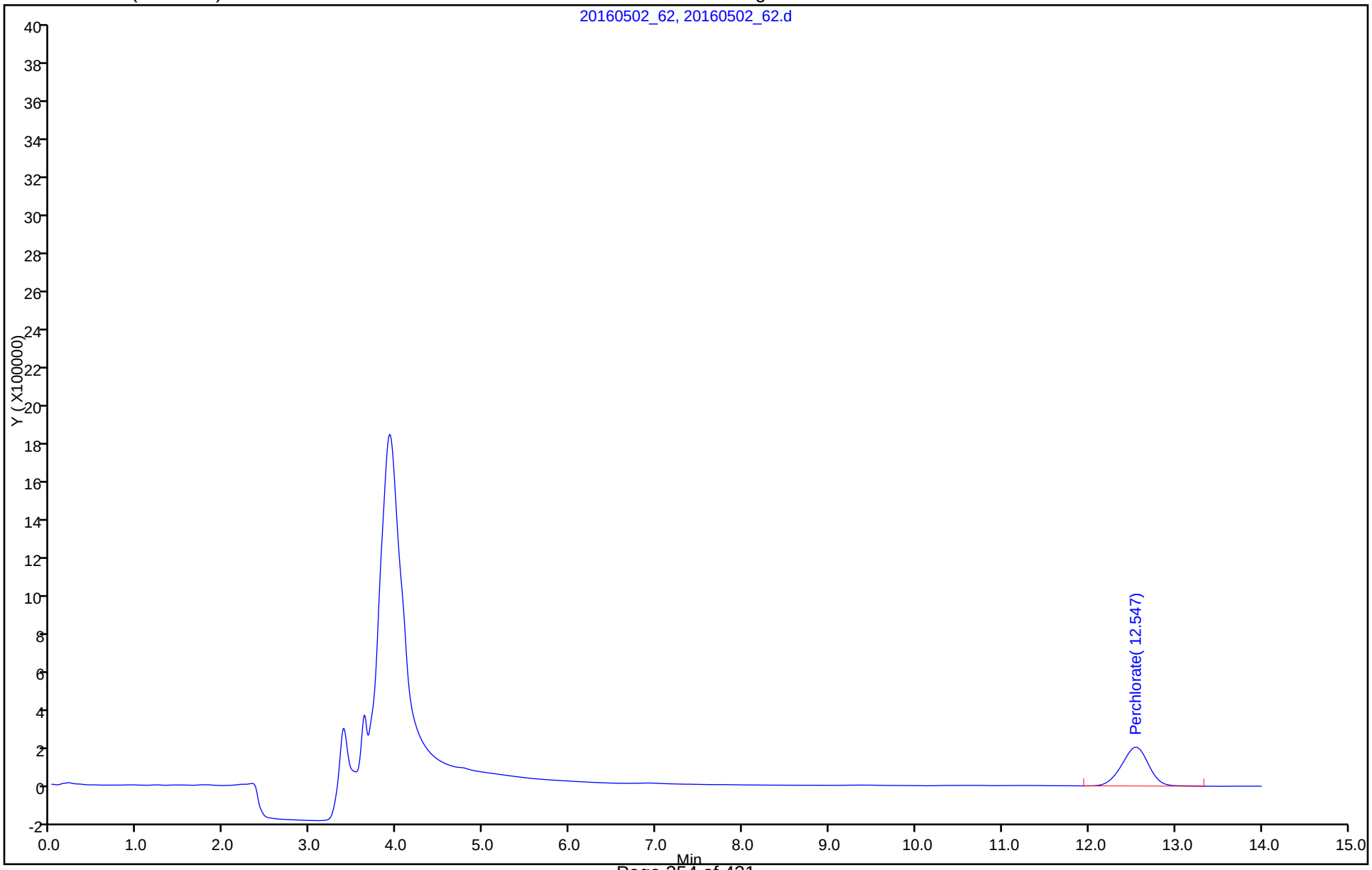
Lims ID: ccv 25 Worklist Smp#: 62

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327049/3
Matrix: Water
Lab File ID: 20160428_3.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:33
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	28-Apr-2016 08:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 11:58:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3.d

Injection Date: 28-Apr-2016 08:33:00 Instrument ID: IC-25 Operator ID:

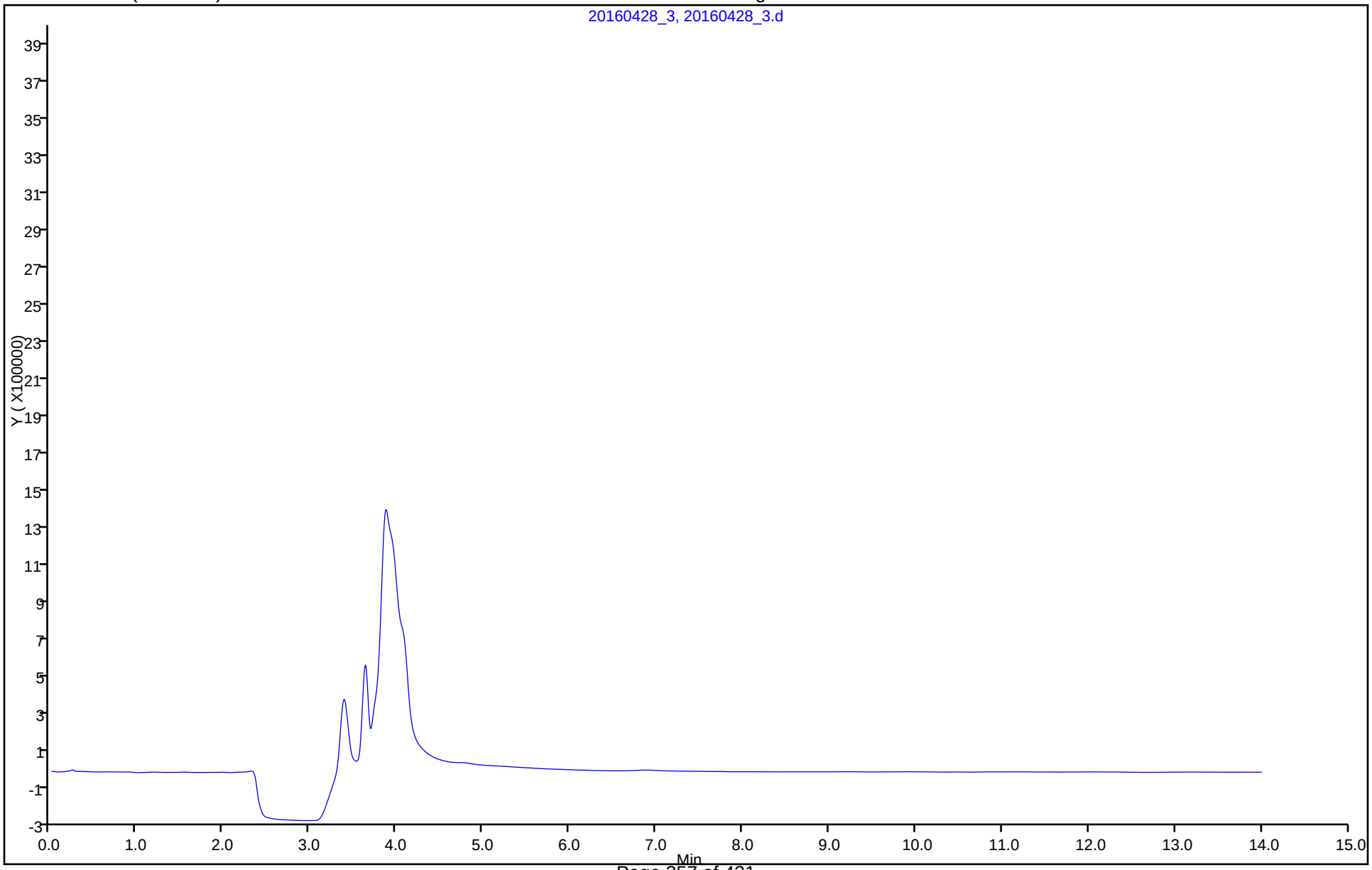
Lims ID: MB Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327714/36
Matrix: Water
Lab File ID: 20160502_36.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/02/2016 18:40
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_36.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	02-May-2016 18:40:00	ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-036				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 09:31:00	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				
First Level Reviewer: hoangch		Date:	03-May-2016 09:29:02		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 09:31:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_36.d

Injection Date: 02-May-2016 18:40:00 Instrument ID: IC-25 Operator ID:

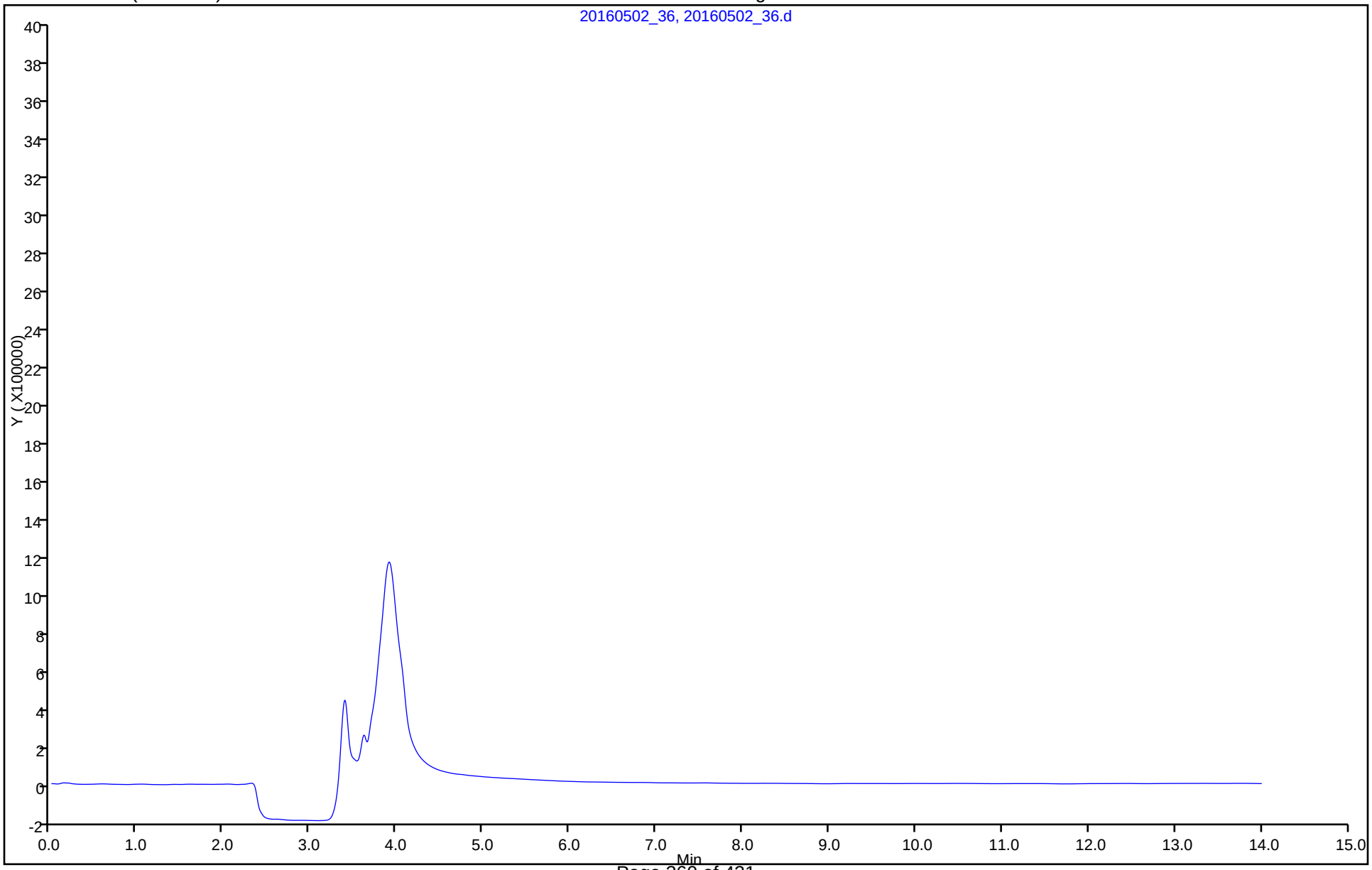
Lims ID: MB Worklist Smp#: 36

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/27
Matrix: Water
Lab File ID: 20160428_27.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 15:12
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_27.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 15:12:00	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-027				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 16:31:16	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				
First Level Reviewer: hoangch		Date:	28-Apr-2016 15:40:50		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 15:41:38 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_27.d

Injection Date: 28-Apr-2016 15:12:00 Instrument ID: IC-25 Operator ID:

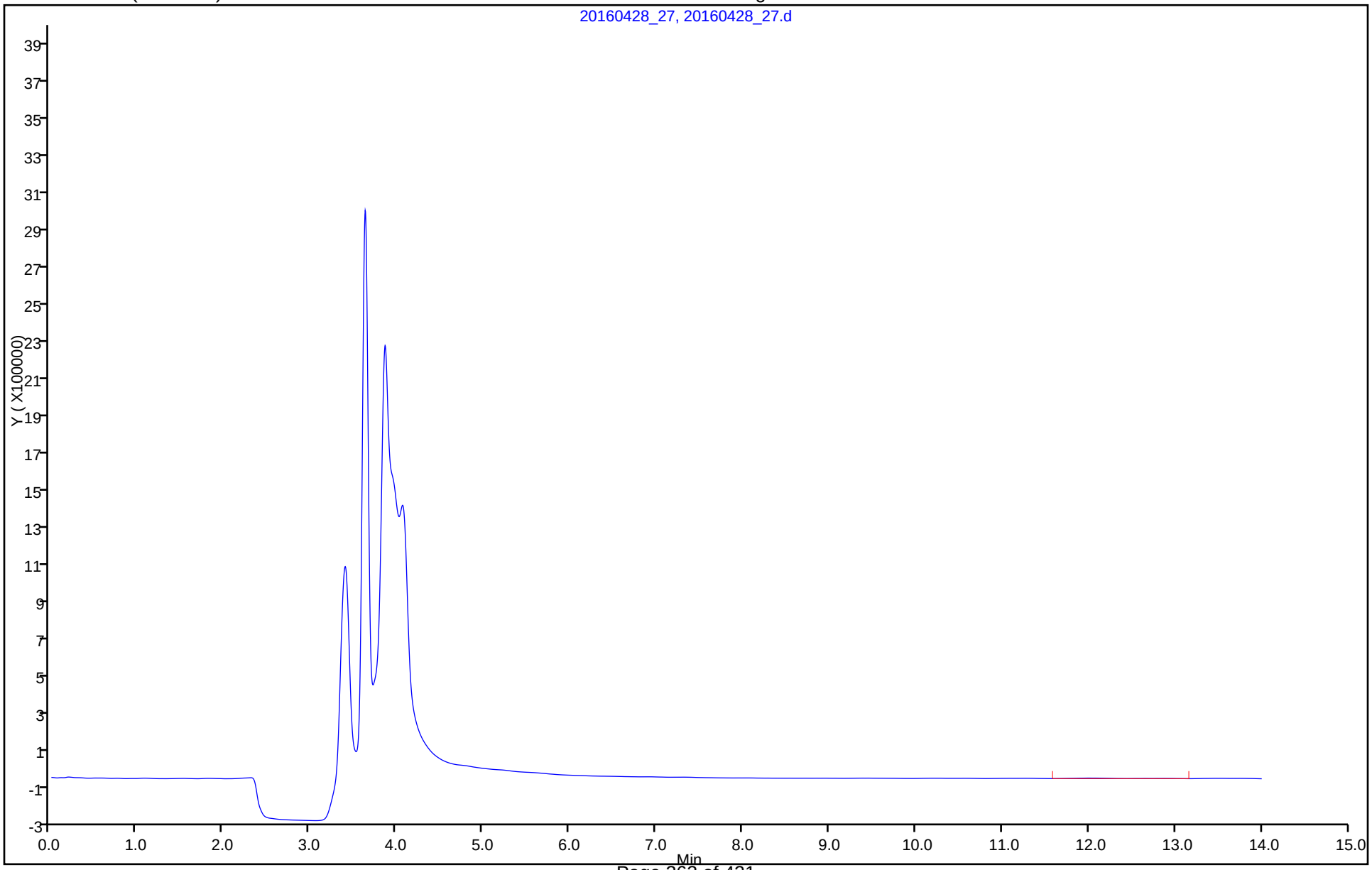
Lims ID: ccb Worklist Smp#: 27

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/38
Matrix: Water
Lab File ID: 20160428_38.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 18:18
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_38.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 18:18:00	ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-038				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	29-Apr-2016 10:58:12	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 29-Apr-2016 10:58:17 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_38.d

Injection Date: 28-Apr-2016 18:18:00 Instrument ID: IC-25 Operator ID:

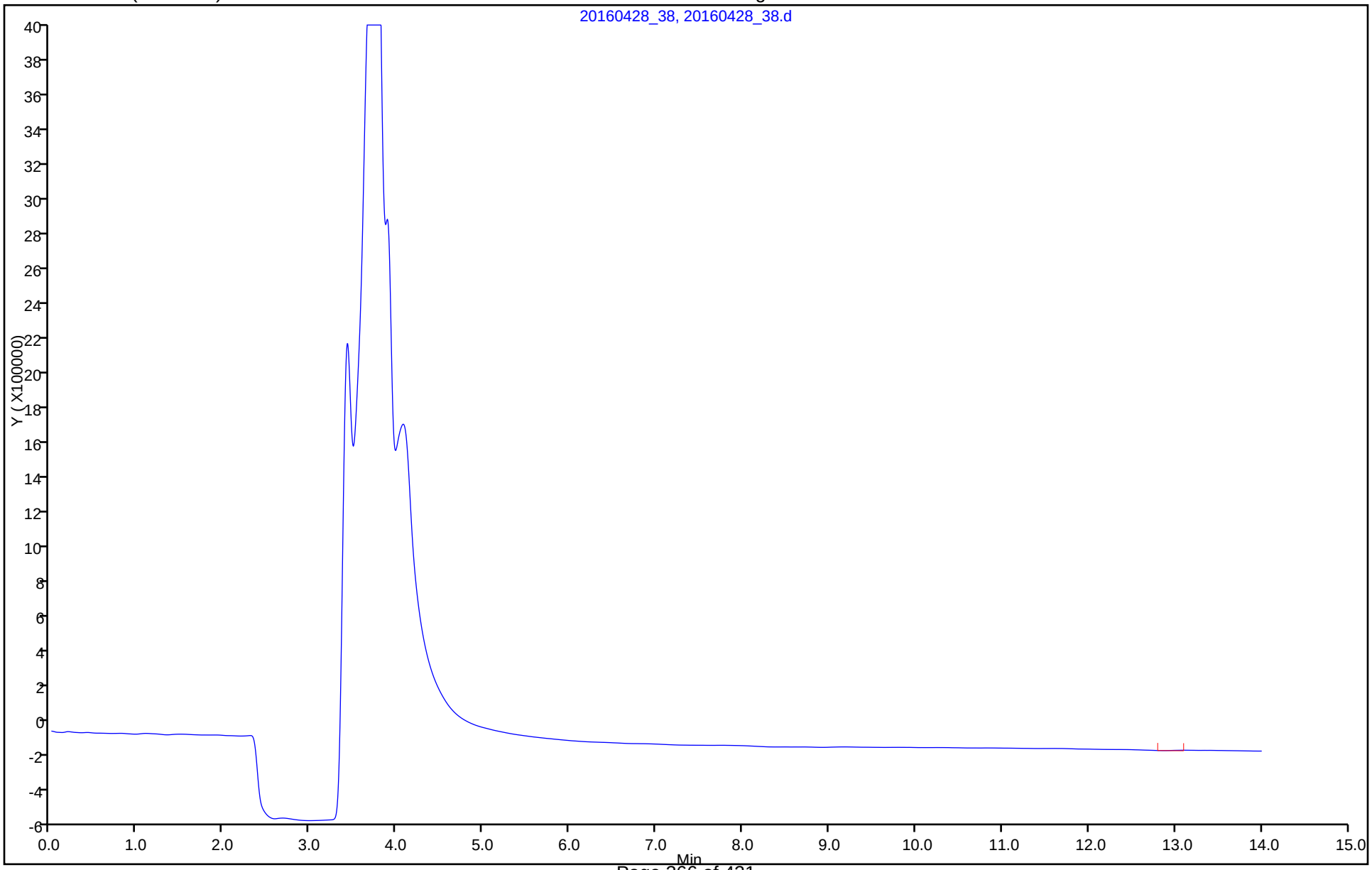
Lims ID: ccb Worklist Smp#: 38

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327049/1003
Matrix: Water
Lab File ID: 20160428_3-CCB.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:33
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3-CCB.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Apr-2016 08:33:00	ALS Bottle#:	0	Worklist Smp#:	1003
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK047	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_3-CCB.d

Injection Date: 28-Apr-2016 08:33:00 Instrument ID: IC-25 Operator ID:

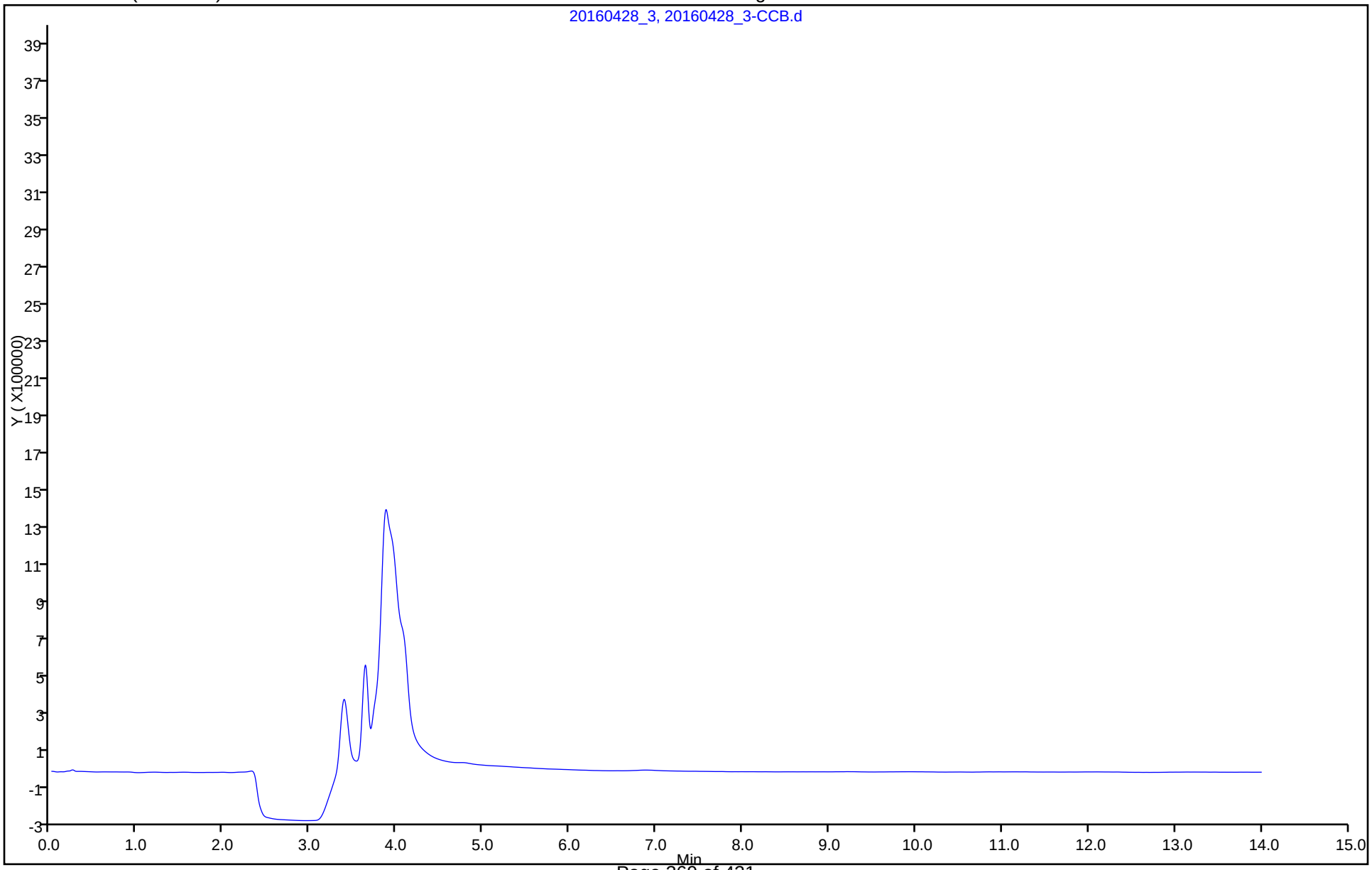
Lims ID: CCB Worklist Smp#: 1003

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327714/46
Matrix: Water
Lab File ID: 20160502_46.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/02/2016 21:29
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_46.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	02-May-2016 21:29:00	ALS Bottle#:	0	Worklist Smp#:	46
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-046				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 09:31:34	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 09:31:36 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_46.d

Injection Date: 02-May-2016 21:29:00 Instrument ID: IC-25 Operator ID:

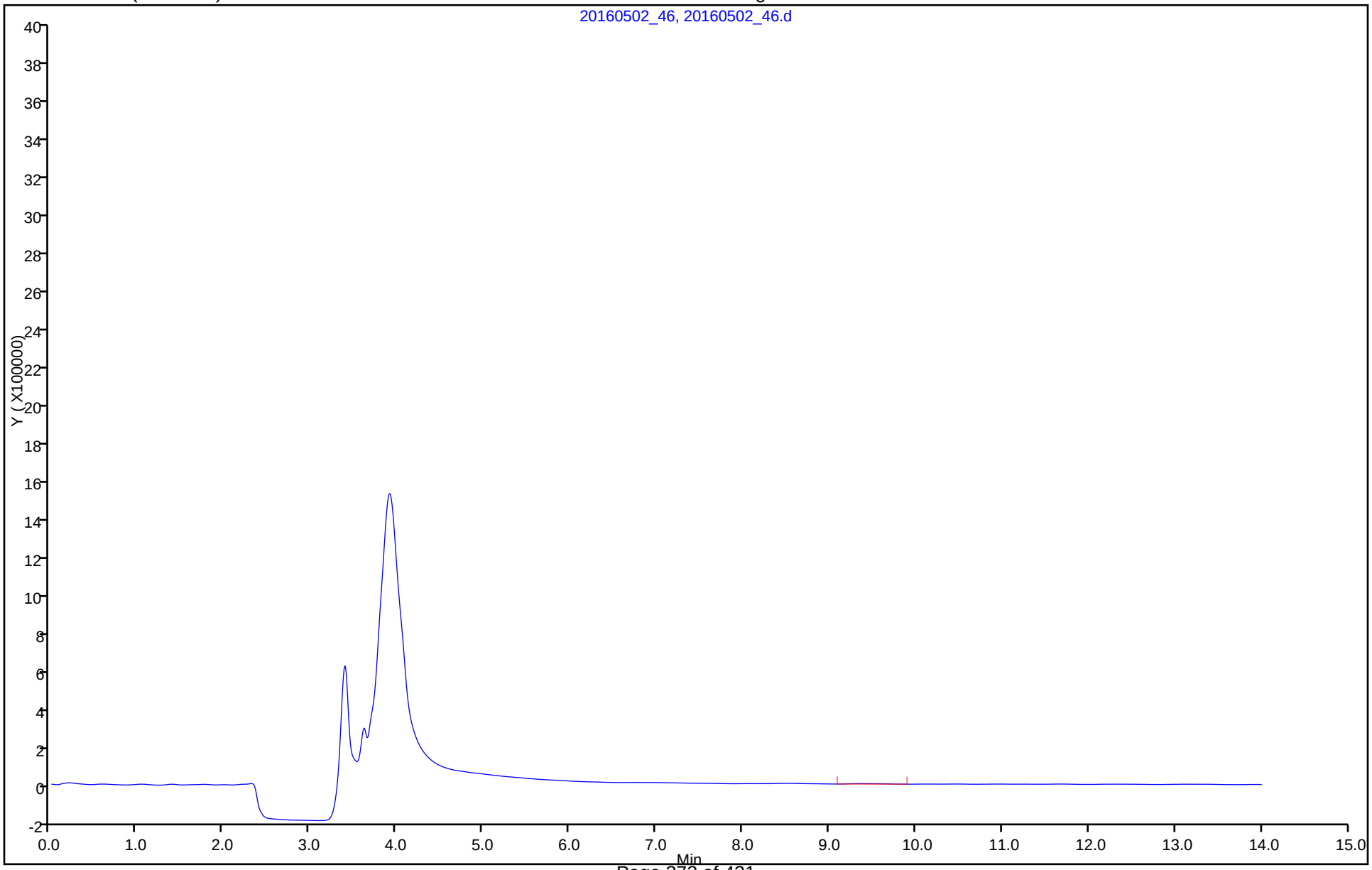
Lims ID: ccb Worklist Smp#: 46

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327714/55
Matrix: Water
Lab File ID: 20160502_55.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 00:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_55.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	03-May-2016 00:00:00	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-055				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 09:32:27	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 09:32:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_55.d

Injection Date: 03-May-2016 00:00:00 Instrument ID: IC-25 Operator ID:

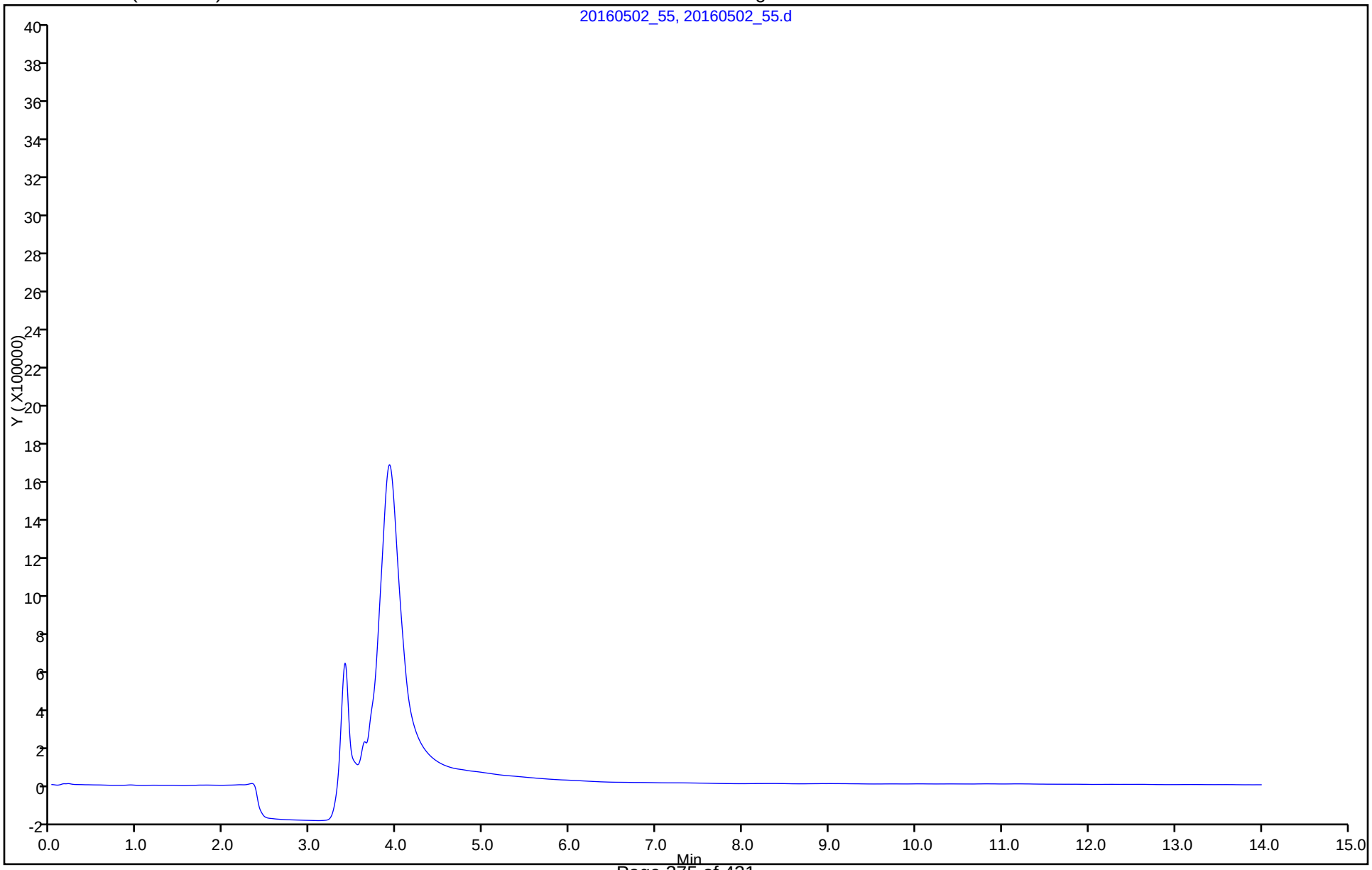
Lims ID: ccb Worklist Smp#: 55

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327714/63
Matrix: Water
Lab File ID: 20160502_63.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 02:15
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_63.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	03-May-2016 02:15:00	ALS Bottle#:	0	Worklist Smp#:	63
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-063				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 09:33:21	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 09:33:22 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_63.d

Injection Date: 03-May-2016 02:15:00 Instrument ID: IC-25 Operator ID:

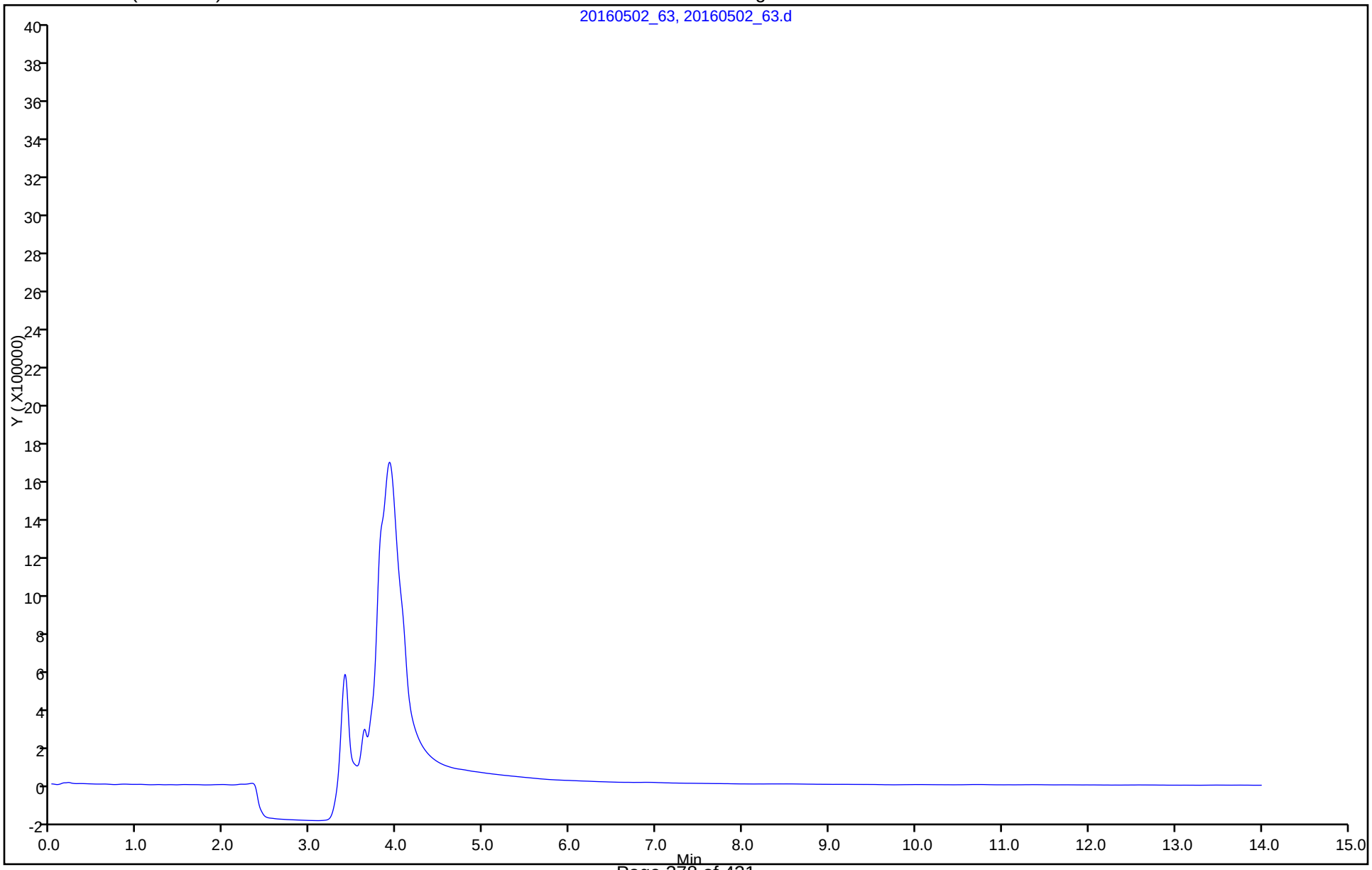
Lims ID: ccb Worklist Smp#: 63

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327049/2
Matrix: Water
Lab File ID: 20160428_2.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	24.7		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	28-Apr-2016 08:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

First Level Reviewer: hoangch Date: 28-Apr-2016 08:51:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.071	12.061	0.010	4391606	25.0	24.7	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:29 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d

Injection Date: 28-Apr-2016 08:16:00 Instrument ID: IC-25 Operator ID:

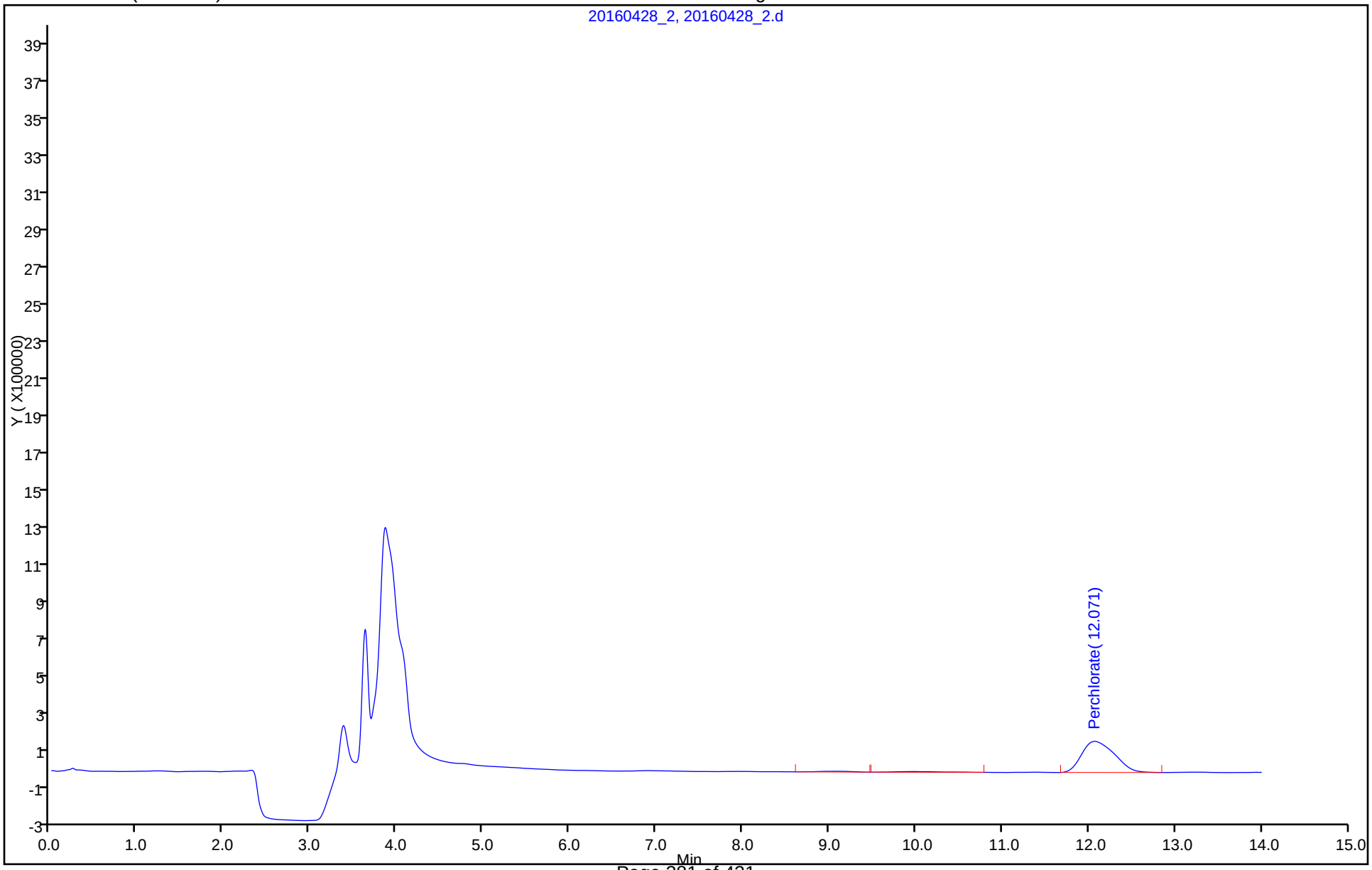
Lims ID: LCS Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

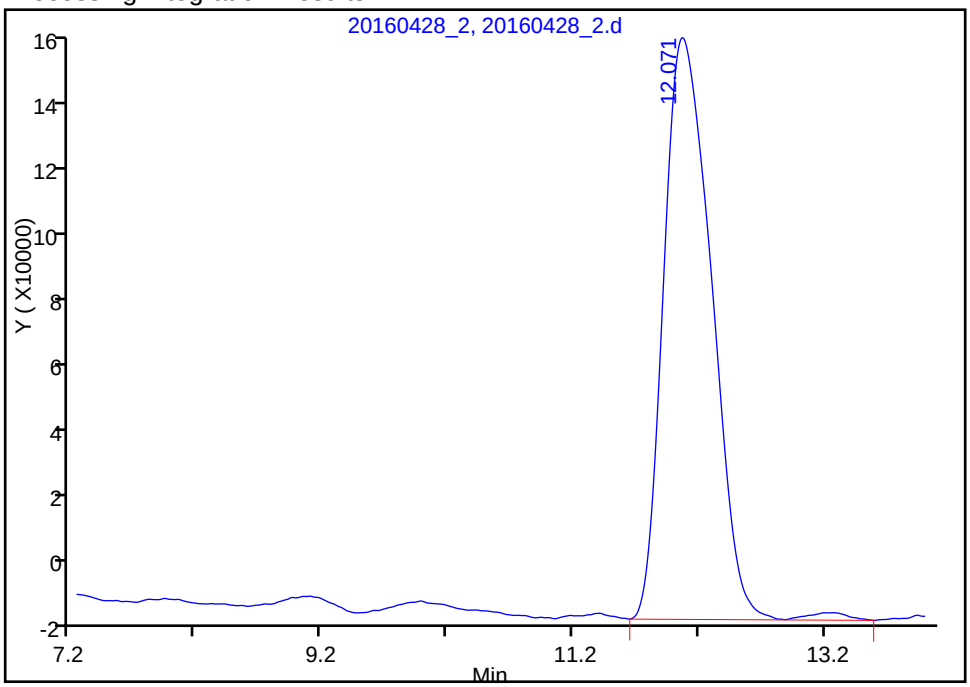
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_2.d				
Injection Date:	28-Apr-2016 08:16:00	Instrument ID:	IC-25		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

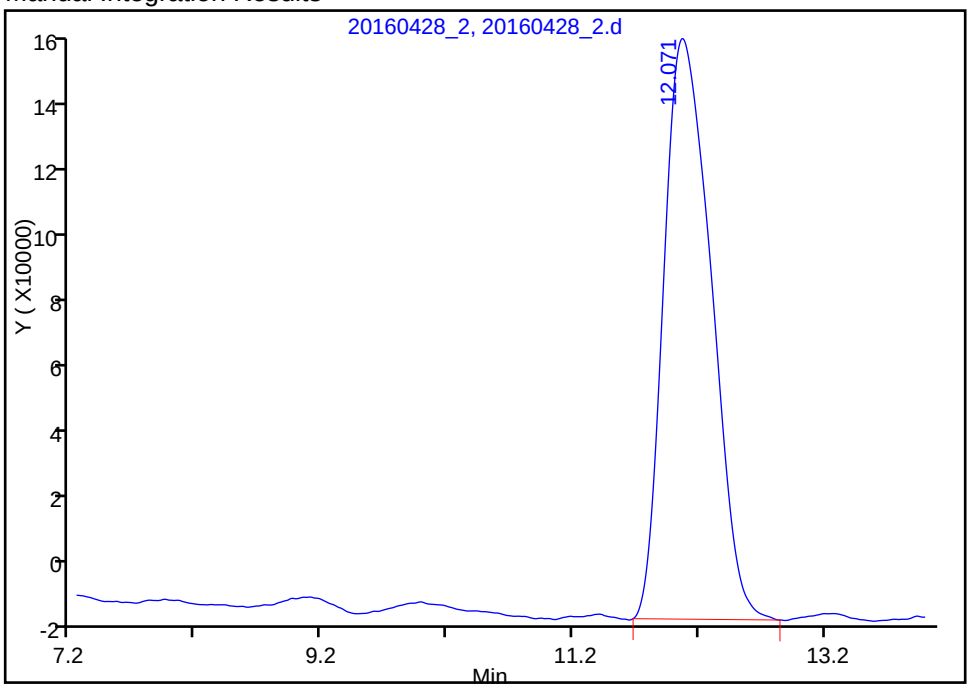
Processing Integration Results

RT: 12.07
Area: 4461649
Amount: 25.063274
Amount Units: ug/l



Manual Integration Results

RT: 12.07
Area: 4391606
Amount: 24.675440
Amount Units: ug/l



Reviewer: hoangch, 28-Apr-2016 08:51:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327714/37
Matrix: Water
Lab File ID: 20160502_37.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/02/2016 18:57
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	24.5		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_37.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	02-May-2016 18:57:00	ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072539-037				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 09:31:00	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029
Process Host:	XAWRK017		

First Level Reviewer: hoangch Date: 03-May-2016 09:29:29

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.480	12.471	0.009	4361622	25.0	24.5	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 03-May-2016 09:31:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_37.d

Injection Date: 02-May-2016 18:57:00 Instrument ID: IC-25 Operator ID:

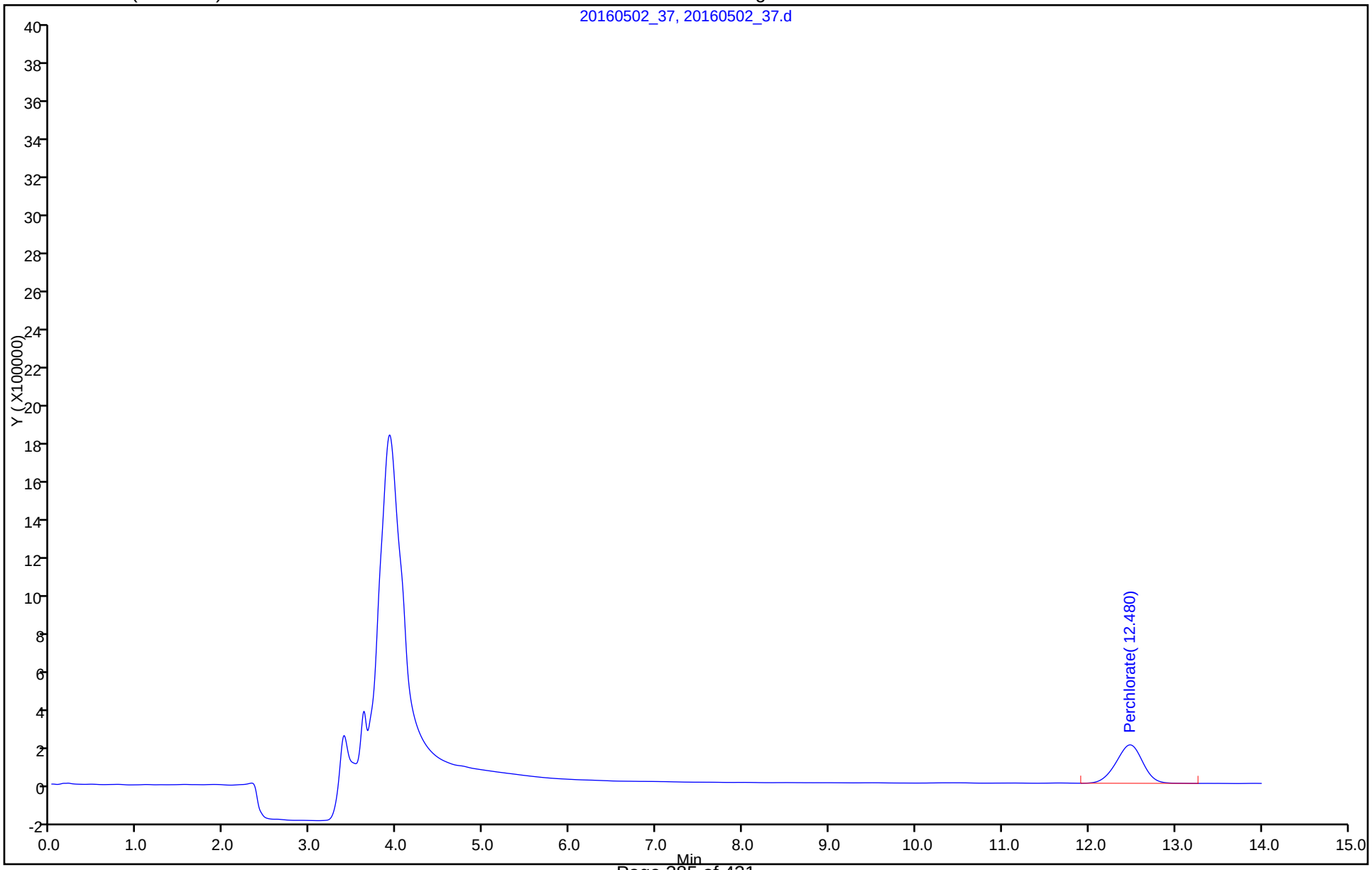
Lims ID: LCS Worklist Smp#: 37

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

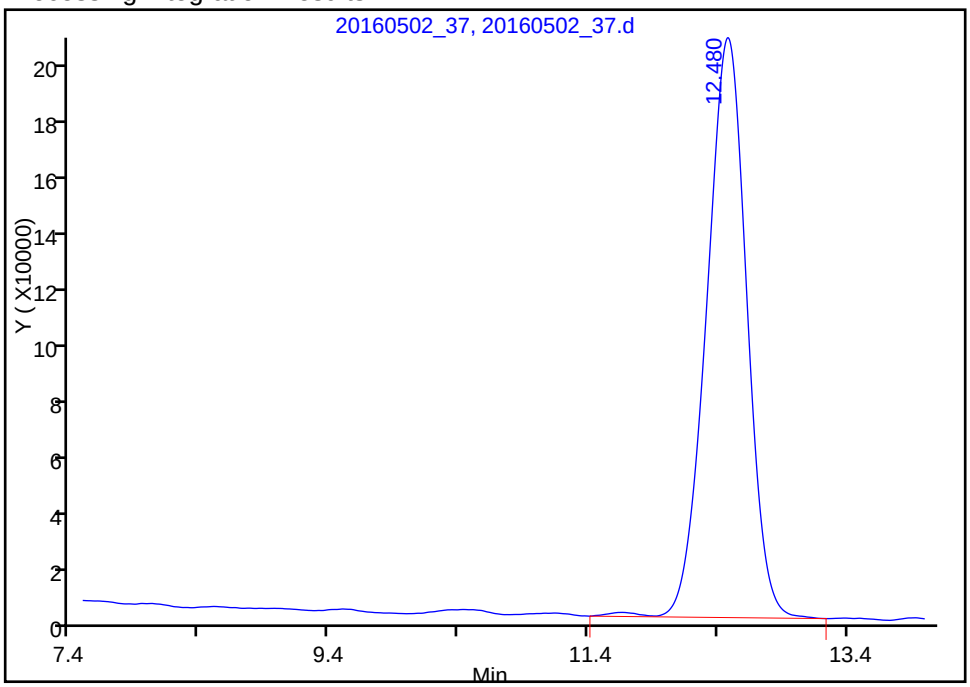
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_37.d				
Injection Date:	02-May-2016 18:57:00	Instrument ID:	IC-25		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

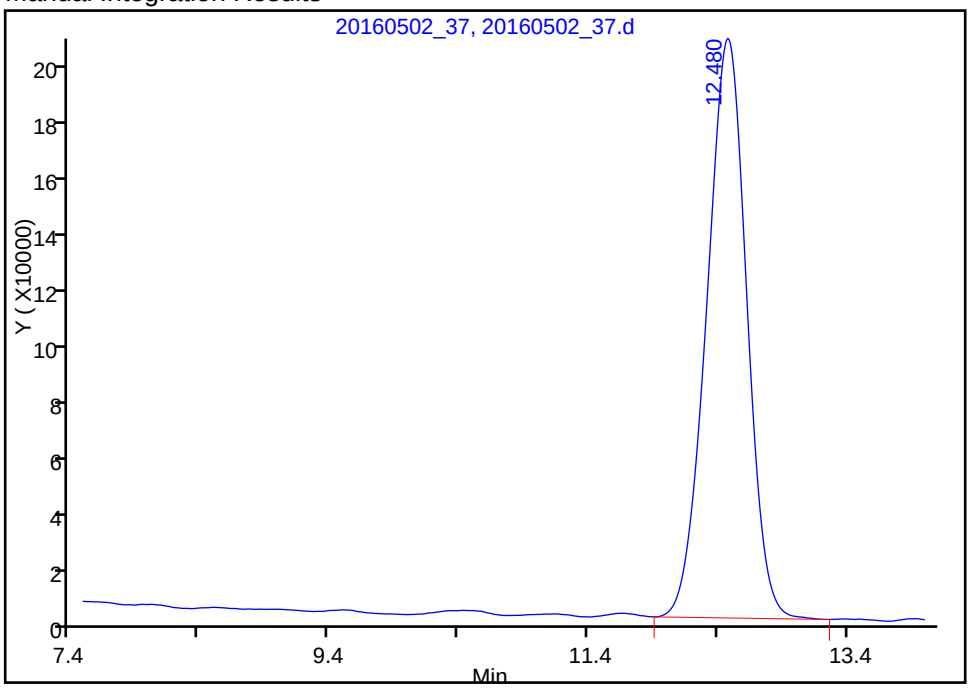
Processing Integration Results

RT: 12.48
Area: 4397398
Amount: 24.707522
Amount Units: ug/l



Manual Integration Results

RT: 12.48
Area: 4361622
Amount: 24.509327
Amount Units: ug/l



Reviewer: hoangch, 03-May-2016 09:29:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-327049/5
Matrix: Water
Lab File ID: 20160428_5.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 09:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	3.84	J	4.0	0.95

FORM I 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_5.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	28-Apr-2016 09:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.017	12.061	-0.044	706268	4.00	3.84	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_5.d

Injection Date: 28-Apr-2016 09:07:00 Instrument ID: IC-25 Operator ID:

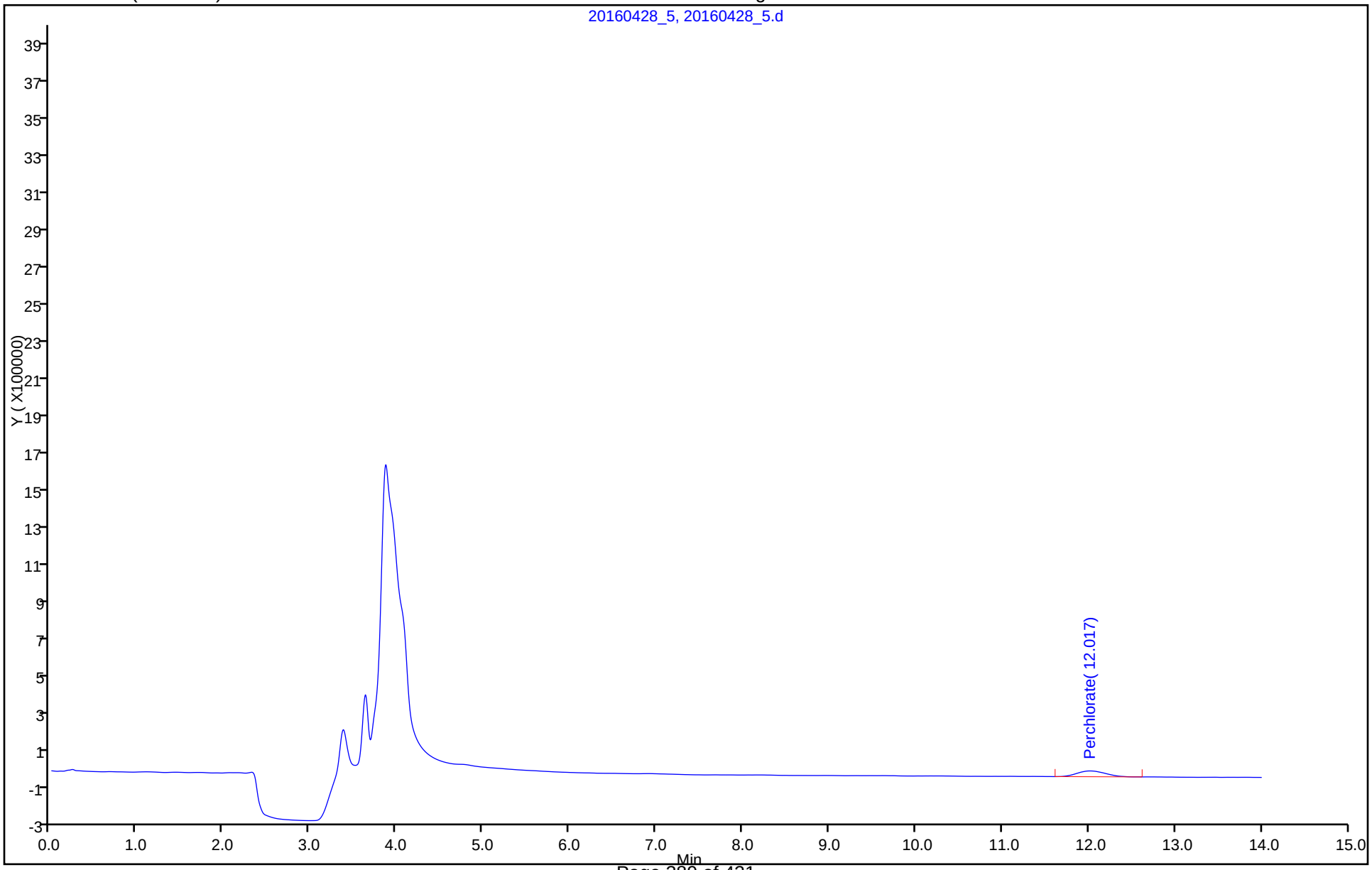
Lims ID: MRL Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: INF 440-327049/4
Matrix: Water
Lab File ID: 20160428_4.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 08:50
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327049
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	23.1		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_4.d				
Lims ID:	INF				
Client ID:					
Sample Type:	INF				
Inject. Date:	28-Apr-2016 08:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072408-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	28-Apr-2016 12:51:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK047				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	11.961	12.061	-0.100	4113123	25.0	23.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 28-Apr-2016 11:58:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160428-72408.b\20160428_4.d

Injection Date: 28-Apr-2016 08:50:00 Instrument ID: IC-25 Operator ID:

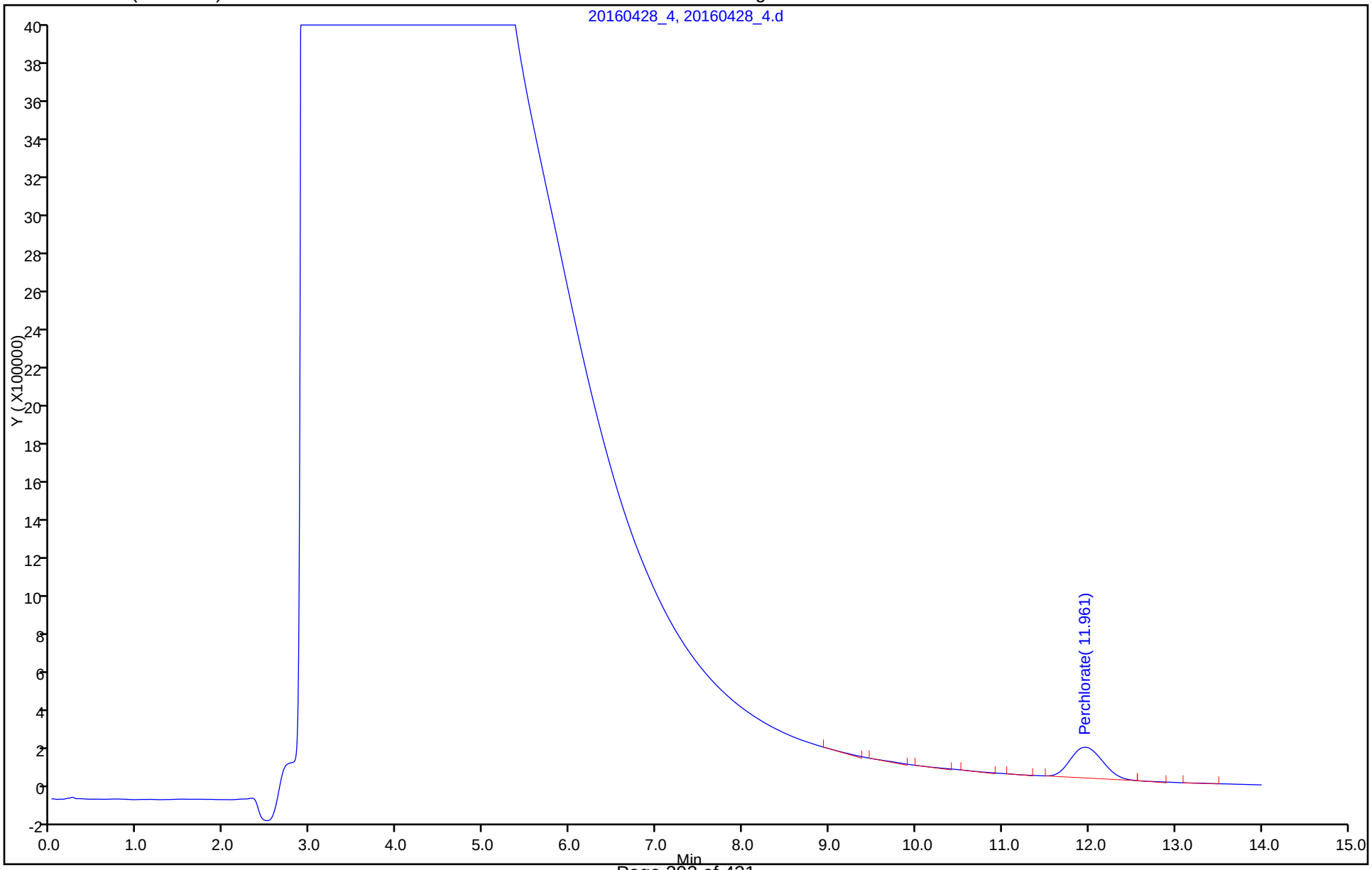
Lims ID: INF Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144516-A-7 MS
Matrix: Water
Lab File ID: 20160502_39.d
Analysis Method: 314.0
Date Collected: 04/14/2016 13:09
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/02/2016 19:31
Con. Extract Vol.:
Dilution Factor: 10000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	477000		40000	9500

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_39.d				
Lims ID:	440-144516-A-7 MS				
Client ID:	TT-TP4-M3-20160414				
Sample Type:	MS				
Inject. Date:	02-May-2016 19:31:00	ALS Bottle#:	0	Worklist Smp#:	39
Injection Vol:	1.0 ul	Dil. Factor:	10000.0000		
Sample Info:	440-0072539-039				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 09:31:00	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.451	12.471	-0.020	8640984	0.002500	47.7	

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

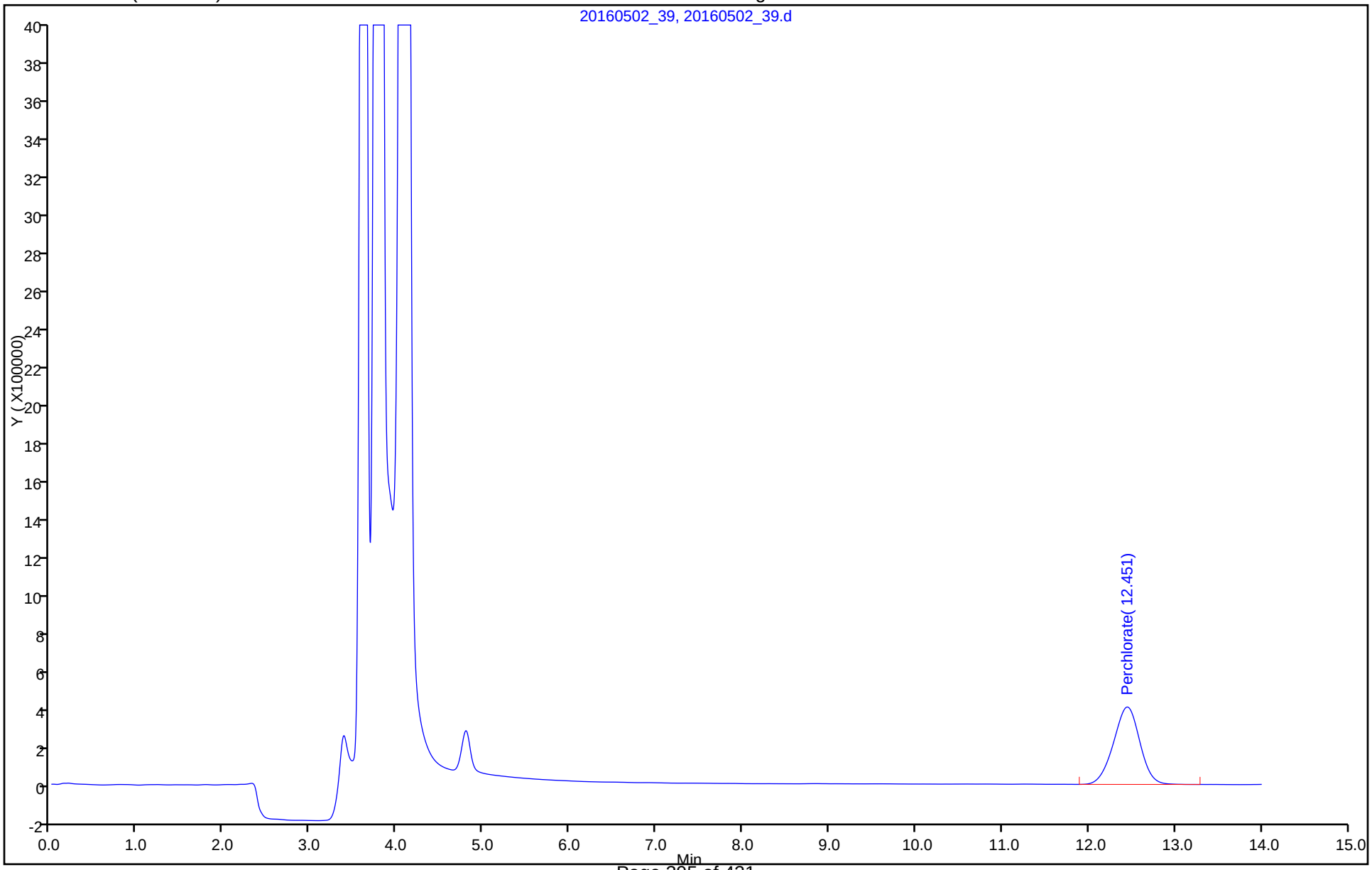
Report Date: 03-May-2016 09:31:28 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_39.d

Injection Date:	02-May-2016 19:31:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144516-A-7 MS			Worklist Smp#:	39
Client ID:	TT-TP4-M3-20160414				
Injection Vol:	1.0 ul	Dil. Factor:	10000.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-144516-A-7 MSD
Matrix: Water
Lab File ID: 20160502_40.d
Analysis Method: 314.0
Date Collected: 04/14/2016 13:09
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/02/2016 19:47
Con. Extract Vol.:
Dilution Factor: 10000
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327714
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	465000		40000	9500

FORM I 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_40.d				
Lims ID:	440-144516-A-7 MSD				
Client ID:	TT-TP4-M3-20160414				
Sample Type:	MSD				
Inject. Date:	02-May-2016 19:47:00	ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	10000.0000		
Sample Info:	440-0072539-040				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 09:31:00	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

First Level Reviewer: hoangch Date: 03-May-2016 09:30:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.481	12.471	0.010	8410856	0.002500	46.5	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

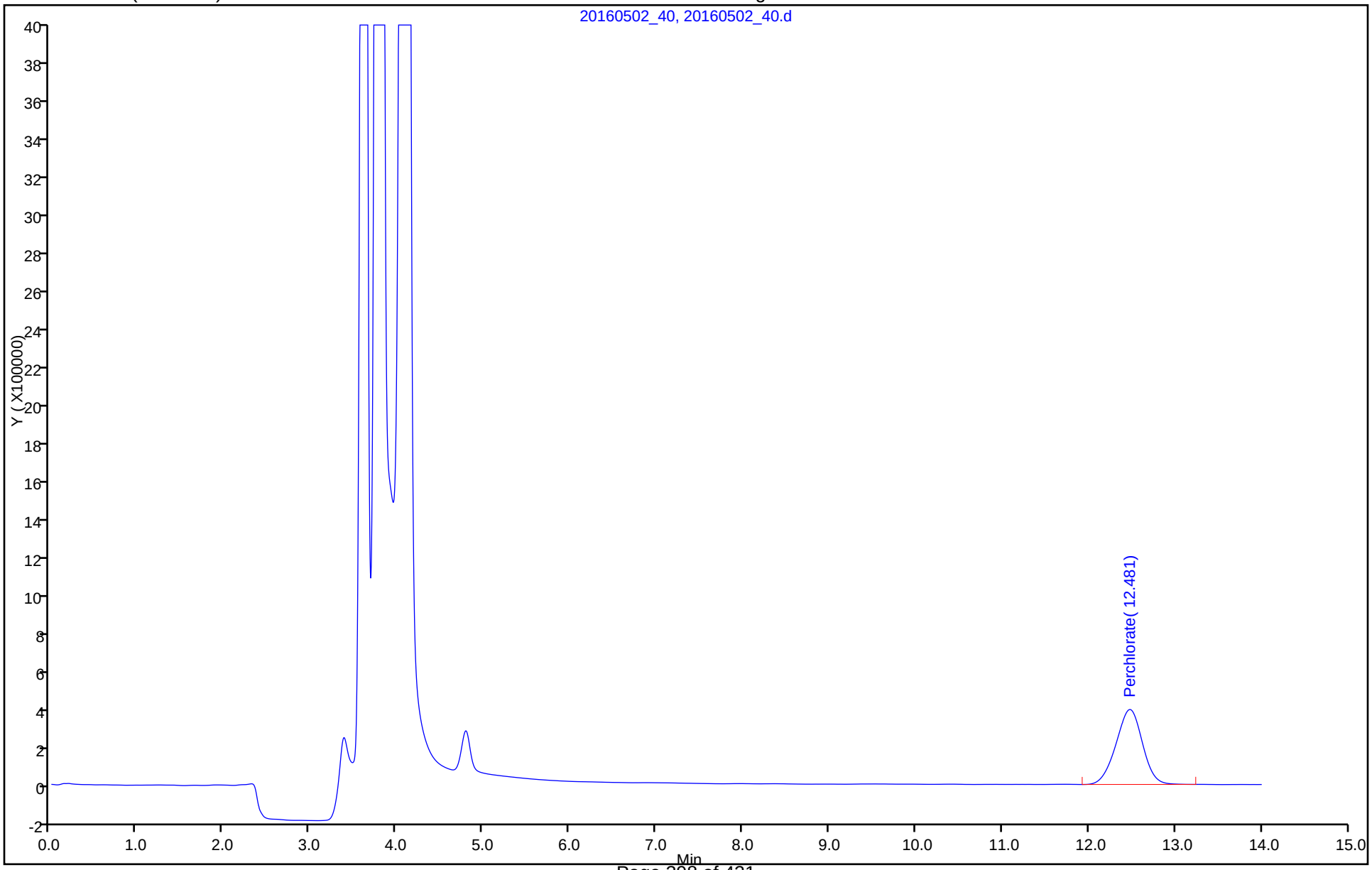
Report Date: 03-May-2016 09:31:29 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_40.d

Injection Date:	02-May-2016 19:47:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-144516-A-7 MSD			Worklist Smp#:	40
Client ID:	TT-TP4-M3-20160414				
Injection Vol:	1.0 ul	Dil. Factor:	10000.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

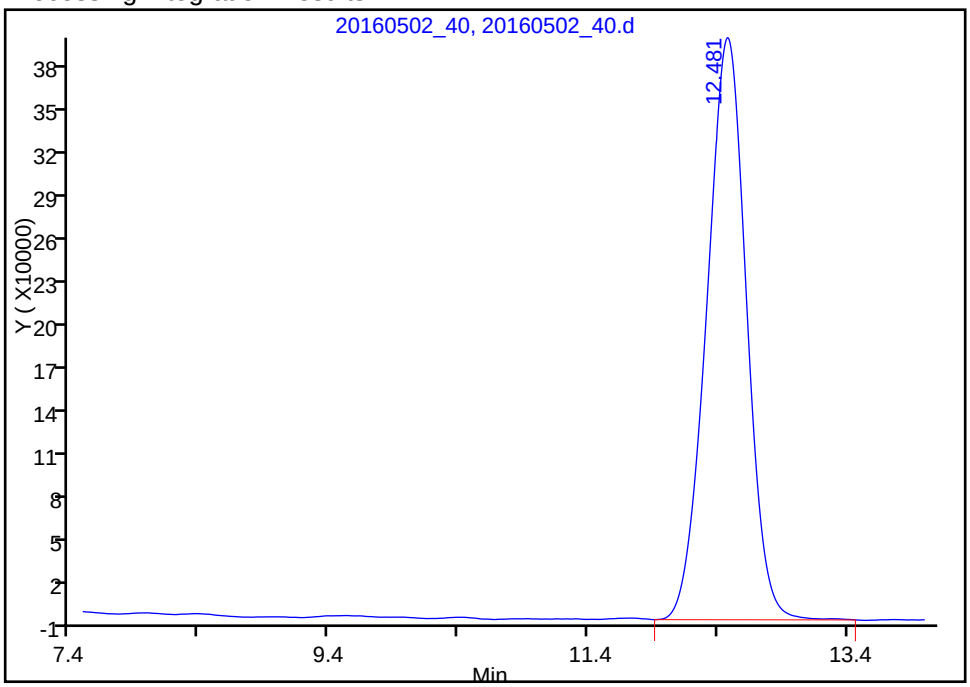
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160502-72539.b\20160502_40.d				
Injection Date:	02-May-2016 19:47:00	Instrument ID:	IC-25		
Lims ID:	440-144516-A-7 MSD				
Client ID:	TT-TP4-M3-20160414				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	10000.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

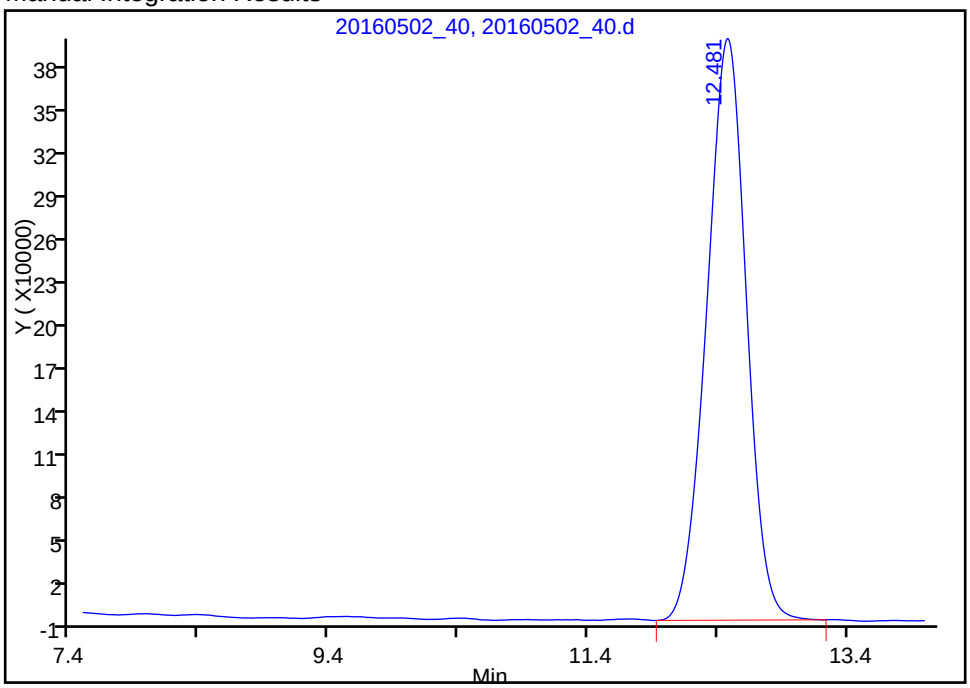
Processing Integration Results

RT: 12.48
Area: 8445776
Amount: 46.663677
Amount Units: ug/l



Manual Integration Results

RT: 12.48
Area: 8410856
Amount: 46.478123
Amount Units: ug/l



Reviewer: hoangch, 03-May-2016 09:30:16

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/22/2016 15:00

Analysis Batch Number: 325991 End Date: 04/22/2016 17:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 440-325991/1 IC		04/22/2016 15:00	1		AS7 4(mm)
STD2 440-325991/2 IC		04/22/2016 15:16	1	20160422 ICAL 2.d	AS7 4(mm)
STD3 440-325991/3 IC		04/22/2016 15:33	1	20160422 ICAL 3.d	AS7 4(mm)
STD4 440-325991/4 IC		04/22/2016 15:50	1	20160422 ICAL 4.d	AS7 4(mm)
STD5 440-325991/5 IC		04/22/2016 16:07	1	20160422 ICAL 5.d	AS7 4(mm)
STD6 440-325991/6 IC		04/22/2016 16:24	1	20160422 ICAL 6.d	AS7 4(mm)
STD7 440-325991/7 IC		04/22/2016 16:41	1	20160422 ICAL 7.d	AS7 4(mm)
STD8 440-325991/8 IC		04/22/2016 16:58	1	20160422 ICAL 8.d	AS7 4(mm)
ICV 440-325991/9		04/22/2016 17:14	1	20160422 ICAL 9.d	AS7 4(mm)
ZZZZZ		04/22/2016 17:31	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/28/2016 08:00

Analysis Batch Number: 327049 End Date: 04/29/2016 02:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/28/2016 08:00	1		AS7 4(mm)
LCS 440-327049/2		04/28/2016 08:16	1	20160428_2.d	AS7 4(mm)
CCV 440-327049/1002		04/28/2016 08:16	1	20160428_2-CCV.d	AS7 4(mm)
MB 440-327049/3		04/28/2016 08:33	1	20160428_3.d	AS7 4(mm)
CCB 440-327049/1003		04/28/2016 08:33	1	20160428_3-CCB.d	AS7 4(mm)
INF 440-327049/4		04/28/2016 08:50	1	20160428_4.d	AS7 4(mm)
MRL 440-327049/5		04/28/2016 09:07	1	20160428_5.d	AS7 4(mm)
ZZZZZ		04/28/2016 09:28	1		AS7 4(mm)
ZZZZZ		04/28/2016 09:53	1000		AS7 4(mm)
ZZZZZ		04/28/2016 10:09	10000		AS7 4(mm)
ZZZZZ		04/28/2016 10:26	1000		AS7 4(mm)
ZZZZZ		04/28/2016 10:43	1000		AS7 4(mm)
ZZZZZ		04/28/2016 11:00	1000		AS7 4(mm)
ZZZZZ		04/28/2016 11:17	1000		AS7 4(mm)
ZZZZZ		04/28/2016 11:34	100		AS7 4(mm)
ZZZZZ		04/28/2016 11:50	100		AS7 4(mm)
CCV 440-327049/16		04/28/2016 12:07	1	20160428_16.d	AS7 4(mm)
CCB 440-327049/17		04/28/2016 12:24	1		AS7 4(mm)
ZZZZZ		04/28/2016 12:41	50000		AS7 4(mm)
ZZZZZ		04/28/2016 12:57	100		AS7 4(mm)
ZZZZZ		04/28/2016 13:14	100		AS7 4(mm)
ZZZZZ		04/28/2016 13:31	100		AS7 4(mm)
ZZZZZ		04/28/2016 13:48	100		AS7 4(mm)
ZZZZZ		04/28/2016 14:05	50000		AS7 4(mm)
ZZZZZ		04/28/2016 14:22	50000		AS7 4(mm)
ZZZZZ		04/28/2016 14:38	50000		AS7 4(mm)
CCV 440-327049/26		04/28/2016 14:55	1	20160428_26.d	AS7 4(mm)
CCB 440-327049/27		04/28/2016 15:12	1	20160428_27.d	AS7 4(mm)
440-144940-1		04/28/2016 15:29	100	20160428_28.d	AS7 4(mm)
ZZZZZ		04/28/2016 15:46	100		AS7 4(mm)
440-144940-3		04/28/2016 16:03	100	20160428_30.d	AS7 4(mm)
ZZZZZ		04/28/2016 16:20	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:36	100		AS7 4(mm)
ZZZZZ		04/28/2016 16:53	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:10	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:27	100		AS7 4(mm)
ZZZZZ		04/28/2016 17:44	100		AS7 4(mm)
CCV 440-327049/37		04/28/2016 18:01	1	20160428_37.d	AS7 4(mm)
CCB 440-327049/38		04/28/2016 18:18	1	20160428_38.d	AS7 4(mm)
ZZZZZ		04/28/2016 18:34	1		AS7 4(mm)
ZZZZZ		04/28/2016 18:51	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:08	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:25	1		AS7 4(mm)
ZZZZZ		04/28/2016 19:42	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/28/2016 08:00

Analysis Batch Number: 327049 End Date: 04/29/2016 02:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/28/2016 19:59	1		AS7 4(mm)
ZZZZZ		04/28/2016 20:16	1		AS7 4(mm)
CCV 440-327049/46		04/28/2016 20:33	1		AS7 4(mm)
CCB 440-327049/47		04/28/2016 20:50	1		AS7 4(mm)
ZZZZZ		04/28/2016 21:06	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:23	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:40	100		AS7 4(mm)
ZZZZZ		04/28/2016 21:57	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:14	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:31	100		AS7 4(mm)
ZZZZZ		04/28/2016 22:48	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:04	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:21	100		AS7 4(mm)
ZZZZZ		04/28/2016 23:38	100		AS7 4(mm)
CCV 440-327049/58		04/28/2016 23:55	1		AS7 4(mm)
CCB 440-327049/59		04/29/2016 00:12	1		AS7 4(mm)
ZZZZZ		04/29/2016 00:29	100		AS7 4(mm)
ZZZZZ		04/29/2016 00:46	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:03	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:20	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:37	100		AS7 4(mm)
ZZZZZ		04/29/2016 01:53	100		AS7 4(mm)
CCV 440-327049/66		04/29/2016 02:10	1		AS7 4(mm)
CCB 440-327049/67		04/29/2016 02:27	1		AS7 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/02/2016 08:14

Analysis Batch Number: 327714 End Date: 05/03/2016 02:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/02/2016 08:14	1		AS7 4(mm)
ZZZZZ		05/02/2016 08:31	1		AS7 4(mm)
CCV 440-327714/1002		05/02/2016 08:31	1		AS7 4(mm)
ZZZZZ		05/02/2016 08:48	1		AS7 4(mm)
CCB 440-327714/1003		05/02/2016 08:48	1		AS7 4(mm)
INF 440-327714/4		05/02/2016 09:05	1		AS7 4(mm)
ZZZZZ		05/02/2016 09:22	1		AS7 4(mm)
ZZZZZ		05/02/2016 09:42	10		AS7 4(mm)
ZZZZZ		05/02/2016 10:26	10		AS7 4(mm)
ZZZZZ		05/02/2016 10:43	10		AS7 4(mm)
ZZZZZ		05/02/2016 11:00	100		AS7 4(mm)
ZZZZZ		05/02/2016 11:18	1		AS7 4(mm)
ZZZZZ		05/02/2016 11:34	1		AS7 4(mm)
CCV 440-327714/12		05/02/2016 11:51	1		AS7 4(mm)
CCB 440-327714/13		05/02/2016 12:08	1		AS7 4(mm)
ZZZZZ		05/02/2016 12:25	1000		AS7 4(mm)
ZZZZZ		05/02/2016 12:42	1000		AS7 4(mm)
ZZZZZ		05/02/2016 12:59	1000		AS7 4(mm)
ZZZZZ		05/02/2016 13:16	1000		AS7 4(mm)
ZZZZZ		05/02/2016 13:33	1000		AS7 4(mm)
ZZZZZ		05/02/2016 13:51	1000		AS7 4(mm)
ZZZZZ		05/02/2016 14:08	1000		AS7 4(mm)
ZZZZZ		05/02/2016 14:25	1000		AS7 4(mm)
ZZZZZ		05/02/2016 14:42	1000		AS7 4(mm)
ZZZZZ		05/02/2016 14:58	1000		AS7 4(mm)
CCV 440-327714/24		05/02/2016 15:15	1		AS7 4(mm)
CCB 440-327714/25		05/02/2016 15:32	1		AS7 4(mm)
ZZZZZ		05/02/2016 15:49	100		AS7 4(mm)
CCV 440-327714/27		05/02/2016 16:08	1		AS7 4(mm)
CCB 440-327714/28		05/02/2016 16:25	1		AS7 4(mm)
ZZZZZ		05/02/2016 16:42	10000		AS7 4(mm)
ZZZZZ		05/02/2016 16:59	10000		AS7 4(mm)
ZZZZZ		05/02/2016 17:16	10000		AS7 4(mm)
ZZZZZ		05/02/2016 17:32	10000		AS7 4(mm)
ZZZZZ		05/02/2016 17:49	10000		AS7 4(mm)
CCV 440-327714/34		05/02/2016 18:06	1		AS7 4(mm)
CCB 440-327714/35		05/02/2016 18:23	1		AS7 4(mm)
MB 440-327714/36		05/02/2016 18:40	1	20160502_36.d	AS7 4(mm)
LCS 440-327714/37		05/02/2016 18:57	1	20160502_37.d	AS7 4(mm)
ZZZZZ		05/02/2016 19:14	10000		AS7 4(mm)
440-144516-A-7 MS		05/02/2016 19:31	10000	20160502_39.d	AS7 4(mm)
440-144516-A-7 MSD		05/02/2016 19:47	10000	20160502_40.d	AS7 4(mm)
ZZZZZ		05/02/2016 20:04	10		AS7 4(mm)
ZZZZZ		05/02/2016 20:21	10		AS7 4(mm)
ZZZZZ		05/02/2016 20:38	1000		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/02/2016 08:14

Analysis Batch Number: 327714 End Date: 05/03/2016 02:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/02/2016 20:55	1000		AS7 4(mm)
CCV 440-327714/45		05/02/2016 21:12	1	20160502_45.d	AS7 4(mm)
CCB 440-327714/46		05/02/2016 21:29	1	20160502_46.d	AS7 4(mm)
ZZZZZ		05/02/2016 21:45	10000		AS7 4(mm)
ZZZZZ		05/02/2016 22:02	10000		AS7 4(mm)
ZZZZZ		05/02/2016 22:19	10000		AS7 4(mm)
ZZZZZ		05/02/2016 22:36	10000		AS7 4(mm)
ZZZZZ		05/02/2016 22:53	10000		AS7 4(mm)
ZZZZZ		05/02/2016 23:10	10000		AS7 4(mm)
ZZZZZ		05/02/2016 23:27	10000		AS7 4(mm)
CCV 440-327714/54		05/02/2016 23:43	1	20160502_54.d	AS7 4(mm)
CCB 440-327714/55		05/03/2016 00:00	1	20160502_55.d	AS7 4(mm)
ZZZZZ		05/03/2016 00:17	100		AS7 4(mm)
ZZZZZ		05/03/2016 00:34	100		AS7 4(mm)
ZZZZZ		05/03/2016 00:51	100		AS7 4(mm)
ZZZZZ		05/03/2016 01:08	100		AS7 4(mm)
440-144940-2		05/03/2016 01:25	1	20160502_60.d	AS7 4(mm)
ZZZZZ		05/03/2016 01:42	10		AS7 4(mm)
CCV 440-327714/62		05/03/2016 01:59	1	20160502_62.d	AS7 4(mm)
CCB 440-327714/63		05/03/2016 02:15	1	20160502_63.d	AS7 4(mm)

314.0

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144940-1

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
DBMW-5-20160419	440-144940-1
DBMW-4-20160419-EB	440-144940-2
DBMW-4-20160419	440-144940-3

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-5-20160419
Lab Sample ID: 440-144940-1
Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 09:30
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	5500	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-4-20160419-EB
Lab Sample ID: 440-144940-2
Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 11:30
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	ND	10	5.0	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DBMW-4-20160419
Lab Sample ID: 440-144940-3
Lab Name: TestAmerica Irvine
Job No.: 440-144940-1
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 11:00
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	5700	100	50	mg/L			1	SM 2540C

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 326343 Date: 04/25/2016 13:01							
SM 2540C	MB 440-326343/1	Total Dissolved Solids	ND		mg/L	10	1

FORM III-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 326343 Date: 04/25/2016 13:01								
SM 2540C		440-144937-C-3	Total Dissolved Solids	6000	mg/L			
SM 2540C		440-144937-C-3 DU	Total Dissolved Solids	6110	mg/L	2	5	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 326343	Date: 04/25/2016 13:01										
						LCS Source: wctdslcs_00060					
SM 2540C	LCS 440-326343/2	Total Dissolved Solids	990		mg/L	1000	99	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144940-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C MDL Date: 10/04/2010 16:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-144940-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C XMDL Date: 11/16/2010 10:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Instrument ID: BAL065 Analysis Method: SM 2540C

Start Date: 04/25/2016 13:01 End Date: 04/25/2016 13:01

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 440-326343/1	1	T	13:01	X																							
LCS 440-326343/2	1	T	13:01	X																							
ZZZZZZ			13:01																								
440-144937-C-3 DU	1	T	13:01	X																							
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
440-144940-1	1	T	13:01	X																							
440-144940-2	1	T	13:01	X																							
440-144940-3	1	T	13:01	X																							
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
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ZZZZZZ			13:01																								
ZZZZZZ			13:01																								
ZZZZZZ			13:01																								

Prep Types:
T = Total/NA

FORM XIII-IN

Daily Balance Calibration Log

DATE: 04.25.16 Weight Set ID: D-6
INITIALS: MCH Calib Due: 01.11.17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
67	0.4999	1.0000	50.0001	99.9998	OK	0.1000 g OK
65	0.5000	1.0000	50.0003	100.0005	OK	
63	0.49	0.99	50	100	O.K	CDH

DATE: 4-26-16 Weight Set ID: D-6
INITIALS: CDH Calib Due: 1-11-17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
6.3	0.49	0.99	50	100	O.K	

DATE: 4/26/16 Weight Set ID: D-8
INITIALS: BL Calib Due: 1/12/17

ID#	~~0.5g~~ 5mg	~~1g~~ 2mg	~~50g~~ 50mg	~~100g~~ 100mg	OK?	COMMENTS/MAINTENANCE
73	0.0050	0.0020	0.0500	0.1000	OK	
		BL				
		4/26/14				

DATE: 4/26/16 Weight Set ID: D6
INITIALS: CH Calib Due: 1/11/17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
67	0.4999	1.0000	50.0000	99.9998	OK	0.100 1 g OKEK
65	0.5000	1.0000	50.0001	100.0004	OK	
63	0.50	0.99	50	100	OK	
			CH	4/26/16		

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Batch Number: 326343 Batch Start Date: 04/25/16 13:01 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/28/16 08:18

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	InitialAmount	TareWeight	Weight1	Weight2	Weight3
MB 440-326343/1		SM 2540C			100 mL	79.4170 g	79.4173 g	79.4173 g	0 g
LCS 440-326343/2		SM 2540C			50 mL	76.8281 g	76.8776 g	76.8776 g	0 g
440-144937-C-3 DU		SM 2540C	T	6420 umhos/cm	10 mL	77.8772 g	77.9383 g	77.9383 g	0 g
440-144940-B-1	DBMW-5-20160419	SM 2540C	T	6400 umhos/cm	10 mL	69.6582 g	69.7135 g	69.7135 g	0 g
440-144940-B-2	DBMW-4-20160419-EB	SM 2540C	T	2.14 umhos/cm	100 mL	77.1016 g	77.1018 g	77.1018 g	0 g
440-144940-B-3	DBMW-4-20160419	SM 2540C	T	6440 umhos/cm	10 mL	76.3200 g	76.3768 g	76.3768 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 440-326343/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0003 g	0.0003 g	N/A g
LCS 440-326343/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0495 g	0.0495 g	N/A g
440-144937-C-3 DU		SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0611 g	0.0611 g	N/A g
440-144940-B-1	DBMW-5-20160419	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0553 g	0.0553 g	N/A g
440-144940-B-2	DBMW-4-20160419-EB	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0002 g	0.0002 g	N/A g
440-144940-B-3	DBMW-4-20160419	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0568 g	0.0568 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	wctdslcs 00060	AnalysisComment	
MB 440-326343/1		SM 2540C		N/A g	100 mL	OK		pH6, 12880, 12920, 0.87, 1087	
LCS 440-326343/2		SM 2540C		N/A g	100 mL	OK	50 mL	pH6	
440-144937-C-3 DU		SM 2540C	T	N/A g	100 mL	OK		pH7	
440-144940-B-1	DBMW-5-20160419	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-144940-B-2	DBMW-4-20160419-EB	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-144940-B-3	DBMW-4-20160419	SM 2540C	T	N/A g	100 mL	OK		pH7, 1069	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144940-1

SDG No.:

Batch Number: 326343 Batch Start Date: 04/25/16 13:01 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/28/16 08:18

Batch Notes	
Balance ID	65
Conductivity Meter ID	Cond04
Constant Weight (WT2) Date/Time In	04.26.16@12:00
Constant Weight (WT2) Date/Time Out	04.26.16@12:30
Constant Weight (WT2) Temp In	180 Degrees C
Constant Weight (WT2) Temp Out	180 Degrees C
Uncorrected CW (Wt2) Temp In	0.00 Degrees C
Uncorrected CW (Wt2) Temp Out	0.00 Degrees C
Corrected Temperature in Oven	100 Degrees C
Corrected Temperature out of Oven	100 Degrees C
Date/Time Samples placed in Oven	04.25.16@15:30
Date/Time Samples Removed from Oven	04.26.16@7:00
Filter Paper ID	9704995
Nominal Amount Used	100 mL
Oven ID	08
Pipette ID	135, 105
Thermometer ID	D-015
Uncorrected In Temperature	0.00 Degrees C
Uncorrected Out Temperature	0.00 Degrees C
Weight(WT1) Start Date/Time	04.26.16@8:00
Weight(WT1) Date/Time Out	04.26.16@10:00
Weight(WT1) Start Temp	180 Degrees C
Weight(WT1) Temp Out	180 Degrees C
Uncorrected Weight(WT1) Start Temp	0.00 Degrees C
Uncorrected Weight(WT1) Temp Out	0.00 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zoe Diermier	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate										Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	N										X	
DBMW-5-20160419	4-19-16	0930	G	W	Y	N	X	X	X											
DBMW-4-20160419-EB	4-19-16	1130	G	W	Y	N	X	X	X											
DBMW-4-20160419	4-19-16	1100	G	W	N	N	X		X											
			G	W																
			G	W																
			G	W																
			G	W																
			G	W																
			G	W																
			G	W																
			G	W																

440-144940 Chain of Custody

4/20/16

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: Fed: 6559 2840 6903

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4-19-16 1430	AECOM	[signature]	4/19/16 1430	TA
[signature]	4-19-16 1600	TA	[signature]	4/20/16 9:50	TAI

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: CS 4.3/4.1 3.8/3.6 3.5/3.3 3.9/3.7

4.1 TALAS

IR-78

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-144940-1

Login Number: 144940
List Number: 1
Creator: Garcia, Veronica G

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-144940-2

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/10/2016 4:29 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/10/2016

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-144940-2

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/20/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.3º C, 3.6º C, 3.7º C and 4.1º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

METALS (ICPMS)

Samples DBMW-5-20160419 (440-144940-1) and DBMW-4-20160419-EB (440-144940-2) were analyzed for metals (ICPMS) in accordance with 200.8. The samples were prepared on 04/22/2016 and analyzed on 04/25/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Client Sample ID: DBMW-5-20160419 — Lab Sample ID: 440-144940-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	110		2.0	0.50	ug/L	1		200.8	Dissolved

Client Sample ID: DBMW-4-20160419-EB — Lab Sample ID: 440-144940-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Client Sample ID: DBMW-5-20160419

Lab Sample ID: 440-144940-1
Date Collected: 04/19/16 09:30
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	110		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:33	1

Client Sample ID: DBMW-4-20160419-EB

Lab Sample ID: 440-144940-2
Date Collected: 04/19/16 11:30
Matrix: Water
Date Received: 04/20/16 09:50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:35	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units	Method
Chromium	2.0	0.50	ug/L	200.8

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-326042/1-A
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 326042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.50	ug/L		04/22/16 17:22	04/25/16 15:00	1

Lab Sample ID: LCS 440-326042/2-A
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 326042

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			80.0	72.9		ug/L		91	85 - 115		

Lab Sample ID: 440-144937-B-3-B MS
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 326042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium	55		80.0	121		ug/L		82	70 - 130		

Lab Sample ID: 440-144937-B-3-C MSD
Matrix: Water
Analysis Batch: 326501

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 326042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	55		80.0	122		ug/L		84	70 - 130	1	20

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Metals

Prep Batch: 326042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-B-3-B MS	Matrix Spike	Dissolved	Water	200.2	
440-144937-B-3-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-144940-1	DBMW-5-20160419	Dissolved	Water	200.2	
440-144940-2	DBMW-4-20160419-EB	Dissolved	Water	200.2	
LCS 440-326042/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-326042/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 326501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-144937-B-3-B MS	Matrix Spike	Dissolved	Water	200.8	326042
440-144937-B-3-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	326042
440-144940-1	DBMW-5-20160419	Dissolved	Water	200.8	326042
440-144940-2	DBMW-4-20160419-EB	Dissolved	Water	200.8	326042
CRI 440-326501/10	DL		Water	200.8	
CRI 440-326501/11	DL		Water	200.8	
ICSA 440-326501/12	ICS		Water	200.8	
ICSAB 440-326501/13	ICS		Water	200.8	
LCS 440-326042/2-A	Lab Control Sample	Total Recoverable	Water	200.8	326042
MB 440-326042/1-A	Method Blank	Total Recoverable	Water	200.8	326042

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Client Sample ID: DBMW-5-20160419 — Lab Sample ID: 440-144940-1

Date Collected: 04/19/16 09:30
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		1	326501	04/25/16 15:33	RC	TAL IRV

Client Sample ID: DBMW-4-20160419-EB — Lab Sample ID: 440-144940-2

Date Collected: 04/19/16 11:30
Date Received: 04/20/16 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326042	04/22/16 17:22	K1E	TAL IRV
Dissolved	Analysis	200.8		1	326501	04/25/16 15:35	RC	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-144940-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-144940-1	DBMW-5-20160419	Water	04/19/16 09:30	04/20/16 09:50
440-144940-2	DBMW-4-20160419-EB	Water	04/19/16 11:30	04/20/16 09:50

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME HCl_00317	04/06/17	Fisher Chemical, Lot 4115100			(Purchased Reagent)		Stock Chemical	100 %
ME HNO3_00327	04/11/17	Macron Fine Chemicals, Lot 0000129810			(Purchased Reagent)		Stock Chemical	1 %
ME ICPMS CAL_00027	07/09/16	02si, Lot 1084886			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
MEICPMS4 CCV_00993	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME_CALSTD#1_00004	1.25 mL	Chromium	50 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 ICSA_00993	01/01/18	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100000 ug/L
							Ca	100000 ug/L
							Fe	100000 ug/L
							K	100000 ug/L
							Mg	100000 ug/L
							Mo	2000 ug/L
							Na	100000 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MEICPMS4 ICSB_00991	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100020 ug/L
							Ca	101000 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mo	2020 ug/L
							Na	100500 ug/L
					ME_CALSTD#1_00004	0.2 mL	Ag	20 ug/L
							Al	100020 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Ca	101000 ug/L
							Cd	20 ug/L
							Ce	20 ug/L
							Chromium	20 ug/L
							Co	20 ug/L
							Cu	20 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mn	20 ug/L
							Na	100500 ug/L
							Ni	20 ug/L
							Pb	20 ug/L
							Se	20 ug/L
							Sr	20 ug/L
							Tl	20 ug/L
							U	20 ug/L
							V	20 ug/L
							Zn	20 ug/L
					ME_CALSTD#2_00006	0.2 mL	Mo	2020 ug/L
							Sb	20 ug/L
							Sn	20 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Se	10 mg/L
							Sr	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
.ME_CALSTD#2_00006	11/01/16	Inorganic Ventures, Lot J2-MEB598153			(Purchased Reagent)		Mo	10 mg/L
							Sb	10 mg/L
							Sn	10 mg/L
MEICPMS4 ICV_00997	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_ICPMSICV#1_00002	250 uL	Chromium	25 ug/L
.ME_ICPMSICV#1_00002	08/01/16	Inorganic Ventures, Lot J2-MEB591026			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD1_01155	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01012	2 mL	Chromium	0.2 ug/L
.MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD2_00997	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01012	10 mL	Chromium	1 ug/L
.MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD3_01012	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00976	10 mL	Chromium	10 ug/L
.MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
..ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD4_00976	08/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4_CRI_01004	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00005	1 mL	Chromium	1 ug/L
.ME_CRI_30_00005	02/01/17	O2si, Lot 1084922			(Purchased Reagent)		Chromium	100 ug/L
MEICPMS4_CRI_01005	11/01/16	04/25/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00004	2 mL	Chromium	2 ug/L
.ME_CRI_30_00004	11/01/16	O2si, Lot 1081670			(Purchased Reagent)		Chromium	100 ug/L

Reagent

ME_CALSTD#1_00004

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

ID: 3053619
Open: 12/12/15
CAL STD #1

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-83
Lot Number:	J2-MEB598151
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 mg/L ea:
	Ca,
	250 mg/L ea:
	K, Mg, Na,
	100 mg/L ea:
	Fe,
	10 mg/L ea:
	Ag, Al, As,
	B, Ba, Be,
	Cd, Ce, Co,
	Cr3, Cu, Mn,
	Ni, Pb, Se,
	Sr, Tl, U,
	V, Zn

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	9.99 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.09 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	9.99 ± 0.07 mg/L
Boron, B	10.00 ± 0.07 mg/L	Cadmium, Cd	9.99 ± 0.06 mg/L
Calcium, Ca	500.2 ± 2.3 mg/L	Cerium, Ce	10.00 ± 0.06 mg/L
Chromium+3, Cr3	10.00 ± 0.06 mg/L	Cobalt, Co	10.00 ± 0.06 mg/L
Copper, Cu	10.00 ± 0.06 mg/L	Iron, Fe	100.0 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.2 mg/L
Manganese, Mn	10.00 ± 0.06 mg/L	Nickel, Ni	10.00 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.00 ± 0.06 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	249.9 ± 1.1 mg/L
Strontium, Sr	10.00 ± 0.06 mg/L	Thallium, Tl	10.00 ± 0.08 mg/L
Uranium, U	10.00 ± 0.06 mg/L	Vanadium, V	10.00 ± 0.06 mg/L
Zinc, Zn	10.00 ± 0.07 mg/L		

Certified Density: 1.029 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	Calculated		See Sec. 4.2
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Gravimetric		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) \approx 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01 N 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_CALSTD#2_00006

INORGANIC VENTURES
300 Technology Drive
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inorganicventures.com

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 853.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-82
Lot Number:	J2-MEB598153
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 mg/L ea: Mo, Sb, Sn, Ti, 2.5 mg/L ea: Zr

CAL STD #2
ID: 3053620
open: 12/12/15

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**10.00 ± 0.09 mg/L**	**Molybdenum, Mo**	**10.00 ± 0.07 mg/L**
Tin, Sn	**10.00 ± 0.06 mg/L**	**Titanium, Ti**	**10.00 ± 0.08 mg/L**
Zirconium, Zr	**2.501 ± 0.016 mg/L**		

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Sb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102A	061229
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Ti	ICP Assay	3162a	060808
Zr	Calculated		See Sec. 4.2
Zr	ICP Assay	3169	071226

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ — $(\bar{x})$ = mean; x_i = individual results; n = number of measurements

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$ — 2 = the coverage factor. $[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01/2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_ICPMSICV#1_00002

INORGANIC™ VENTURES
300 Technology Drive
Christiansburg, VA 24073 • USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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2P 9/1/16

ACCREDITED Testing Laboratory Certificate 853 01
ACCREDITED Reference Material Producer Certificate 853 02

2818801

2818801
ID: ME_ICPMSICV#1_00002
Exp:08/01/16 Prpd:RC Opn:09/01/15
INORGANIC ICV #1

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution		
Catalog Number:	TA-83QC		
Lot Number:	J2-MEB591026		
Matrix:	5% (v/v) HNO3		
Value / Analyte(s):	500 mg/L ea:		
	Ca,		
	250 mg/L ea:		
	K,	Mg,	Na,
	100 mg/L ea:		
	Fe,		
	10 mg/L ea:		
	Ag,	Al,	As,
	B,	Ba,	Be,
	Cd,	Ce,	Co,
	Cr3,	Cu,	Mn,
	Ni,	Pb,	Se,
	Sr,	Tl,	U,
	V,	Zn	

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.07 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	10.01 ± 0.07 mg/L
Boron, B	9.99 ± 0.09 mg/L	Cadmium, Cd	10.00 ± 0.06 mg/L
Calcium, Ca	500.1 ± 2.3 mg/L	Cerium, Ce	10.01 ± 0.06 mg/L
Chromium+3, Cr^{3+}	9.99 ± 0.06 mg/L	Cobalt, Co	9.99 ± 0.06 mg/L
Copper, Cu	9.99 ± 0.06 mg/L	Iron, Fe	100.1 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.1 mg/L
Manganese, Mn	9.99 ± 0.06 mg/L	Nickel, Ni	10.01 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.01 ± 0.07 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	250.0 ± 1.1 mg/L
Strontium, Sr	10.02 ± 0.06 mg/L	Thallium, Tl	9.99 ± 0.07 mg/L
Uranium, U	10.02 ± 0.07 mg/L	Vanadium, V	10.02 ± 0.06 mg/L
Zinc, Zn	10.01 ± 0.06 mg/L		

Certified Density: 1.030 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	060502
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3181	000630
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 08, 2015

11.2 Expiration Date

EXPIRES
1 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Irvine Job Number: 440-144940-2

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
DBMW-5-20160419	440-144940-1
DBMW-4-20160419-EB	440-144940-2

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-5-20160419

Lab Sample ID: 440-144940-1

Lab Name: TestAmerica Irvine

Job No.: 440-144940-2

SDG ID.:

Matrix: Water

Date Sampled: 04/19/2016 09:30

Reporting Basis: WET

Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	110	2.0	0.50	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-4-20160419-EB
Lab Sample ID: 440-144940-2
Lab Name: TestAmerica Irvine
Job No.: 440-144940-2
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 11:30
Reporting Basis: WET
Date Received: 04/20/2016 09:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	ND	2.0	0.50	ug/L			1	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

ICV Source: MEICPMS4 ICV_00997 Concentration Units: ug/L

CCV Source: MEICPMS4 CCV_00993

Analyte	ICV 440-326501/7 04/25/2016 13:46				CCV 440-326501/25 04/25/2016 15:25				CCV 440-326501/30 04/25/2016 15:38			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	24.5		25.0	98	48.6		50.0	97	48.3		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Method: 200.8 Instrument ID: ICPMS5

Lab Sample ID: CRI 440-326501/10 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01004

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	1.00	1.06	J	106	50-150

Lab Sample ID: CRI 440-326501/11 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	2.00	1.92	J	96	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-326501/8 04/25/2016 14:43		CCB 440-326501/26 04/25/2016 15:28		CCB 440-326501/31 04/25/2016 15:40			
		Found	C	Found	C	Found	C	Found	C
Chromium	2.0	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-326042/1-A

Instrument Code: ICPMS5 Batch No.: 326501

CAS No.	Analyte	Concentration	C	Q	Method
7440-47-3	Chromium	ND			200.8

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Lab Sample ID: ICSA 440-326501/12 Instrument ID: ICPMS5

Lab File ID: 012ICSA.d ICS Source: MEICPMS4 ICSA_00993

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Chromium		**1.32**	
Aluminum	*100000*	*100479*	*100*
Antimony		*0.0820*	
Arsenic		*0.106*	
Barium		*0.111*	
Beryllium		*-0.0600*	
Ca	*100000*	*95662*	*96*
Cadmium		*0.856*	
Cerium		*0.0240*	
Cobalt		*0.0370*	
Copper		*0.295*	
Iron	*100000*	*97598*	*98*
K	*100000*	*101402*	*101*
Lead		*0.233*	
Manganese		*0.346*	
Mg	*100000*	*101840*	*102*
Molybdenum	*2000*	*2168*	*108*
Na	*100000*	*104378*	*104*
Nickel		*0.702*	
Selenium		*0.0510*	
Silver		*0.0270*	
Sn		*0.0730*	
Sr		*0.473*	
Thallium		*0.0020*	
Uranium		*0.0000*	
Vanadium		*0.0240*	
Zinc		*1.77*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Lab Sample ID: ICSAB 440-326501/13 Instrument ID: ICPMS5

Lab File ID: 013ICSB.d ICS Source: MEICPMS4 ICSB_00991

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Chromium	**20.0**	**20.8**	**104**
Aluminum	*100000*	*102173*	*102*
Antimony	*20.0*	*21.4*	*107*
Arsenic	*20.0*	*20.4*	*102*
Barium	*20.0*	*21.1*	*106*
Beryllium	*20.0*	*20.1*	*101*
Ca	*101000*	*99722*	*99*
Cadmium	*20.0*	*20.6*	*103*
Cerium	*20.0*	*20.8*	*104*
Cobalt	*20.0*	*19.1*	*95*
Copper	*20.0*	*18.9*	*95*
Iron	*100000*	*99552*	*99*
K	*101000*	*103777*	*103*
Lead	*20.0*	*21.3*	*106*
Manganese	*20.0*	*20.3*	*101*
Mg	*101000*	*103514*	*103*
Molybdenum	*2020*	*2182*	*108*
Na	*101000*	*106430*	*106*
Nickel	*20.0*	*19.6*	*98*
Selenium	*20.0*	*19.7*	*99*
Silver	*20.0*	*19.6*	*98*
Sn	*20.0*	*21.1*	*106*
Sr	*20.0*	*20.6*	*103*
Thallium	*20.0*	*18.9*	*94*
Uranium	*20.0*	*20.5*	*102*
Vanadium	*20.0*	*20.3*	*101*
Zinc	*20.0*	*19.7*	*99*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 440-144937-B-3-B MS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	121		55		80.0	82	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 440-144937-B-3-C MSD

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Chromium	122		80.0	84	70-130	1	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-326042/2-A

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

Sample Matrix: Water LCS Source: ME ICPMS CAL_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Chromium	80.0	72.9		91	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-144940-2

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 200.8 MDL Date: 08/15/2014 16:02

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-144940-2

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 200.8 XMDL Date: 08/15/2014 16:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium	52	2	0.5

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Irvine Job No: 440-144940-2

SDG No.:

Instrument ID: ICPMS5 Date: 12/06/2012 11:03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Chromium		4500	200.8

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-326042/1-A	04/22/2016 17:22	326042		25	25
LCS 440-326042/2-A	04/22/2016 17:22	326042		25	25
440-144937-B-3-B MS	04/22/2016 17:22	326042		25	25
440-144937-B-3-C MSD	04/22/2016 17:22	326042		25	25
440-144940-1	04/22/2016 17:22	326042		25	25
440-144940-2	04/22/2016 17:22	326042		25	25

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Instrument ID: ICPMS5 Analysis Method: 200.8

Start Date: 04/25/2016 13:30 End Date: 04/25/2016 15:40

Lab Sample Id	D/F	Type	Time	Analytes																							
				Cr																							
ZZZZZZ			13:30																								
STD0 440-326501/2 IC	1		13:33	X																							
STD1 440-326501/3 IC	1		13:35	X																							
STD2 440-326501/4 IC	1		13:38	X																							
STD3 440-326501/5 IC	1		13:41	X																							
STD4 440-326501/6 IC	1		13:44	X																							
ICV 440-326501/7	1		13:46	X																							
ICB 440-326501/8	1		14:43	X																							
ZZZZZZ			14:45																								
CRI 440-326501/10	1		14:48	X																							
CRI 440-326501/11	1		14:50	X																							
ICSA 440-326501/12	1		14:53	X																							
ICSAB 440-326501/13	1		14:55	X																							
RINSE 440-326501/14			14:58																								
MB 440-326042/1-A	1	R	15:00	X																							
LCS 440-326042/2-A	1	R	15:03	X																							
ZZZZZZ			15:05																								
440-144937-B-3-B MS	1	D	15:08	X																							
440-144937-B-3-C MSD	1	D	15:10	X																							
ZZZZZZ			15:13																								
ZZZZZZ			15:15																								
ZZZZZZ			15:18																								
ZZZZZZ			15:20																								
ZZZZZZ			15:23																								
CCV 440-326501/25	1		15:25	X																							
CCB 440-326501/26	1		15:28	X																							
ZZZZZZ			15:30																								
440-144940-1	1	D	15:33	X																							
440-144940-2	1	D	15:35	X																							
CCV 440-326501/30	1		15:38	X																							
CCB 440-326501/31	1		15:40	X																							

Prep Types:
D = Dissolved
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

ICP-MS Instrument ID: ICPMS5 Start Date: 04/25/2016 End Date: 04/25/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
STD0 440-326501/2 I	13:33	100		100		100		100		100	
STD1 440-326501/3 I	13:35	102		102		103		102		103	
STD2 440-326501/4 I	13:38	101		103		103		104		104	
STD3 440-326501/5 I	13:41	102		102		102		103		104	
STD4 440-326501/6 I	13:44	101		101		101		102		103	
ICV 440-326501/7	13:46	100		101		102		103		103	
ICB 440-326501/8	14:43	97		97		98		96		97	
CRI 440-326501/10	14:48	98		98		97		98		99	
CRI 440-326501/11	14:50	97		96		96		96		96	
ICSA 440-326501/12	14:53	90		88		84		88		81	
ICSAB 440-326501/13	14:55	93		92		87		91		83	
MB 440-326042/1-A	15:00	100		101		99		99		99	
LCS 440-326042/2-A	15:03	100		101		98		99		98	
440-144937-B-3-B MS	15:08	99		89		85		86		75	
440-144937-B-3-C MS	15:10	104		93		88		90		79	
CCV 440-326501/25	15:25	111		109		106		101		100	
CCB 440-326501/26	15:28	109		108		104		101		99	
440-144940-1	15:33	102		91		87		88		76	
440-144940-2	15:35	109		107		103		100		99	
CCV 440-326501/30	15:38	109		107		104		99		97	
CCB 440-326501/31	15:40	108		106		103		99		98	

FORM XV - IN

Agilent 1ppb Tuning Solution: 3276953

ICPMS P/A Tuning Solution: 32769556

ICPMS EPA Tuning Solution: 3276958

ICPMS Internal Standard Solution: 3264770

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Data File	Acq. Date-Time	Type	Vial Number	Sample Name	Comment
001SMPL.d	4/25/2016 1:30 PM	Sample	1	Blank	
002CALB.d	4/25/2016 1:33 PM	CalBlk	1	STD0-3321393	BLANK
003CALS.d	4/25/2016 1:35 PM	CalStd	2	STD1-3321392	0.2 PPB
004CALS.d	4/25/2016 1:38 PM	CalStd	3	STD2-3321391	1.0 PPB
005CALS.d	4/25/2016 1:41 PM	CalStd	4	STD3-3321390	10.0 PPB
006CALS.d	4/25/2016 1:44 PM	CalStd	5	STD4-3321389	100 PPB
007_ICV.d	4/25/2016 1:46 PM	ICV	2101	ICV-3321388	25 PPB
008_ICB.d	4/25/2016 2:43 PM	ICB	1	ICB-3321393	
009RL_2.d	4/25/2016 2:45 PM	RL0_2	2	XCRI-3321396	+/- 50% 0.2PPB RL CHK
010_RL1.d	4/25/2016 2:48 PM	RL1_0	2102	CRI-3321397	+/- 50% 1xRL CHK
011_RL2.d	4/25/2016 2:50 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL CHK
012ICSA.d	4/25/2016 2:53 PM	ICSA	2104	ICSA-3321399	
013ICSB.d	4/25/2016 2:55 PM	ICSB	2105	ICSAB-3321400	
014SMPL.d	4/25/2016 2:58 PM	Sample	2107	RINSE	
015_MB.d	4/25/2016 3:00 PM	MB	3111	mb 440-326042/1-a	CR 200.8D 440-326042 EN/TK
016_LCS.d	4/25/2016 3:03 PM	LCS	3112	lcs 440-326042/2-a	CR 200.8D 440-326042 EN/TK
017SMPL.d	4/25/2016 3:05 PM	Sample	3201	440-144937-b-3-a	CR 200.8D 440-326042 EN/TK
018SMPL.d	4/25/2016 3:08 PM	Sample	3202	440-144937-b-3-b ms	CR 200.8D 440-326042 EN/TK
019SMPL.d	4/25/2016 3:10 PM	Sample	3203	440-144937-b-3-c msd	CR 200.8D 440-326042 EN/TK
020SMPL.d	4/25/2016 3:13 PM	Sample	3204	440-144937-b-1-a@2	CR 200.8D 440-326042 EN/TK
021SMPL.d	4/25/2016 3:15 PM	Sample	3205	440-144937-b-2-a@2	CR 200.8D 440-326042 EN/TK
022SMPL.d	4/25/2016 3:18 PM	Sample	3206	440-144933-b-1-a@2	CR 200.8D 440-326042 EN/TK
023SMPL.d	4/25/2016 3:20 PM	Sample	3207	440-144933-b-2-a@2	CR 200.8D 440-326042 EN/TK
024SMPL.d	4/25/2016 3:23 PM	Sample	3208	440-144933-b-3-a@2	CR 200.8D 440-326042 EN/TK
025_CCV.d	4/25/2016 3:25 PM	CCV	2201	CCV-3321395	
026_CCB.d	4/25/2016 3:28 PM	CCB	2301	CCB-3321393	
027SMPL.d	4/25/2016 3:30 PM	Sample	3209	440-144933-b-4-a	CR 200.8D 440-326042 EN/TK
028SMPL.d	4/25/2016 3:33 PM	Sample	3210	440-144940-c-1-a	CR 200.8D 440-326042 EN/TK
029SMPL.d	4/25/2016 3:35 PM	Sample	3211	440-144940-c-2-a	CR 200.8D 440-326042 EN/TK
030_CCV.d	4/25/2016 3:38 PM	CCV	2201	CCV-3321395	
031_CCB.d	4/25/2016 3:40 PM	CCB	2301	CCB-3321393	
032_MB.d	4/25/2016 4:29 PM	MB	3212	mb 440-325535/1-a@20	AG SOIL BP 440-325535 TKRD
033SMPL.d	4/25/2016 4:32 PM	Sample	3301	lcs 440-325535/2-a@20	AG SOIL BP 440-325535 TKRD
034SMPL.d	4/25/2016 4:34 PM	Sample	3302	440-143720-a-20-d@20	AG SOIL BP 440-325535 TKRD
035SMPL.d	4/25/2016 4:36 PM	Sample	3303	440-143720-a-20-e ms@20	AG SOIL BP 440-325535 TKRD
036SMPL.d	4/25/2016 4:39 PM	Sample	3304	440-143720-a-20-f msd@20	AG SOIL BP 440-325535 TKRD
037SMPL.d	4/25/2016 4:41 PM	Sample	3305	440-143720-a-20-d pds@20	AG SOIL BP 440-325535 TKRD
038SMPL.d	4/25/2016 4:43 PM	Sample	3306	440-143720-a-1-h@20	AG SOIL BP 440-325535 TKRD
039SMPL.d	4/25/2016 4:46 PM	Sample	3307	440-143720-a-1-h SD@100	AG SOIL BP 440-325535 TKRD
040_CCV.d	4/25/2016 4:48 PM	CCV	2201	CCV-3321395	
041_CCB.d	4/25/2016 4:51 PM	CCB	2301	CCB-3321393	
042SMPL.d	4/25/2016 4:53 PM	Sample	3308	440-143720-a-2-d@20	AG SOIL BP 440-325535 TKRD
043SMPL.d	4/25/2016 4:56 PM	Sample	3309	440-143720-a-3-d@20	AG SOIL BP 440-325535 TKRD
044SMPL.d	4/25/2016 4:58 PM	Sample	3310	440-143720-a-4-e@20	AG SOIL BP 440-325535 TKRD
045SMPL.d	4/25/2016 5:01 PM	Sample	3311	440-143720-a-5-d@20	AG SOIL BP 440-325535 TKRD
046SMPL.d	4/25/2016 5:03 PM	Sample	3312	440-143720-a-6-d@20	AG SOIL BP 440-325535 TKRD
047SMPL.d	4/25/2016 5:05 PM	Sample	3401	440-143720-a-7-d@20	AG SOIL BP 440-325535 TKRD
048SMPL.d	4/25/2016 5:08 PM	Sample	3402	440-143720-a-8-d@20	AG SOIL BP 440-325535 TKRD
049SMPL.d	4/25/2016 5:10 PM	Sample	3403	440-143720-a-9-d@20	AG SOIL BP 440-325535 TKRD
050SMPL.d	4/25/2016 5:13 PM	Sample	3404	440-143720-a-10-e@20	AG SOIL BP 440-325535 TKRD
051_CCV.d	4/25/2016 5:15 PM	CCV	2201	CCV-3321395	
052_CCB.d	4/25/2016 5:17 PM	CCB	2301	CCB-3321393	

053SMPL.d	4/25/2016 5:20 PM	Sample	3405	440-143720-a-11-f@20	AG SOIL BP 440-325535 TKRD
054SMPL.d	4/25/2016 5:22 PM	Sample	3406	440-143720-a-12-d@20	AG SOIL BP 440-325535 TKRD
055SMPL.d	4/25/2016 5:25 PM	Sample	3407	440-143720-a-13-d@20	AG SOIL BP 440-325535 TKRD
056SMPL.d	4/25/2016 5:27 PM	Sample	3408	440-143720-a-14-d@20	AG SOIL BP 440-325535 TKRD
057SMPL.d	4/25/2016 5:30 PM	Sample	3409	440-143720-a-15-d@20	AG SOIL BP 440-325535 TKRD
058SMPL.d	4/25/2016 5:32 PM	Sample	3410	440-143720-a-16-d@20	AG SOIL BP 440-325535 TKRD
059SMPL.d	4/25/2016 5:35 PM	Sample	3411	440-143720-a-17-d@20	AG SOIL BP 440-325535 TKRD
060SMPL.d	4/25/2016 5:37 PM	Sample	3412	440-143720-a-18-d@20	AG SOIL BP 440-325535 TKRD
061SMPL.d	4/25/2016 5:39 PM	Sample	3501	440-143720-a-19-e@20	AG SOIL BP 440-325535 TKRD
062_CCV.d	4/25/2016 5:44 PM	CCV	2201	CCV-3321395	
063_CCB.d	4/25/2016 5:46 PM	CCB	2301	CCB-3321393	
064_RL2.d	4/25/2016 5:49 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL BP CHK
065ICSA.d	4/25/2016 5:51 PM	ICSA	2104	ICSA-3321399	BP CHK A
066ICSB.d	4/25/2016 5:54 PM	ICSB	2105	ICSAB-3321400	BP CHK B
067SMPL.d	4/25/2016 5:56 PM	Sample	2107	RINSE	
068SMPL.d	4/25/2016 5:59 PM	Sample	2107	RINSE	
069_CCV.d	4/25/2016 6:01 PM	CCV	2201	CCV-3321395	
070_CCB.d	4/25/2016 6:04 PM	CCB	2301	CCB-3321393	
071_MB.d	4/25/2016 6:27 PM	MB	3101	mb 440-325847/1-a@20	BP CAM SOIL 440-325847 TK
072SMPL.d	4/25/2016 6:30 PM	Sample	3102	lcs 440-325847/2-a@20	BP CAM SOIL 440-325847 TK
073SMPL.d	4/25/2016 6:32 PM	Sample	3103	440-145123-a-1-a@20	BP CAM SOIL 440-325847 TK
074SMPL.d	4/25/2016 6:35 PM	Sample	3104	440-145123-a-1-b ms@20	BP CAM SOIL 440-325847 TK
075SMPL.d	4/25/2016 6:37 PM	Sample	3105	440-145123-a-1-c msd@20	BP CAM SOIL 440-325847 TK
076SMPL.d	4/25/2016 6:39 PM	Sample	3106	440-145123-a-1-a@20	BP CAM SOIL 440-325847 TK
077SMPL.d	4/25/2016 6:42 PM	Sample	3107	440-145123-a-2-a PDS@20	BP CAM SOIL 440-325847 TK
078SMPL.d	4/25/2016 6:44 PM	Sample	2107	RINSE	
079SMPL.d	4/25/2016 6:47 PM	Sample	2107	RINSE	
080_CCV.d	4/25/2016 6:49 PM	CCV	2201	CCV-3321395	
081_CCB.d	4/25/2016 6:52 PM	CCB	2301	CCB-3321393	
082SMPL.d	4/25/2016 6:54 PM	Sample	3108	440-145123-a-2-a@20	BP CAM SOIL 440-325847 TK
083SMPL.d	4/25/2016 6:57 PM	Sample	3109	440-145123-a-3-a SD@100	BP CAM SOIL 440-325847 TK
084SMPL.d	4/25/2016 6:59 PM	Sample	3110	440-145123-a-4-a@20	BP CAM SOIL 440-325847 TK
085SMPL.d	4/25/2016 7:01 PM	Sample	3111	440-145123-a-5-a@20	BP CAM SOIL 440-325847 TK
086SMPL.d	4/25/2016 7:04 PM	Sample	3112	440-145123-a-6-a@20	BP CAM SOIL 440-325847 TK
087SMPL.d	4/25/2016 7:06 PM	Sample	3201	440-145123-a-7-a@20	BP CAM SOIL 440-325847 TK
088SMPL.d	4/25/2016 7:09 PM	Sample	2107	RINSE	
089SMPL.d	4/25/2016 7:11 PM	Sample	2107	RINSE	
090_CCV.d	4/25/2016 7:14 PM	CCV	2201	CCV-3321395	
091_CCB.d	4/25/2016 7:16 PM	CCB	2301	CCB-3321393	
092SMPL.d	4/25/2016 7:19 PM	Sample	3202	440-145123-a-8-a@20	BP CAM SOIL 440-325847 TK
093SMPL.d	4/25/2016 7:21 PM	Sample	3203	440-145123-a-9-a@20	BP CAM SOIL 440-325847 TK
094SMPL.d	4/25/2016 7:24 PM	Sample	3204	440-145123-a-10-a@20	BP CAM SOIL 440-325847 TK
095SMPL.d	4/25/2016 7:26 PM	Sample	3205	440-145123-a-11-a@20	BP CAM SOIL 440-325847 TK
096SMPL.d	4/25/2016 7:29 PM	Sample	3206	440-145123-a-12-a@20	BP CAM SOIL 440-325847 TK
097SMPL.d	4/25/2016 7:31 PM	Sample	3207	440-144969-a-1-a@20	BP CAM SOIL 440-325847 TK
098SMPL.d	4/25/2016 7:33 PM	Sample	3208	440-145041-a-1-b@20	BP CAM SOIL 440-325847 TK
099SMPL.d	4/25/2016 7:36 PM	Sample	2107	RINSE	
100SMPL.d	4/25/2016 7:38 PM	Sample	2107	RINSE	
101_CCV.d	4/25/2016 7:41 PM	CCV	2201	CCV-3321395	
102_CCB.d	4/25/2016 7:43 PM	CCB	2301	CCB-3321393	
103_RL2.d	4/25/2016 7:46 PM	RL2_0	2103	CRI-3321398	+/- 50% 2xRL BP CHK
104ICSA.d	4/25/2016 7:49 PM	ICSA	2104	ICSA-3321399	BP CHK A
105ICSB.d	4/25/2016 7:51 PM	ICSB	2105	ICSAB-3321400	BP CHK B
106SMPL.d	4/25/2016 7:53 PM	Sample	2107	RINSE	
107SMPL.d	4/25/2016 7:56 PM	Sample	2107	RINSE	

108_CCV.d	4/25/2016 7:59 PM	CCV	2201	CCV-3321395	
109_CCB.d	4/25/2016 8:01 PM	CCB	2301	XCCB-3321393	
110_CCB.d	4/25/2016 8:04 PM	CCB	2301	CCB-3321393	
111_MB.d	4/25/2016 8:06 PM	MB	4505	mb 440-326257/1-a	SBTL 6020LL 440-326257 RD
112_LCS.d	4/25/2016 8:09 PM	LCS	4506	lcs 440-326257/2-a	SBTL 6020LL 440-326257 RD
113SMPL.d	4/25/2016 8:11 PM	Sample	4507	440-144935-h-2-c	SBTL 6020LL 440-326257 RD
114SMPL.d	4/25/2016 8:14 PM	Sample	4508	440-144935-h-2-d ms	SBTL 6020LL 440-326257 RD
115SMPL.d	4/25/2016 8:16 PM	Sample	4509	440-144935-h-2-e msd	SBTL 6020LL 440-326257 RD
116SMPL.d	4/25/2016 8:18 PM	Sample	4510	440-144935-h-2-f pds	SBTL 6020LL 440-326257 RD
117SMPL.d	4/25/2016 8:21 PM	Sample	4511	440-144935-h-3-c	SBTL 6020LL 440-326257 RD
118SMPL.d	4/25/2016 8:23 PM	Sample	4512	440-144935-h-3-c sd@5	SBTL 6020LL 440-326257 RD
119_CCV.d	4/25/2016 8:26 PM	CCV	2201	CCV-3321395	
120_CCB.d	4/25/2016 8:28 PM	CCB	2301	XCCB-3321393	
121_CCB.d	4/25/2016 8:31 PM	CCB	2301	CCB-3321393	

Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	9	Be	0.999982581	0.000316096	2.27E-05	0.113130585	0.071696337	ug/l
1	23	Na	0.99998706	0.005693411	0.912821268	6.080644339	160.3294206	ug/l
1	24	Mg	0.99999935	0.003163315	0.062810728	1.325453972	19.85598251	ug/l
1	27	Al	0.999997051	0.001547827	0.000621306	0.086716576	0.401405219	ug/l
1	39	K	0.999999203	0.002836264	0.263266228	4.663442475	92.82146759	ug/l
1	44	Ca	0.999998481	0.000148387	0.006601382	12.67691247	44.48759681	ug/l
1	51	V	0.999999936	0.024689397	0.003497473	0.032544951	0.141658907	ug/l
1	52	Cr	0.999999908	0.029159292	0.003975248	0.019113745	0.13632867	ug/l
1	53	[V]						ug/l
1	55	Mn	0.999997832	0.019083568	0.00083105	0.012470612	0.043547931	ug/l
1	56	Fe	0.999987048	0.025994944	0.019520408	0.095974907	0.75093096	ug/l
1	59	Co	0.999999913	0.044270128	0.000473152	0.007365793	0.010687838	ug/l
1	60	Ni	0.999998275	0.011258025	0.001359051	0.064720442	0.120718424	ug/l
1	63	[Cu]	0.999999613	0.030369651	0.04970983	0.046704245	1.636825841	ug/l
1	65	Cu	0.999997313	0.014598561	0.022787073	0.038722269	1.560912247	ug/l
1	66	Zn	0.999993762	0.009672982	0.009974584	0.13544584	1.031179884	ug/l
1	75	As	0.999999967	0.006218905	0.00027976	0.017149626	0.04498547	ug/l
1	76	[Se]						ug/l
1	77	[As]						ug/l
1	78	Se	0.999996258	0.000558773	0.00046595	0.172182051	0.833880113	ug/l
1	83	[Se]						ug/l
1	88	Sr	0.999979926	0.004743147	0.003625918	0.167329335	0.764454045	ug/l
1	90	Zr						ug/l
1	95	Mo	0.999999866	0.002692793	0.000145519	0.027499888	0.054040081	ug/l
1	98	[Mo]						ug/l
1	99	[Mo]						ug/l
1	107	Ag	0.999999965	0.008148794	9.94E-05	0.00477849	0.012201514	ug/l
1	108	[Cd]						ug/l
1	111	Cd	0.99999938	0.001391639	7.08E-06	0.003110633	0.005085195	ug/l
1	114	[Cd]						ug/l
1	118	Sn	0.999999622	0.003246606	0.000320449	0.063175715	0.098702876	ug/l
1	123	Sb	0.999999632	0.003282053	0.000165946	0.02422179	0.050561736	ug/l
1	137	Ba	0.999999622	0.001447437	3.72E-05	0.004286866	0.025712772	ug/l
1	140	Ce	0.999999925	0.018818172	0.000107915	0.000425077	0.005734599	ug/l
1	205	Tl	0.999998486	0.007197089	5.64E-05	0.002194708	0.007831593	ug/l
1	206	[Pb]						ug/l
1	207	[Pb]						ug/l
1	208	Pb	0.999999907	0.013429779	0.000164122	0.002324413	0.01222075	ug/l
1	238	U	0.999999395	0.009587966	0.000116755	0.008400892	0.012177232	ug/l
1	45	Sc-45 (IS)						ug/l
1	72	Ge (IS)						ug/l
1	115	In-115 (IS)						ug/l
1	159	Tb-159 (IS)						ug/l
1	209	Bi-209 (IS)						ug/l

Sample Report

Sample Table

Sample Name	Blank
Data File Name	001SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:30:42-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	1
Instrument	ICPMS05

Calibration Blank Report

Sample Table

Sample Name	STD0-3321393
Data File Name	002CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:33:19-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	BLANK

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	16	53.90
Na	23	1	He	624094	1.01
Mg	24	1	He	42948	2.73
Al	27	1	He	424	5.23
K	39	1	He	180000	1.74
Ca	44	1	He	4518	11.20
V	51	1	He	2392	8.57
Cr	52	1	He	2718	4.76
Mn	55	1	He	568	8.25
Fe	56	1	He	13353	5.75
Co	59	1	He	324	25.05
Ni	60	1	He	931	19.33
Cu	65	1	He	15583	2.76
Zn	66	1	He	3894	2.59
As	75	1	He	109	13.33
Se	78	1	He	182	7.18
Sr	88	1	He	13106	8.22
Mo	95	1	He	526	16.54
Ag	107	1	He	359	12.08
Cd	111	1	He	26	19.92
Sn	118	1	He	1160	22.85
Sb	123	1	He	600	16.73
Ba	137	1	He	134	5.16
Ce	140	1	He	390	3.92
Tl	205	1	He	478	9.90
Pb	208	1	He	991	5.09
U	238	1	He	990	23.57

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc-45 (IS)	45	1	He	683823	2.22
Ge (IS)	72	1	He	390615	2.42
In-115 (IS)	115	1	He	3613234	1.65
Tb-159 (IS)	159	1	He	8473761	1.01
Bi-209 (IS)	209	1	He	6042462	1.40

Calibration Standard Report

Sample Table

Sample Name	STD1-3321392
Data File Name	003CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:35:53-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	0.2 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	21	55.45
Na	23	1	He	624495	1.58
Mg	24	1	He	49401	1.11
Al	27	1	He	714	7.70
K	39	1	He	194363	0.36
Ca	44	1	He	5147	1.63
V	51	1	He	5718	1.35
Cr	52	1	He	6981	2.19
Mn	55	1	He	3401	3.84
Fe	56	1	He	53587	1.22
Co	59	1	He	6529	1.13
Ni	60	1	He	3076	1.36
Cu	65	1	He	18850	1.03
Zn	66	1	He	5902	2.29
As	75	1	He	617	11.88
Se	78	1	He	224	4.57
Sr	88	1	He	14318	0.21
Mo	95	1	He	2435	0.57
Ag	107	1	He	6002	2.70
Cd	111	1	He	1074	4.98
Sn	118	1	He	3447	3.64
Sb	123	1	He	2867	4.66
Ba	137	1	He	1186	1.17
Ce	140	1	He	14027	3.57
Tl	205	1	He	12645	2.72
Pb	208	1	He	17767	1.53
U	238	1	He	16985	0.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	699614	0.65	683823	102.31	80	120	
Ge (IS)	72	1	He	399706	1.06	390615	102.33	80	120	
In-115 (IS)	115	1	He	3709267	0.74	3613234	102.66	80	120	
Tb-159 (IS)	159	1	He	8635434	0.61	8473761	101.91	80	120	
Bi-209 (IS)	209	1	He	6229047	0.89	6042462	103.09	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD2-3321391
Data File Name	004CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:38:37-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	1.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	199	10.10
Na	23	1	He	670357	0.58
Mg	24	1	He	91039	1.10
Al	27	1	He	1570	2.61
K	39	1	He	232250	0.16
Ca	44	1	He	8678	3.99
V	51	1	He	19656	0.64
Cr	52	1	He	23220	1.11
Mn	55	1	He	14767	1.67
Fe	56	1	He	198895	0.45
Co	59	1	He	31572	2.05
Ni	60	1	He	9598	3.17
Cu	65	1	He	26431	0.96
Zn	66	1	He	8411	1.79
As	75	1	He	2650	4.84
Se	78	1	He	370	9.17
Sr	88	1	He	27006	1.84
Mo	95	1	He	10482	1.42
Ag	107	1	He	30866	0.81
Cd	111	1	He	5334	1.17
Sn	118	1	He	13146	1.89
Sb	123	1	He	12753	4.84
Ba	137	1	He	5748	1.00
Ce	140	1	He	69931	1.98
Tl	205	1	He	62956	1.21
Pb	208	1	He	85483	0.59
U	238	1	He	84026	1.33

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693359	0.61	683823	101.39	80	120	
Ge (IS)	72	1	He	400755	1.05	390615	102.60	80	120	
In-115 (IS)	115	1	He	3711609	1.97	3613234	102.72	80	120	
Tb-159 (IS)	159	1	He	8797463	0.75	8473761	103.82	80	120	
Bi-209 (IS)	209	1	He	6280397	1.79	6042462	103.94	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD3-3321390
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:41:20-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	10.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	2309	2.19
Na	23	1	He	1586533	1.31
Mg	24	1	He	589109	0.78
Al	27	1	He	11459	1.66
K	39	1	He	681080	0.54
Ca	44	1	He	55896	0.59
V	51	1	He	173195	0.79
Cr	52	1	He	204399	1.55
Mn	55	1	He	135912	0.81
Fe	56	1	He	1909831	0.82
Co	59	1	He	306569	0.24
Ni	60	1	He	80728	1.73
Cu	65	1	He	119723	0.99
Zn	66	1	He	44138	1.52
As	75	1	He	25040	0.54
Se	78	1	He	2456	2.59
Sr	88	1	He	176097	0.41
Mo	95	1	He	99401	0.98
Ag	107	1	He	300558	0.06
Cd	111	1	He	51988	1.81
Sn	118	1	He	119946	0.64
Sb	123	1	He	120695	0.86
Ba	137	1	He	54020	0.72
Ce	140	1	He	692223	0.76
Tl	205	1	He	617998	0.86
Pb	208	1	He	840453	0.24
U	238	1	He	828857	1.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693990	0.43	683823	101.49	80	120	
Ge (IS)	72	1	He	399793	0.32	390615	102.35	80	120	
In-115 (IS)	115	1	He	3691546	0.81	3613234	102.17	80	120	
Tb-159 (IS)	159	1	He	8733794	1.34	8473761	103.07	80	120	
Bi-209 (IS)	209	1	He	6278303	1.90	6042462	103.90	80	120	

Calibration Standard Report

Sample Table

Sample Name	STD4-3321389
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:44:03-07:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	100 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	He	21824	1.66
Na	23	1	He	10457970	0.43
Mg	24	1	He	5501685	1.62
Al	27	1	He	107228	0.28
K	39	1	He	5074849	0.48
Ca	44	1	He	516643	0.96
V	51	1	He	1706562	1.54
Cr	52	1	He	2015381	1.80
Mn	55	1	He	1317395	0.68
Fe	56	1	He	17945462	0.15
Co	59	1	He	3055832	1.00
Ni	60	1	He	777774	0.37
Cu	65	1	He	1023020	0.10
Zn	66	1	He	384198	1.32
As	75	1	He	244678	0.64
Se	78	1	He	22155	0.67
Sr	88	1	He	1750794	2.48
Mo	95	1	He	986210	0.35
Ag	107	1	He	2983064	0.55
Cd	111	1	He	509342	0.58
Sn	118	1	He	1189593	0.10
Sb	123	1	He	1202038	0.73
Ba	137	1	He	529870	0.88
Ce	140	1	He	6888423	0.90
Tl	205	1	He	6215902	0.84
Pb	208	1	He	8324045	1.30
U	238	1	He	8280955	1.21

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	690191	0.52	683823	100.93	80	120	
Ge (IS)	72	1	He	393279	0.74	390615	100.68	80	120	
In-115 (IS)	115	1	He	3660276	0.64	3613234	101.30	80	120	
Tb-159 (IS)	159	1	He	8634575	0.57	8473761	101.90	80	120	
Bi-209 (IS)	209	1	He	6197263	0.34	6042462	102.56	80	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-3321388
Data File Name	007_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T13:46:47-07:00
Sample Type	ICV
Dilution	1
Comment	25 PPB
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	25.177	1.841	5470	1.67	25	100.7	89.5	110.49	
Na	23	1	He	599.921	0.123	2966558	0.67	625	96.0	89.5	110.49	
Mg	24	1	He	637.028	0.603	1424110	0.06	625	101.9	89.5	110.49	
Al	27	1	He	25.826	0.851	27824	1.27	25	103.3	89.5	110.49	
K	39	1	He	642.103	0.711	1428641	1.22	625	102.7	89.5	110.49	
Ca	44	1	He	1216.325	0.669	128222	0.53	1250	97.3	89.5	110.49	
V	51	1	He	24.711	0.952	420530	0.32	25	98.8	89.5	110.49	
Cr	52	1	He	24.479	0.706	491920	0.72	25	97.9	89.5	110.49	
Mn	55	1	He	25.273	1.108	331115	0.95	25	101.1	89.5	110.49	
Fe	56	1	He	252.557	1.013	4512824	0.73	250	101.0	89.5	110.49	
Co	59	1	He	24.907	0.360	756027	0.60	25	99.6	89.5	110.49	
Ni	60	1	He	25.283	0.571	196012	0.98	25	101.1	89.5	110.49	
Cu	65	1	He	25.089	0.669	266652	1.22	25	100.4	89.5	110.49	
Zn	66	1	He	25.542	1.556	101724	1.64	25	102.2	89.5	110.49	
As	75	1	He	24.714	1.531	60931	0.52	25	98.9	89.5	110.49	
Se	78	1	He	24.792	2.390	5666	1.57	25	99.2	89.5	110.49	
Sr	88	1	He	23.252	0.929	417632	0.06	25	93.0	89.5	110.49	
Mo	95	1	He	25.057	1.425	247890	0.50	25	100.2	89.5	110.49	
Ag	107	1	He	25.931	0.525	775075	0.55	25	103.7	89.5	110.49	
Cd	111	1	He	24.864	1.479	126879	0.86	25	99.5	89.5	110.49	
Sn	118	1	He	24.900	0.775	297554	0.23	25	99.6	89.5	110.49	
Sb	123	1	He	26.144	0.842	315195	0.16	25	104.6	89.5	110.49	
Ba	137	1	He	24.786	1.483	131659	0.57	25	99.1	89.5	110.49	
Ce	140	1	He	25.241	1.730	1741706	0.80	25	101.0	89.5	110.49	
Tl	205	1	He	24.124	0.877	1519275	0.33	25	96.5	89.5	110.49	
Pb	208	1	He	24.646	0.873	2055294	0.48	25	98.6	89.5	110.49	
U	238	1	He	25.394	1.519	2130815	1.10	25	101.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	685367	0.63	683823	100.23	80	120	
Ge (IS)	72	1	He	395759	1.03	390615	101.32	80	120	
In-115 (IS)	115	1	He	3666378	0.95	3613234	101.47	80	120	
Tb-159 (IS)	159	1	He	8747820	0.55	8473761	103.23	80	120	
Bi-209 (IS)	209	1	He	6206926	1.36	6042462	102.72	80	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-3321393
Data File Name	008_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:43:10-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-107.3	9	78.1	0.5	
Na	23	1	He	-88.826	-1.3	270749	1.0	110	
Mg	24	1	He	-15.642	-1.2	8873	6.6	110	
Al	27	1	He	-0.020	-189.8	393	10.6	10	
K	39	1	He	-9.151	-13.9	157827	0.7	110	
Ca	44	1	He	-34.130	-0.4	1022	1.8	110	
V	51	1	He	-0.017	-39.6	2051	3.2	2	
Cr	52	1	He	0.003	293.9	2710	7.0	2	
Mn	55	1	He	0.003	6.4	588	2.6	1	
Fe	56	1	He	0.440	28.6	20627	12.7	20	
Co	59	1	He	-0.004	-2.6	207	2.8	1	
Ni	60	1	He	0.002	328.0	921	5.1	2	
Cu	65	1	He	-0.762	-6.1	7755	3.7	1	
Zn	66	1	He	-0.053	-7.0	3575	0.9	20	
As	75	1	He	0.007	18.1	122	1.3	1	
Se	78	1	He	-0.078	-187.0	159	18.2	2	
Sr	88	1	He	-0.658	-1.4	1786	9.3	2	
Mo	95	1	He	0.118	30.7	1646	23.9	2	
Ag	107	1	He	-0.006	-16.4	181	13.9	1	
Cd	111	1	He	-0.001	-224.9	19	66.8	1	
Sn	118	1	He	0.221	38.0	3689	28.8	2	
Sb	123	1	He	0.082	37.2	1540	25.8	1	
Ba	137	1	He	-0.004	-37.6	111	8.7	1	
Ce	140	1	He	-0.002	-16.1	220	9.9	1	
Tl	205	1	He	-0.001	-61.9	374	15.7	1	
Pb	208	1	He	-0.003	-23.6	718	6.2	1	
U	238	1	He	0.011	21.8	1840	12.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665206	2.18	683823	97.28	80	120	
Ge (IS)	72	1	He	377666	1.20	390615	96.69	80	120	
In-115 (IS)	115	1	He	3532231	3.23	3613234	97.76	80	120	
Tb-159 (IS)	159	1	He	8136530	1.96	8473761	96.02	80	120	
Bi-209 (IS)	209	1	He	5873459	2.20	6042462	97.20	80	120	

Reporting Limit 0.2ppb (RL) Report

Sample Table

Sample Name	CRI-3321396
Data File Name	009RL_2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:45:45-07:00
Sample Type	RL0_2
Dilution	1
Comment	+/- 50% 0.2PPB RL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.192	83.871	56	60.40	0.2	95.9	50	150	
V	51	1	He	0.185	7.164	5394	3.59	0.2	92.5	50	150	
Co	59	1	He	0.197	2.385	6138	1.35	0.2	98.3	50	150	
Ni	60	1	He	0.291	2.274	3101	2.17	0.2	145.6	50	150	
As	75	1	He	0.191	10.412	565	8.84	0.2	95.3	50	150	
Mo	95	1	He	0.187	6.869	2275	5.53	0.2	93.4	50	150	
Ag	107	1	He	0.181	4.708	5522	4.74	0.2	90.5	50	150	
Cd	111	1	He	0.206	7.694	1031	7.87	0.2	103.1	50	150	
Sb	123	1	He	0.180	7.410	2656	6.09	0.2	90.1	50	150	
Ba	137	1	He	0.185	2.700	1069	1.91	0.2	92.4	50	150	
Tl	205	1	He	0.184	1.632	11517	0.08	0.2	92.1	50	150	
Pb	208	1	He	0.195	1.604	16548	1.33	0.2	97.7	50	150	
U	238	1	He	0.187	0.436	15945	2.03	0.2	93.7	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	668822	0.93	683823	97.81	80	120	
Ge (IS)	72	1	He	385642	0.71	390615	98.73	80	120	
In-115 (IS)	115	1	He	3507423	0.50	3613234	97.07	80	120	
Tb-159 (IS)	159	1	He	8331272	1.63	8473761	98.32	80	120	
Bi-209 (IS)	209	1	He	5935004	0.58	6042462	98.22	80	120	

Reporting Limit 1.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321397
Data File Name	010_RL1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:48:22-07:00
Sample Type	RL1_0
Dilution	1
Comment	+/- 50% 1xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.460	40.659	112	34.17	0.5	92.1	50	150	
Al	27	1	He	11.411	1.471	12233	2.20	10	114.1	50	150	
V	51	1	He	1.088	2.965	20310	2.71	1	108.8	50	150	
Cr	52	1	He	1.061	0.687	23357	0.65	1	106.1	50	150	
Mn	55	1	He	1.132	1.498	15014	1.24	1	113.2	50	150	
Fe	56	1	He	21.691	1.063	390291	1.22	20	108.5	50	150	
Co	59	1	He	1.064	1.059	31821	0.80	1	106.4	50	150	
Ni	60	1	He	1.293	0.747	10646	1.60	1	129.3	50	150	
Cu	65	1	He	0.398	10.308	19128	1.17	1	39.8	50	150	>+/-50%
Zn	66	1	He	12.368	0.551	49362	0.41	10	123.7	50	150	
As	75	1	He	1.156	1.988	2844	1.35	1	115.6	50	150	
Se	78	1	He	1.071	8.148	405	4.25	1	107.1	50	150	
Sr	88	1	He	0.437	5.241	19947	1.52	1	43.7	50	150	>+/-50%
Mo	95	1	He	1.086	3.783	10742	2.35	1	108.6	50	150	
Ag	107	1	He	1.084	3.185	31259	2.25	1	108.4	50	150	
Cd	111	1	He	1.081	5.542	5288	4.15	1	108.1	50	150	
Sn	118	1	He	11.005	1.713	126147	1.64	10	110.0	50	150	
Sb	123	1	He	1.065	1.325	12815	1.79	1	106.5	50	150	
Ba	137	1	He	1.096	3.957	5681	2.75	1	109.6	50	150	
Ce	140	1	He	1.071	1.035	70876	0.93	1	107.1	50	150	
Tl	205	1	He	1.038	1.258	62574	0.37	1	103.8	50	150	
Pb	208	1	He	1.121	1.514	90556	0.87	1	112.1	50	150	
U	238	1	He	1.021	1.225	82318	1.06	1	102.1	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	669042	1.23	683823	97.84	80	120	
Ge (IS)	72	1	He	380856	0.83	390615	97.50	80	120	
In-115 (IS)	115	1	He	3499612	1.49	3613234	96.86	80	120	
Tb-159 (IS)	159	1	He	8313586	1.61	8473761	98.11	80	120	
Bi-209 (IS)	209	1	He	5949261	2.36	6042462	98.46	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	011_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:50:56-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.784	7.006	179	6.54	1	78.4	50	150	
Na	23	1	He	114.452	0.682	1034077	0.55	200	57.2	50	150	
Mg	24	1	He	190.266	0.774	439353	1.07	200	95.1	50	150	
Al	27	1	He	21.012	1.817	21907	1.53	20	105.1	50	150	
K	39	1	He	194.576	1.107	538791	0.79	200	97.3	50	150	
Ca	44	1	He	939.841	0.471	96546	0.83	1000	94.0	50	150	
V	51	1	He	1.952	1.960	34172	1.50	2	97.6	50	150	
Cr	52	1	He	1.923	2.626	39685	2.19	2	96.1	50	150	
Mn	55	1	He	2.054	1.560	26454	1.27	2	102.7	50	150	
Fe	56	1	He	39.460	0.526	690916	0.73	40	98.6	50	150	
Co	59	1	He	1.972	0.752	58023	1.05	2	98.6	50	150	
Ni	60	1	He	2.117	3.170	16651	3.33	2	105.8	50	150	
Cu	65	1	He	1.268	4.033	27295	2.11	2	63.4	50	150	
Zn	66	1	He	21.004	1.288	80190	0.90	20	105.0	50	150	
As	75	1	He	2.114	1.862	5051	2.46	2	105.7	50	150	
Se	78	1	He	1.938	3.088	583	2.00	2	96.9	50	150	
Sr	88	1	He	1.265	2.169	33491	0.93	2	63.3	50	150	
Mo	95	1	He	1.979	3.508	19038	2.69	2	98.9	50	150	
Ag	107	1	He	1.895	1.431	54068	0.22	2	94.8	50	150	
Cd	111	1	He	1.961	2.263	9518	0.69	2	98.1	50	150	
Sn	118	1	He	20.068	1.227	227746	0.85	20	100.3	50	150	
Sb	123	1	He	1.864	3.369	21856	1.82	2	93.2	50	150	
Ba	137	1	He	2.005	2.432	10224	1.45	2	100.3	50	150	
Ce	140	1	He	1.940	2.064	127344	1.33	2	97.0	50	150	
Tl	205	1	He	1.918	0.246	112685	1.92	2	95.9	50	150	
Pb	208	1	He	2.093	0.588	163414	0.95	2	104.6	50	150	
U	238	1	He	1.907	2.373	149588	1.16	2	95.3	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660986	0.39	683823	96.66	80	120	
Ge (IS)	72	1	He	376239	0.66	390615	96.32	80	120	
In-115 (IS)	115	1	He	3478893	1.56	3613234	96.28	80	120	
Tb-159 (IS)	159	1	He	8131586	1.85	8473761	95.96	80	120	
Bi-209 (IS)	209	1	He	5780711	1.49	6042462	95.67	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	012ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:53:29-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.060	-32.878	2	173.21	-1	1	
Na	23	1	He	104378.173	1.699	366950981	1.33	100000	100000	
Mg	24	1	He	101839.555	0.876	198660885	0.55	100000	100000	
Al	27	1	He	100479.018	0.678	95889485	0.43	100000	100000	
K	39	1	He	101402.153	0.960	177484709	0.72	100000	100000	
Ca	44	1	He	95661.602	1.023	8755957	0.74	100000	100000	
V	51	1	He	0.024	19.710	2527	2.86	-4	4	
Cr	52	1	He	1.317	1.849	26127	1.72	-4	4	
Mn	55	1	He	0.346	5.191	4586	4.37	-2	2	
Co	59	1	He	0.037	7.052	1315	5.87	-2	2	
Ni	60	1	He	0.702	3.197	5713	2.50	-4	4	
Cu	65	1	He	0.295	20.098	16707	2.85	-4	4	
Zn	66	1	He	1.773	1.316	9344	0.41	-40	40	
As	75	1	He	0.106	17.276	323	12.25	-2	2	
Se	78	1	He	0.051	112.848	170	6.88	-4	4	
Sr	88	1	He	0.473	28.797	17716	11.03	-2	2	
Mo	95	1	He	2167.853	2.087	17617252	1.58	2000	2000	
Ag	107	1	He	0.027	19.223	952	13.33	-2	2	
Cd	111	1	He	0.856	2.507	3617	3.05	-2	2	
Sn	118	1	He	0.073	10.218	1682	3.93	-20	20	
Sb	123	1	He	0.082	6.040	1316	4.06	-4	4	
Ba	137	1	He	0.111	2.363	599	1.79	-2	2	
Ce	140	1	He	0.024	5.524	1688	5.02	-2	2	
Tl	205	1	He	0.002	48.319	547	11.78	-2	2	
Pb	208	1	He	0.233	2.192	16171	1.39	-2	2	
U	238	1	He	0.000	591.374	874	3.42	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	616563	0.38	683823	90.16	80	120	
Ge (IS)	72	1	He	344426	0.48	390615	88.18	80	120	
In-115 (IS)	115	1	He	3018048	0.56	3613234	83.53	80	120	
Tb-159 (IS)	159	1	He	7434735	1.30	8473761	87.74	80	120	
Bi-209 (IS)	209	1	He	4912370	0.71	6042462	81.30	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	013ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:55:56-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	20.139	6.277	4075	5.20	20	100.7	79.5	120.49	
Na	23	1	He	106430.090	0.993	387268571	1.43	101000	105.4	79.5	120.49	
Mg	24	1	He	103514.415	1.274	208987787	0.89	101000	102.5	79.5	120.49	
Al	27	1	He	102173.268	1.384	100931529	2.46	101000	101.2	79.5	120.49	
K	39	1	He	103777.497	0.741	188009015	1.71	101000	102.7	79.5	120.49	
Ca	44	1	He	99722.120	1.261	9447595	1.99	101000	98.7	79.5	120.49	
V	51	1	He	20.281	0.554	321770	1.36	20	101.4	79.5	120.49	
Cr	52	1	He	20.776	0.618	389136	1.08	20	103.9	79.5	120.49	
Mn	55	1	He	20.297	0.488	247714	1.47	20	101.5	79.5	120.49	
Fe	56	1	He	99551.568	0.576	1651433570	1.16	101000	98.6	79.5	120.49	
Co	59	1	He	19.097	0.202	539817	0.92	20	95.5	79.5	120.49	
Ni	60	1	He	19.602	0.540	141700	1.60	20	98.0	79.5	120.49	
Cu	65	1	He	18.926	0.557	190855	1.16	20	94.6	79.5	120.49	
Zn	66	1	He	19.703	2.830	72241	2.77	20	98.5	79.5	120.49	
As	75	1	He	20.439	2.060	45882	1.80	20	102.2	79.5	120.49	
Se	78	1	He	19.739	1.134	4142	3.21	20	98.7	79.5	120.49	
Sr	88	1	He	20.626	1.885	317375	2.11	20	103.1	79.5	120.49	
Mo	95	1	He	2181.932	0.596	18379770	1.46	2020	108.0	79.5	120.49	
Ag	107	1	He	19.602	1.126	499962	1.52	20	98.0	79.5	120.49	
Cd	111	1	He	20.620	1.793	89785	2.11	20	103.1	79.5	120.49	
Sn	118	1	He	21.119	1.394	215479	1.82	20	105.6	79.5	120.49	
Sb	123	1	He	21.446	1.810	220696	2.27	20	107.2	79.5	120.49	
Ba	137	1	He	21.142	1.355	95840	1.66	20	105.7	79.5	120.49	
Ce	140	1	He	20.814	1.092	1225541	1.36	20	104.1	79.5	120.49	
Tl	205	1	He	18.860	0.479	1045159	1.73	20	94.3	79.5	120.49	
Pb	208	1	He	21.273	0.799	1431745	1.23	20	106.4	79.5	120.49	
U	238	1	He	20.454	0.436	1510372	1.95	20	102.3	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	638152	1.11	683823	93.32	80	120	
Ge (IS)	72	1	He	360251	2.15	390615	92.23	80	120	
In-115 (IS)	115	1	He	3128036	0.92	3613234	86.57	80	120	
Tb-159 (IS)	159	1	He	7697396	2.22	8473761	90.84	80	120	
Bi-209 (IS)	209	1	He	5008758	1.22	6042462	82.89	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	014SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T14:58:24-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.040	-0.040	-38.53	7	50.03	100	
Na	23	1	He	-53.115	-53.115	-22.04	409430	10.89	75000	
Mg	24	1	He	28.420	28.420	39.35	102428	23.19	125000	
Al	27	1	He	43.590	43.590	24.10	45671	23.93	4000	
K	39	1	He	35.601	35.601	28.36	244308	7.79	100000	
Ca	44	1	He	10.772	10.772	95.54	5500	18.63	250000	
V	51	1	He	-0.010	-0.010	-59.56	2179	5.11	4000	
Cr	52	1	He	-0.001	-0.001	-531.54	2642	4.41	4000	
Mn	55	1	He	0.034	0.034	19.65	988	8.91	4000	
Fe	56	1	He	50.428	50.428	17.96	892345	17.71	40000	
Co	59	1	He	0.003	0.003	61.38	401	12.88	4000	
Ni	60	1	He	0.040	0.040	12.05	1211	2.48	4000	
[Cu]	63	1	He	-0.489	-0.489	-6.58	23380	2.94	4000	
Cu	65	1	He	-0.453	-0.453	-7.40	10846	2.50	4000	
Zn	66	1	He	0.435	0.435	7.96	5484	3.15	4000	
As	75	1	He	-0.004	-0.004	-160.75	98	15.71	4000	
Se	78	1	He	-0.003	-0.003	-3087.99	179	11.99	4000	
Sr	88	1	He	-0.676	-0.676	-1.06	1469	7.21	4000	
Mo	95	1	He	2.129	2.129	3.87	20639	2.40	4000	
Ag	107	1	He	0.018	0.018	23.23	853	13.69	100	
Cd	111	1	He	0.009	0.009	70.69	67	43.59	3500	
Sn	118	1	He	-0.028	-0.028	-31.90	807	12.58	4000	
Sb	123	1	He	-0.019	-0.019	-13.55	367	7.44	4000	
Ba	137	1	He	0.004	0.004	35.84	150	4.44	4000	
Ce	140	1	He	0.006	0.006	43.09	757	22.43	4000	
Tl	205	1	He	0.020	0.020	12.97	1622	9.81	3500	
Pb	208	1	He	0.006	0.006	52.21	1473	16.75	4000	
U	238	1	He	0.002	0.002	18.79	1106	2.05	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	670775	0.69	683823	98.09	80	120	
Ge (IS)	72	1	He	386722	0.84	390615	99.00	80	120	
In-115 (IS)	115	1	He	3511758	1.41	3613234	97.19	80	120	
Tb-159 (IS)	159	1	He	8226589	1.34	8473761	97.08	80	120	
Bi-209 (IS)	209	1	He	5935584	1.10	6042462	98.23	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326042/1-a
Data File Name	015_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:00:58-07:00
Sample Type	MB
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-77.2	9	57.3	0.5	
Na	23	1	He	-83.080	-1.2	299174	0.3	110	
Mg	24	1	He	5.153	15.0	53804	1.6	110	
Al	27	1	He	22.726	1.6	24349	0.2	10	OUT OF RANGE
K	39	1	He	10.623	5.2	199591	0.9	110	
Ca	44	1	He	-16.162	-6.5	2859	3.5	110	
V	51	1	He	-0.005	-125.7	2292	6.0	2	
Cr	52	1	He	0.000	-3749.8	2704	3.0	2	
Mn	55	1	He	0.021	4.1	832	1.7	1	
Fe	56	1	He	24.673	2.9	449507	1.6	20	OUT OF RANGE
Co	59	1	He	-0.003	-18.0	238	4.9	1	
Ni	60	1	He	-0.057	-9.9	486	9.6	2	
Cu	65	1	He	-0.519	-5.7	10343	1.4	1	
Zn	66	1	He	-0.234	-10.7	3036	3.6	20	
As	75	1	He	-0.006	-56.9	95	7.4	1	
Se	78	1	He	-0.013	-265.6	181	4.8	2	
Sr	88	1	He	-0.677	-0.5	1481	4.0	2	
Mo	95	1	He	0.698	10.4	7220	9.9	2	
Ag	107	1	He	-0.002	-30.9	301	5.7	1	
Cd	111	1	He	-0.002	-48.6	13	43.3	1	
Sn	118	1	He	-0.042	-19.5	651	14.9	2	
Sb	123	1	He	-0.026	-5.2	290	5.3	1	
Ba	137	1	He	-0.011	-24.4	76	17.8	1	
Ce	140	1	He	-0.002	-27.8	249	15.4	1	
Tl	205	1	He	0.000	-798.6	463	14.6	1	
Pb	208	1	He	0.004	34.4	1302	7.4	1	
U	238	1	He	-0.008	-8.8	329	16.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	680316	1.46	683823	99.49	80	120	
Ge (IS)	72	1	He	393887	1.82	390615	100.84	80	120	
In-115 (IS)	115	1	He	3565098	0.57	3613234	98.67	80	120	
Tb-159 (IS)	159	1	He	8352192	1.28	8473761	98.57	80	120	
Bi-209 (IS)	209	1	He	5994413	1.71	6042462	99.20	80	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326042/2-a
Data File Name	016_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:03:31-07:00
Sample Type	LCS
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	70.742	70.742	1.510	15344	1.75	80	88.4	85	115	
Na	23	1	He	1832.255	1832.255	1.013	7776286	0.64	2000	91.6	85	115	
Mg	24	1	He	1839.430	1839.430	0.778	4031600	0.73	2000	92.0	85	115	
Al	27	1	He	87.080	87.080	0.713	92817	0.80	80	108.8	85	115	
K	39	1	He	1870.116	1870.116	0.019	3816314	0.31	2000	93.5	85	115	
Ca	44	1	He	3713.731	3713.731	0.200	382269	0.36	4000	92.8	85	115	
V	51	1	He	71.927	71.927	0.699	1219677	0.45	80	89.9	85	115	
Cr	52	1	He	72.854	72.854	1.367	1458938	1.52	80	91.1	85	115	
Mn	55	1	He	72.683	72.683	0.588	951341	0.34	80	90.9	85	115	
Fe	56	1	He	743.414	743.414	1.960	13259656	1.66	800	92.9	85	115	
Co	59	1	He	72.191	72.191	1.494	2190966	1.20	80	90.2	85	115	
Ni	60	1	He	71.469	71.469	0.559	552473	0.84	80	89.3	85	115	
Cu	65	1	He	70.858	70.858	0.840	724692	0.80	80	88.6	85	115	
Zn	66	1	He	71.309	71.309	0.436	275071	0.23	80	89.1	85	115	
As	75	1	He	72.545	72.545	0.502	177456	0.36	80	90.7	85	115	
Se	78	1	He	69.994	69.994	1.115	15558	1.54	80	87.5	85	115	
Sr	88	1	He	70.228	70.228	1.511	1196438	0.27	80	87.8	85	115	
Mo	95	1	He	72.487	72.487	1.350	694073	0.20	80	90.6	85	115	
Ag	107	1	He	76.013	76.013	1.246	2201297	0.50	80	95.0	85	115	
Cd	111	1	He	72.865	72.865	0.975	360340	0.56	80	91.1	85	115	
Sn	118	1	He	72.860	72.860	1.304	841653	0.62	80	91.1	85	115	
Sb	123	1	He	74.550	74.550	1.508	869969	0.36	80	93.2	85	115	
Ba	137	1	He	72.072	72.072	0.850	370817	0.40	80	90.1	85	115	
Ce	140	1	He	73.046	73.046	1.739	4884445	0.68	80	91.3	85	115	
Tl	205	1	He	70.497	70.497	1.006	4241293	1.33	80	88.1	85	115	
Pb	208	1	He	72.441	72.441	0.862	5735651	0.33	80	90.6	85	115	
U	238	1	He	71.387	71.387	0.421	5721806	0.05	80	89.2	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	685474	0.29	683823	100.24	80	120	
Ge (IS)	72	1	He	393107	0.64	390615	100.64	80	120	
In-115 (IS)	115	1	He	3553586	1.24	3613234	98.35	80	120	
Tb-159 (IS)	159	1	He	8358267	0.38	8473761	98.64	80	120	
Bi-209 (IS)	209	1	He	5894801	0.59	6042462	97.56	80	120	

Sample Report

Sample Table

Sample Name	440-144937-b-3-a
Data File Name	017SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:05:54-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3201
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.003	0.003	2134.02	16	81.11	100	
Na	23	1	He	758949.670	758949.670	3.43	2833256990	1.13	75000	>LDR
Mg	24	1	He	284620.733	284620.733	4.43	590176190	2.10	125000	>LDR
Al	27	1	He	112.989	112.989	25.92	115545	27.63	4000	
K	39	1	He	61655.034	61655.034	4.27	114794604	1.93	100000	
Ca	44	1	He	608117.522	608117.522	6.13	59135113	3.77	250000	>LDR
V	51	1	He	29.575	29.575	4.34	480905	1.98	4000	
Cr	52	1	He	54.793	54.793	4.40	1049841	2.05	4000	
Mn	55	1	He	0.175	0.175	16.96	2730	13.50	4000	
Fe	56	1	He	110.724	110.724	24.40	1907442	26.07	40000	
Co	59	1	He	0.213	0.213	6.47	6489	6.98	4000	
Ni	60	1	He	0.303	0.303	7.21	3127	3.44	4000	
[Cu]	63	1	He	-0.048	-0.048	-366.39	31588	8.91	4000	
Cu	65	1	He	0.218	0.218	71.88	17009	6.76	4000	
Zn	66	1	He	2.503	2.503	3.64	11608	3.48	4000	
As	75	1	He	89.261	89.261	2.62	188598	3.20	4000	
Se	78	1	He	129.723	129.723	1.96	24773	2.68	4000	
Sr	88	1	He	18370.316	18370.316	4.77	257083679	2.95	4000	>LDR
Mo	95	1	He	749.022	749.022	5.12	5950882	3.28	4000	
Ag	107	1	He	0.069	0.069	32.77	1958	29.58	100	
Cd	111	1	He	0.360	0.360	6.93	1500	5.02	3500	
Sn	118	1	He	0.149	0.149	9.32	2377	4.96	4000	
Sb	123	1	He	0.298	0.298	5.67	3379	6.30	4000	
Ba	137	1	He	10.104	10.104	2.88	43267	1.12	4000	
Ce	140	1	He	0.027	0.027	57.09	1853	49.06	4000	
Tl	205	1	He	0.155	0.155	8.30	8482	8.02	3500	
Pb	208	1	He	0.050	0.050	37.45	3756	30.36	4000	
U	238	1	He	7.534	7.534	3.95	522918	2.85	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655896	2.28	683823	95.92	80	120	
Ge (IS)	72	1	He	339554	0.93	390615	86.93	80	120	
In-115 (IS)	115	1	He	2952064	1.84	3613234	81.70	80	120	
Tb-159 (IS)	159	1	He	7229369	1.08	8473761	85.31	80	120	
Bi-209 (IS)	209	1	He	4484114	1.26	6042462	74.21	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-3-b ms
Data File Name	018SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:08:26-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3202
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	64.065	64.065	1.59	13756	1.07	100	
Na	23	1	He	736034.206	736034.206	0.58	2844590536	2.21	75000	>LDR
Mg	24	1	He	274170.489	274170.489	1.01	588703248	2.96	125000	>LDR
Al	27	1	He	83.770	83.770	1.27	88410	1.84	4000	
K	39	1	He	61846.420	61846.420	0.87	119218173	1.89	100000	
Ca	44	1	He	590036.717	590036.717	1.55	59413453	1.24	250000	>LDR
V	51	1	He	101.288	101.288	2.08	1699092	1.01	4000	
Cr	52	1	He	120.551	120.551	1.43	2387920	1.25	4000	
Mn	55	1	He	66.884	66.884	0.98	866759	1.99	4000	
Fe	56	1	He	668.108	668.108	1.46	11799546	2.40	40000	
Co	59	1	He	63.392	63.392	1.43	1904582	1.21	4000	
Ni	60	1	He	58.836	58.836	1.09	450430	2.06	4000	
[Cu]	63	1	He	57.644	57.644	1.26	1221747	1.98	4000	
Cu	65	1	He	58.523	58.523	1.24	595238	1.89	4000	
Zn	66	1	He	64.050	64.050	1.75	219718	1.32	4000	
As	75	1	He	163.342	163.342	1.16	354713	2.62	4000	
Se	78	1	He	203.585	203.585	2.07	39884	4.08	4000	
Sr	88	1	He	17794.854	17794.854	0.91	257638968	2.71	4000	>LDR
Mo	95	1	He	793.949	793.949	0.33	6525617	2.03	4000	
Ag	107	1	He	67.517	67.517	0.83	1679617	2.63	100	
Cd	111	1	He	65.237	65.237	0.77	277128	2.54	3500	
Sn	118	1	He	73.252	73.252	0.08	726817	1.88	4000	
Sb	123	1	He	74.831	74.831	0.74	750136	2.46	4000	
Ba	137	1	He	82.730	82.730	1.03	365598	2.38	4000	
Ce	140	1	He	72.662	72.662	0.98	4174033	2.78	4000	
Tl	205	1	He	60.136	60.136	0.97	3160055	2.11	3500	
Pb	208	1	He	74.365	74.365	1.19	4542132	1.83	4000	
U	238	1	He	77.607	77.607	1.22	5432536	1.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	678720	2.65	683823	99.25	80	120	
Ge (IS)	72	1	He	349097	2.34	390615	89.37	80	120	
In-115 (IS)	115	1	He	3052006	1.80	3613234	84.47	80	120	
Tb-159 (IS)	159	1	He	7301141	2.54	8473761	86.16	80	120	
Bi-209 (IS)	209	1	He	4548357	3.03	6042462	75.27	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-3-c msd
Data File Name	019SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:10:49-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3203
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	64.069	64.069	2.35	14438	3.41	100	
Na	23	1	He	732595.343	732595.343	0.94	2970171118	0.51	75000	>LDR
Mg	24	1	He	279454.416	279454.416	0.51	629429131	0.72	125000	>LDR
Al	27	1	He	78.381	78.381	1.37	86816	1.00	4000	
K	39	1	He	61625.136	61625.136	0.91	124629448	1.04	100000	
Ca	44	1	He	589890.725	589890.725	1.53	62326702	1.85	250000	>LDR
V	51	1	He	102.339	102.339	1.86	1801260	0.99	4000	
Cr	52	1	He	122.054	122.054	0.31	2536825	1.14	4000	
Mn	55	1	He	67.768	67.768	0.58	921350	0.58	4000	
Fe	56	1	He	680.476	680.476	0.40	12607963	0.75	40000	
Co	59	1	He	63.360	63.360	1.36	1997245	0.37	4000	
Ni	60	1	He	59.690	59.690	0.61	479414	1.07	4000	
[Cu]	63	1	He	58.996	58.996	0.88	1310985	0.38	4000	
Cu	65	1	He	59.871	59.871	1.12	638490	0.61	4000	
Zn	66	1	He	66.247	66.247	0.95	235123	0.13	4000	
As	75	1	He	168.065	168.065	0.45	377735	0.80	4000	
Se	78	1	He	210.916	210.916	1.49	42747	0.57	4000	
Sr	88	1	He	17986.781	17986.781	1.47	270288860	0.40	4000	>LDR
Mo	95	1	He	805.780	805.780	0.88	6875115	1.28	4000	
Ag	107	1	He	70.567	70.567	1.77	1822016	0.66	100	
Cd	111	1	He	67.649	67.649	1.76	298261	0.06	3500	
Sn	118	1	He	74.718	74.718	1.12	769554	0.86	4000	
Sb	123	1	He	76.174	76.174	1.89	792522	0.40	4000	
Ba	137	1	He	84.517	84.517	0.93	387695	0.83	4000	
Ce	140	1	He	74.589	74.589	1.56	4447106	0.60	4000	
Tl	205	1	He	65.626	65.626	1.54	3615019	0.54	3500	
Pb	208	1	He	75.580	75.580	1.25	4816674	0.12	4000	
U	238	1	He	78.257	78.257	1.38	5743196	0.70	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	711996	1.14	683823	104.12	80	120	
Ge (IS)	72	1	He	361317	1.06	390615	92.50	80	120	
In-115 (IS)	115	1	He	3168549	1.70	3613234	87.69	80	120	
Tb-159 (IS)	159	1	He	7653924	1.42	8473761	90.32	80	120	
Bi-209 (IS)	209	1	He	4745111	1.31	6042462	78.53	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-1-a@2
Data File Name	020SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:13:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3204
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.017	0.017	106.27	19	20.36	100	
Na	23	1	He	371310.098	371310.098	1.18	1424380210	0.41	75000	>LDR
Mg	24	1	He	197778.523	197778.523	0.51	421419370	0.65	125000	>LDR
Al	27	1	He	6.341	6.341	6.55	7030	6.60	4000	
K	39	1	He	140449.430	140449.430	1.18	268462603	0.49	100000	>LDR
Ca	44	1	He	320808.909	320808.909	0.29	32066637	0.60	250000	>LDR
V	51	1	He	4.761	4.761	0.50	81532	1.10	4000	
Cr	52	1	He	31.845	31.845	0.57	628092	0.68	4000	
Mn	55	1	He	0.979	0.979	1.48	13150	2.22	4000	
Fe	56	1	He	8.091	8.091	1.19	154804	0.71	40000	
Co	59	1	He	0.161	0.161	3.25	5110	3.88	4000	
Ni	60	1	He	1.684	1.684	1.94	13686	2.65	4000	
[Cu]	63	1	He	0.692	0.692	0.80	47641	1.09	4000	
Cu	65	1	He	0.781	0.781	6.34	23030	2.90	4000	
Zn	66	1	He	3.950	3.950	3.49	17005	2.18	4000	
As	75	1	He	26.333	26.333	0.35	57903	0.99	4000	
Se	78	1	He	22.121	22.121	0.68	4528	1.33	4000	
Sr	88	1	He	6661.100	6661.100	0.79	97692856	0.64	4000	>LDR
Mo	95	1	He	158.955	158.955	1.10	1323794	0.83	4000	
Ag	107	1	He	0.070	0.070	12.66	2060	10.50	100	
Cd	111	1	He	0.125	0.125	5.59	560	5.09	3500	
Sn	118	1	He	0.736	0.736	5.18	8383	4.70	4000	
Sb	123	1	He	0.122	0.122	9.42	1750	6.95	4000	
Ba	137	1	He	6.036	6.036	1.64	27126	1.48	4000	
Ce	140	1	He	0.050	0.050	1.20	3216	1.37	4000	
Tl	205	1	He	0.368	0.368	2.06	19662	2.85	3500	
Pb	208	1	He	0.065	0.065	9.28	4743	8.19	4000	
U	238	1	He	9.813	9.813	1.14	684049	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	673531	0.85	683823	98.49	80	120	
Ge (IS)	72	1	He	352975	0.67	390615	90.36	80	120	
In-115 (IS)	115	1	He	3091752	0.29	3613234	85.57	80	120	
Tb-159 (IS)	159	1	He	7261534	0.84	8473761	85.69	80	120	
Bi-209 (IS)	209	1	He	4590093	0.90	6042462	75.96	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144937-b-2-a@2
Data File Name	021SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:15:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3205
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.052	-0.052	-42.56	4	114.60	100	
Na	23	1	He	378622.216	378622.216	0.39	1556546889	0.69	75000	>LDR
Mg	24	1	He	126724.479	126724.479	0.44	289381189	0.70	125000	>LDR
Al	27	1	He	11.659	11.659	19.61	13481	19.32	4000	
K	39	1	He	18268.249	18268.249	0.77	37587877	1.07	100000	
Ca	44	1	He	297654.259	297654.259	1.39	31884209	1.57	250000	>LDR
V	51	1	He	20.301	20.301	0.78	364299	1.03	4000	
Cr	52	1	He	16.970	16.970	0.58	360019	0.64	4000	
Mn	55	1	He	1.274	1.274	1.71	18150	1.20	4000	
Fe	56	1	He	14.352	14.352	3.15	283385	3.43	40000	
Co	59	1	He	0.281	0.281	2.25	9327	2.12	4000	
Ni	60	1	He	0.759	0.759	3.05	7146	3.03	4000	
[Cu]	63	1	He	0.594	0.594	5.76	48908	1.15	4000	
Cu	65	1	He	0.732	0.732	5.68	24156	2.24	4000	
Zn	66	1	He	16.397	16.397	1.14	64543	0.44	4000	
As	75	1	He	53.274	53.274	0.42	126950	0.64	4000	
Se	78	1	He	44.008	44.008	1.58	9593	0.83	4000	
Sr	88	1	He	6012.367	6012.367	0.75	95161978	1.55	4000	>LDR
Mo	95	1	He	343.295	343.295	1.11	3084556	0.29	4000	
Ag	107	1	He	0.014	0.014	27.22	708	15.65	100	
Cd	111	1	He	0.188	0.188	12.57	897	10.95	3500	
Sn	118	1	He	0.118	0.118	9.58	2350	5.85	4000	
Sb	123	1	He	0.169	0.169	17.78	2402	13.77	4000	
Ba	137	1	He	5.604	5.604	2.58	27183	1.87	4000	
Ce	140	1	He	0.049	0.049	10.23	3453	10.42	4000	
Tl	205	1	He	0.119	0.119	0.53	7254	0.41	3500	
Pb	208	1	He	0.030	0.030	9.43	2853	7.15	4000	
U	238	1	He	7.985	7.985	0.97	609193	0.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	721768	0.44	683823	105.55	80	120	
Ge (IS)	72	1	He	382864	0.71	390615	98.02	80	120	
In-115 (IS)	115	1	He	3336536	1.34	3613234	92.34	80	120	
Tb-159 (IS)	159	1	He	7945094	0.85	8473761	93.76	80	120	
Bi-209 (IS)	209	1	He	5056620	0.76	6042462	83.68	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-1-a@2
Data File Name	022SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:18:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3206
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.001	-0.001	-14880.16	16	121.85	100	
Na	23	1	He	276915.197	276915.197	1.96	1091929059	1.01	75000	>LDR
Mg	24	1	He	116912.818	116912.818	0.98	256052274	0.05	125000	>LDR
Al	27	1	He	12.321	12.321	145.68	13658	141.22	4000	
K	39	1	He	94533.679	94533.679	0.99	185793042	1.17	100000	>LDR
Ca	44	1	He	311611.194	311611.194	1.22	32012145	0.27	250000	>LDR
V	51	1	He	6.458	6.458	0.72	112799	0.82	4000	
Cr	52	1	He	13.384	13.384	0.76	272907	0.46	4000	
Mn	55	1	He	0.224	0.224	18.27	3532	15.42	4000	
Fe	56	1	He	12.491	12.491	141.13	238720	133.27	40000	
Co	59	1	He	0.399	0.399	5.06	12557	5.32	4000	
Ni	60	1	He	1.664	1.664	3.18	13910	2.38	4000	
[Cu]	63	1	He	0.845	0.845	5.40	52180	1.61	4000	
Cu	65	1	He	0.934	0.934	3.63	25208	1.20	4000	
Zn	66	1	He	0.764	0.764	10.59	6303	4.14	4000	
As	75	1	He	25.666	25.666	1.49	58048	0.93	4000	
Se	78	1	He	14.421	14.421	2.48	3095	3.22	4000	
Sr	88	1	He	6523.860	6523.860	1.18	98763114	0.58	4000	>LDR
Mo	95	1	He	47.061	47.061	1.86	404883	1.51	4000	
Ag	107	1	He	0.047	0.047	73.93	1539	59.18	100	
Cd	111	1	He	0.050	0.050	76.83	243	70.16	3500	
Sn	118	1	He	1.588	1.588	4.83	17474	4.71	4000	
Sb	123	1	He	0.106	0.106	40.53	1639	27.70	4000	
Ba	137	1	He	9.280	9.280	2.37	42978	0.88	4000	
Ce	140	1	He	0.026	0.026	148.54	1911	122.10	4000	
Tl	205	1	He	0.300	0.300	11.12	16801	11.15	3500	
Pb	208	1	He	0.035	0.035	99.81	3083	75.37	4000	
U	238	1	He	5.009	5.009	0.86	365074	0.77	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	692272	0.94	683823	101.24	80	120	
Ge (IS)	72	1	He	363071	0.88	390615	92.95	80	120	
In-115 (IS)	115	1	He	3191696	1.51	3613234	88.33	80	120	
Tb-159 (IS)	159	1	He	7582829	0.64	8473761	89.49	80	120	
Bi-209 (IS)	209	1	He	4826556	1.43	6042462	79.88	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-2-a@2
Data File Name	023SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:20:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3207
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.033	-0.033	-64.40	9	57.30	100	
Na	23	1	He	313092.035	313092.035	0.74	1298402971	1.89	75000	>LDR
Mg	24	1	He	145803.410	145803.410	0.36	335838156	2.10	125000	>LDR
Al	27	1	He	2.021	2.021	1.84	2729	2.36	4000	
K	39	1	He	37684.755	37684.755	0.66	78009666	2.28	100000	
Ca	44	1	He	351219.711	351219.711	0.79	37943997	1.27	250000	>LDR
V	51	1	He	3.937	3.937	0.76	73306	1.28	4000	
Cr	52	1	He	31.870	31.870	0.96	679543	2.91	4000	
Mn	55	1	He	0.256	0.256	2.78	4164	0.84	4000	
Fe	56	1	He	2.354	2.354	8.02	58801	8.02	40000	
Co	59	1	He	0.125	0.125	2.09	4379	2.51	4000	
Ni	60	1	He	1.484	1.484	2.95	13157	4.60	4000	
[Cu]	63	1	He	0.676	0.676	7.91	51111	0.30	4000	
Cu	65	1	He	0.824	0.824	4.59	25342	2.13	4000	
Zn	66	1	He	3.353	3.353	3.87	16094	1.15	4000	
As	75	1	He	19.348	19.348	0.92	45789	2.18	4000	
Se	78	1	He	6.220	6.220	5.95	1496	5.26	4000	
Sr	88	1	He	7162.332	7162.332	1.55	112708709	2.91	4000	>LDR
Mo	95	1	He	43.609	43.609	1.41	389973	1.84	4000	
Ag	107	1	He	0.036	0.036	6.97	1315	5.82	100	
Cd	111	1	He	0.026	0.026	30.80	142	27.96	3500	
Sn	118	1	He	0.101	0.101	6.26	2156	5.03	4000	
Sb	123	1	He	0.080	0.080	9.26	1418	4.67	4000	
Ba	137	1	He	3.888	3.888	0.88	18789	2.31	4000	
Ce	140	1	He	0.003	0.003	57.70	577	23.89	4000	
Tl	205	1	He	0.078	0.078	6.75	4851	8.07	3500	
Pb	208	1	He	0.010	0.010	19.86	1434	7.21	4000	
U	238	1	He	9.882	9.882	0.86	741075	2.33	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	728044	2.01	683823	106.47	80	120	
Ge (IS)	72	1	He	379676	2.05	390615	97.20	80	120	
In-115 (IS)	115	1	He	3317167	2.14	3613234	91.81	80	120	
Tb-159 (IS)	159	1	He	7812568	2.49	8473761	92.20	80	120	
Bi-209 (IS)	209	1	He	4897087	1.93	6042462	81.04	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-3-a@2
Data File Name	024SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:23:13-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3208
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.048	-0.048	-45.71	6	91.64	100	
Na	23	1	He	327735.723	327735.723	0.19	1368676319	1.11	75000	>LDR
Mg	24	1	He	150825.167	150825.167	0.47	349843168	1.40	125000	>LDR
Al	27	1	He	1.828	1.828	7.55	2530	6.68	4000	
K	39	1	He	35125.653	35125.653	1.19	73238846	2.20	100000	
Ca	44	1	He	360381.977	360381.977	0.79	39212511	1.79	250000	>LDR
V	51	1	He	3.474	3.474	0.53	65446	0.95	4000	
Cr	52	1	He	32.857	32.857	0.64	705325	0.89	4000	
Mn	55	1	He	0.160	0.160	3.05	2854	3.31	4000	
Fe	56	1	He	2.032	2.032	9.53	53048	7.24	40000	
Co	59	1	He	0.130	0.130	7.31	4565	7.71	4000	
Ni	60	1	He	0.774	0.774	4.03	7383	4.47	4000	
[Cu]	63	1	He	1.312	1.312	1.36	65662	0.74	4000	
Cu	65	1	He	1.435	1.435	1.62	32063	1.52	4000	
Zn	66	1	He	3.661	3.661	3.13	17510	2.42	4000	
As	75	1	He	9.332	9.332	1.61	22497	1.49	4000	
Se	78	1	He	4.474	4.474	6.29	1144	5.91	4000	
Sr	88	1	He	7481.435	7481.435	1.40	118715133	2.54	4000	>LDR
Mo	95	1	He	47.810	47.810	2.62	430986	0.73	4000	
Ag	107	1	He	0.033	0.033	11.72	1217	5.47	100	
Cd	111	1	He	0.033	0.033	22.05	177	16.12	3500	
Sn	118	1	He	0.055	0.055	27.61	1662	8.46	4000	
Sb	123	1	He	0.053	0.053	2.83	1136	4.59	4000	
Ba	137	1	He	4.568	4.568	2.99	22230	0.35	4000	
Ce	140	1	He	0.004	0.004	19.27	610	9.53	4000	
Tl	205	1	He	0.053	0.053	8.72	3467	8.99	3500	
Pb	208	1	He	0.035	0.035	5.63	3097	2.70	4000	
U	238	1	He	10.588	10.588	0.64	802357	1.13	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	733144	1.01	683823	107.21	80	120	
Ge (IS)	72	1	He	385814	1.60	390615	98.77	80	120	
In-115 (IS)	115	1	He	3345822	3.28	3613234	92.60	80	120	
Tb-159 (IS)	159	1	He	7894749	1.68	8473761	93.17	80	120	
Bi-209 (IS)	209	1	He	4888897	1.84	6042462	80.91	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	025_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:25:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	47.710	1.713	11479	2.42	50	95.4	89.5	110.49	
Na	23	1	He	1591.796	4.627	7579624	3.55	1250	127.3	89.5	110.49	>+\-10%
Mg	24	1	He	1362.247	1.831	3322318	1.28	1250	109.0	89.5	110.49	
Al	27	1	He	52.050	1.299	61695	0.93	50	104.1	89.5	110.49	
K	39	1	He	1370.937	1.445	3155091	1.68	1250	109.7	89.5	110.49	
Ca	44	1	He	2705.215	2.123	310063	1.84	2500	108.2	89.5	110.49	
V	51	1	He	49.268	0.936	927064	1.03	50	98.5	89.5	110.49	
Cr	52	1	He	48.551	1.246	1078888	1.19	50	97.1	89.5	110.49	
Mn	55	1	He	49.689	1.157	721257	1.38	50	99.4	89.5	110.49	
Fe	56	1	He	500.586	1.333	9903378	0.78	500	100.1	89.5	110.49	
Co	59	1	He	49.277	1.003	1658237	1.36	50	98.6	89.5	110.49	
Ni	60	1	He	48.712	1.809	417778	1.53	50	97.4	89.5	110.49	
Cu	65	1	He	48.592	0.570	556420	1.25	50	97.2	89.5	110.49	
Zn	66	1	He	51.544	0.872	216336	0.52	50	103.1	89.5	110.49	
As	75	1	He	49.719	1.255	131653	1.61	50	99.4	89.5	110.49	
Se	78	1	He	49.282	2.873	11914	3.31	50	98.6	89.5	110.49	
Sr	88	1	He	52.196	0.810	958580	1.60	50	104.4	89.5	110.49	
Mo	95	1	He	49.785	0.537	512114	1.00	50	99.6	89.5	110.49	
Ag	107	1	He	48.597	0.428	1511457	0.54	50	97.2	89.5	110.49	
Cd	111	1	He	48.976	1.025	260115	1.87	50	98.0	89.5	110.49	
Sn	118	1	He	48.952	0.427	607670	1.14	50	97.9	89.5	110.49	
Sb	123	1	He	49.146	0.741	616134	1.35	50	98.3	89.5	110.49	
Ba	137	1	He	48.925	0.441	270366	1.00	50	97.9	89.5	110.49	
Ce	140	1	He	49.983	0.481	3589586	1.20	50	100.0	89.5	110.49	
Tl	205	1	He	48.391	1.153	2989220	1.69	50	96.8	89.5	110.49	
Pb	208	1	He	49.678	2.497	4035228	1.71	50	99.4	89.5	110.49	
U	238	1	He	48.902	1.623	4024736	2.20	50	97.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	759966	0.95	683823	111.13	80	120	
Ge (IS)	72	1	He	425398	0.49	390615	108.90	80	120	
In-115 (IS)	115	1	He	3815843	0.85	3613234	105.61	80	120	
Tb-159 (IS)	159	1	He	8581270	0.59	8473761	101.27	80	120	
Bi-209 (IS)	209	1	He	6047623	0.89	6042462	100.09	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	026_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:28:10-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-118.7	9	108.3	0.5	
Na	23	1	He	150.030	9.2	1312400	5.2	110	CCB Main CR1 Failed
Mg	24	1	He	37.596	6.1	134976	4.7	110	
Al	27	1	He	0.505	9.2	1041	5.0	10	
K	39	1	He	23.466	5.4	244904	0.9	110	
Ca	44	1	He	66.660	9.5	12250	6.4	110	
V	51	1	He	0.010	34.2	2771	2.1	2	
Cr	52	1	He	0.018	44.8	3344	5.2	2	
Mn	55	1	He	0.004	173.6	677	15.4	1	
Fe	56	1	He	1.060	1.4	34957	1.3	20	
Co	59	1	He	0.008	59.3	631	27.2	1	
Ni	60	1	He	-0.010	-92.9	924	7.6	2	
Cu	65	1	He	0.115	44.7	18168	3.4	1	
Zn	66	1	He	-0.164	-27.2	3524	6.2	20	
As	75	1	He	0.037	15.1	215	7.9	1	
Se	78	1	He	0.029	291.6	202	9.3	2	
Sr	88	1	He	1.962	6.5	48548	4.4	2	
Mo	95	1	He	0.219	6.6	2756	5.8	2	
Ag	107	1	He	0.031	50.8	1326	36.4	1	
Cd	111	1	He	0.010	61.4	81	41.2	1	
Sn	118	1	He	0.152	15.9	3054	10.1	2	
Sb	123	1	He	0.203	9.7	3121	7.8	1	
Ba	137	1	He	0.009	73.1	187	18.1	1	
Ce	140	1	He	0.011	29.0	1200	19.0	1	
Tl	205	1	He	0.016	17.1	1487	13.2	1	
Pb	208	1	He	0.014	35.1	2075	19.4	1	
U	238	1	He	0.048	10.1	4954	7.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	742558	0.89	683823	108.59	80	120	
Ge (IS)	72	1	He	419722	1.12	390615	107.45	80	120	
In-115 (IS)	115	1	He	3753841	0.59	3613234	103.89	80	120	
Tb-159 (IS)	159	1	He	8528880	1.60	8473761	100.65	80	120	
Bi-209 (IS)	209	1	He	5998221	0.91	6042462	99.27	80	120	

Sample Report

Sample Table

Sample Name	440-144933-b-4-a
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:30:44-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3209
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.010	-0.010	-386.69	13	66.12	100	
Na	23	1	He	629104.698	629104.698	1.62	2452457787	2.37	75000	>LDR
Mg	24	1	He	289875.244	289875.244	1.71	627635015	0.96	125000	>LDR
Al	27	1	He	4.721	4.721	6.67	5433	8.49	4000	
K	39	1	He	68785.890	68785.890	1.66	133709092	1.06	100000	
Ca	44	1	He	694562.145	694562.145	0.71	70562675	2.55	250000	>LDR
V	51	1	He	6.948	6.948	0.43	119835	2.24	4000	
Cr	52	1	He	63.171	63.171	1.21	1263548	1.44	4000	
Mn	55	1	He	0.307	0.307	5.05	4580	5.91	4000	
Fe	56	1	He	5.657	5.657	4.81	114124	6.80	40000	
Co	59	1	He	0.257	0.257	2.69	8113	5.13	4000	
Ni	60	1	He	0.997	0.997	2.20	8619	4.36	4000	
[Cu]	63	1	He	2.802	2.802	8.78	92204	3.38	4000	
Cu	65	1	He	3.010	3.010	7.11	45653	3.25	4000	
Zn	66	1	He	2.697	2.697	1.62	12623	1.29	4000	
As	75	1	He	19.014	19.014	0.90	41491	1.91	4000	
Se	78	1	He	9.530	9.530	1.90	2027	1.91	4000	
Sr	88	1	He	14798.645	14798.645	0.46	214047934	1.64	4000	>LDR
Mo	95	1	He	93.750	93.750	1.00	770301	2.42	4000	
Ag	107	1	He	0.090	0.090	7.40	2551	7.76	100	
Cd	111	1	He	0.068	0.068	26.71	310	25.42	3500	
Sn	118	1	He	0.098	0.098	23.28	1945	9.95	4000	
Sb	123	1	He	0.221	0.221	2.38	2718	1.67	4000	
Ba	137	1	He	8.839	8.839	1.19	39133	2.89	4000	
Ce	140	1	He	0.030	0.030	23.57	2059	20.90	4000	
Tl	205	1	He	0.130	0.130	0.93	7242	3.11	3500	
Pb	208	1	He	0.090	0.090	5.92	6066	5.99	4000	
U	238	1	He	20.812	20.812	2.57	1460373	1.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684626	2.62	683823	100.12	80	120	
Ge (IS)	72	1	He	350045	1.05	390615	89.61	80	120	
In-115 (IS)	115	1	He	3049351	1.72	3613234	84.39	80	120	
Tb-159 (IS)	159	1	He	7316303	2.25	8473761	86.34	80	120	
Bi-209 (IS)	209	1	He	4433252	0.81	6042462	73.37	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144940-c-1-a
Data File Name	028SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:33:14-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail
VialNumber	3210
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.000	0.000	-8024.89	16	53.90	100	
Na	23	1	He	606648.092	606648.092	1.65	2403218607	1.27	75000	>LDR
Mg	24	1	He	223121.701	223121.701	1.75	490999305	1.08	125000	>LDR
Al	27	1	He	3.277	3.277	3.39	3963	5.12	4000	
K	39	1	He	64110.468	64110.468	1.32	126675853	1.43	100000	
Ca	44	1	He	611409.865	611409.865	1.92	63110582	0.83	250000	>LDR
V	51	1	He	16.014	16.014	1.84	277446	0.92	4000	
Cr	52	1	He	106.910	106.910	3.56	2170643	1.61	4000	
Mn	55	1	He	0.143	0.143	16.51	2472	10.22	4000	
Fe	56	1	He	3.835	3.835	2.77	82906	0.44	40000	
Co	59	1	He	0.438	0.438	2.58	13803	1.62	4000	
Ni	60	1	He	1.724	1.724	1.02	14451	2.34	4000	
[Cu]	63	1	He	1.476	1.476	9.36	65731	1.77	4000	
Cu	65	1	He	1.682	1.682	7.85	32918	1.49	4000	
Zn	66	1	He	2.187	2.187	6.22	11021	3.17	4000	
As	75	1	He	123.662	123.662	1.34	272440	1.84	4000	
Se	78	1	He	27.778	27.778	0.57	5662	1.86	4000	
Sr	88	1	He	13076.889	13076.889	2.03	194134686	0.19	4000	>LDR
Mo	95	1	He	60.744	60.744	1.64	512431	0.94	4000	
Ag	107	1	He	0.029	0.029	5.50	1062	5.11	100	
Cd	111	1	He	0.023	0.023	13.81	122	11.02	3500	
Sn	118	1	He	0.066	0.066	27.74	1671	9.19	4000	
Sb	123	1	He	0.198	0.198	1.33	2554	1.14	4000	
Ba	137	1	He	8.870	8.870	1.93	40298	0.80	4000	
Ce	140	1	He	0.013	0.013	15.62	1088	8.75	4000	
Tl	205	1	He	0.218	0.218	3.21	12065	1.77	3500	
Pb	208	1	He	0.021	0.021	11.33	2045	7.86	4000	
U	238	1	He	23.884	23.884	0.63	1703490	2.27	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	695811	2.70	683823	101.75	80	120	
Ge (IS)	72	1	He	354132	1.32	390615	90.66	80	120	
In-115 (IS)	115	1	He	3130661	2.21	3613234	86.64	80	120	
Tb-159 (IS)	159	1	He	7434656	1.87	8473761	87.74	80	120	
Bi-209 (IS)	209	1	He	4610318	1.95	6042462	76.30	80	120	ISTD Failed

Sample Report

Sample Table

Sample Name	440-144940-c-2-a
Data File Name	029SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:35:43-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8D 440-326042 EN/TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	3211
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.053	-0.053	-40.54	4	114.60	100	
Na	23	1	He	496.376	496.376	19.43	2792610	14.67	75000	
Mg	24	1	He	115.602	115.602	28.09	320055	24.02	125000	
Al	27	1	He	2.534	2.534	2.96	3394	1.94	4000	
K	39	1	He	65.231	65.231	17.69	334852	7.37	100000	
Ca	44	1	He	283.859	283.859	27.20	36395	23.60	250000	
V	51	1	He	0.065	0.065	16.39	3812	5.67	4000	
Cr	52	1	He	0.185	0.185	8.49	7004	4.85	4000	
Mn	55	1	He	0.005	0.005	82.38	697	8.51	4000	
Fe	56	1	He	0.710	0.710	2.64	28364	0.67	40000	
Co	59	1	He	-0.002	-0.002	-12.41	273	4.22	4000	
Ni	60	1	He	-0.059	-0.059	-9.99	517	9.15	4000	
[Cu]	63	1	He	1.376	1.376	5.96	68337	2.82	4000	
Cu	65	1	He	1.382	1.382	2.41	32097	1.40	4000	
Zn	66	1	He	0.455	0.455	13.79	6004	5.11	4000	
As	75	1	He	0.075	0.075	28.60	312	17.27	4000	
Se	78	1	He	0.022	0.022	171.12	200	3.55	4000	
Sr	88	1	He	5.632	5.632	27.52	112913	23.30	4000	
Mo	95	1	He	0.149	0.149	17.93	2040	14.04	4000	
Ag	107	1	He	-0.003	-0.003	-10.10	267	3.75	100	
Cd	111	1	He	-0.002	-0.002	-21.53	18	10.81	3500	
Sn	118	1	He	0.031	0.031	30.27	1566	7.21	4000	
Sb	123	1	He	-0.009	-0.009	-82.88	507	19.11	4000	
Ba	137	1	He	0.057	0.057	31.49	446	21.18	4000	
Ce	140	1	He	-0.002	-0.002	-59.63	238	40.69	4000	
Tl	205	1	He	-0.004	-0.004	-5.80	251	5.53	3500	
Pb	208	1	He	0.006	0.006	10.87	1457	3.42	4000	
U	238	1	He	0.023	0.023	2.72	2891	1.77	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	746965	0.61	683823	109.23	80	120	
Ge (IS)	72	1	He	417651	0.91	390615	106.92	80	120	
In-115 (IS)	115	1	He	3726973	0.96	3613234	103.15	80	120	
Tb-159 (IS)	159	1	He	8458006	0.49	8473761	99.81	80	120	
Bi-209 (IS)	209	1	He	5957487	1.77	6042462	98.59	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	030_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:38:15-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	46.919	3.909	11114	4.13	50	93.8	89.5	110.49	
Na	23	1	He	1534.948	3.322	7221637	2.96	1250	122.8	89.5	110.49	>+\-10%
Mg	24	1	He	1350.704	1.728	3243832	1.51	1250	108.1	89.5	110.49	
Al	27	1	He	51.668	1.116	60301	0.85	50	103.3	89.5	110.49	
K	39	1	He	1368.130	1.934	3100276	1.64	1250	109.5	89.5	110.49	
Ca	44	1	He	2718.421	0.400	306752	0.14	2500	108.7	89.5	110.49	
V	51	1	He	49.265	0.423	912695	0.63	50	98.5	89.5	110.49	
Cr	52	1	He	48.256	0.456	1055786	0.34	50	96.5	89.5	110.49	
Mn	55	1	He	49.726	0.674	710646	0.67	50	99.5	89.5	110.49	
Fe	56	1	He	499.305	0.983	9726180	1.24	500	99.9	89.5	110.49	
Co	59	1	He	49.457	1.692	1638497	1.42	50	98.9	89.5	110.49	
Ni	60	1	He	48.485	0.812	409420	0.54	50	97.0	89.5	110.49	
Cu	65	1	He	48.783	0.428	549892	0.17	50	97.6	89.5	110.49	
Zn	66	1	He	51.342	1.548	211114	0.53	50	102.7	89.5	110.49	
As	75	1	He	49.975	0.545	129638	0.57	50	100.0	89.5	110.49	
Se	78	1	He	50.456	2.371	11943	1.51	50	100.9	89.5	110.49	
Sr	88	1	He	51.746	0.282	935013	0.70	50	103.5	89.5	110.49	
Mo	95	1	He	49.423	1.046	500174	1.41	50	98.8	89.5	110.49	
Ag	107	1	He	48.830	0.426	1494125	0.69	50	97.7	89.5	110.49	
Cd	111	1	He	49.232	1.265	257218	0.70	50	98.5	89.5	110.49	
Sn	118	1	He	48.964	0.412	597967	0.39	50	97.9	89.5	110.49	
Sb	123	1	He	49.010	0.167	604480	0.62	50	98.0	89.5	110.49	
Ba	137	1	He	49.187	1.104	267407	0.97	50	98.4	89.5	110.49	
Ce	140	1	He	49.309	0.791	3483737	0.18	50	98.6	89.5	110.49	
Tl	205	1	He	48.440	1.359	2917722	0.89	50	96.9	89.5	110.49	
Pb	208	1	He	50.087	1.345	3952850	0.75	50	100.2	89.5	110.49	
U	238	1	He	49.232	1.966	3950630	1.21	50	98.5	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	748217	0.27	683823	109.42	80	120	
Ge (IS)	72	1	He	416766	1.11	390615	106.69	80	120	
In-115 (IS)	115	1	He	3754069	0.62	3613234	103.90	80	120	
Tb-159 (IS)	159	1	He	8368207	0.77	8473761	98.75	80	120	
Bi-209 (IS)	209	1	He	5875397	0.61	6042462	97.24	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	031_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T15:40:41-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.004	1107.2	18	65.8	0.5	
Na	23	1	He	169.922	5.9	1384722	3.6	110	CCB Main CR1 Failed
Mg	24	1	He	45.379	6.9	151984	5.4	110	
Al	27	1	He	0.010	904.1	469	21.8	10	
K	39	1	He	25.669	4.9	247481	1.6	110	
Ca	44	1	He	186.282	80.9	25273	65.9	110	CCB Main CR1 Failed
V	51	1	He	0.016	53.1	2874	5.9	2	
Cr	52	1	He	0.036	11.8	3697	2.8	2	
Mn	55	1	He	-0.002	-295.7	589	12.1	1	
Fe	56	1	He	0.436	4.7	22727	1.3	20	
Co	59	1	He	0.008	62.4	608	27.2	1	
Ni	60	1	He	-0.017	-69.6	863	11.5	2	
Cu	65	1	He	0.107	59.4	17934	4.4	1	
Zn	66	1	He	-0.191	-30.0	3349	7.2	20	
As	75	1	He	0.033	39.5	199	16.0	1	
Se	78	1	He	0.069	208.8	208	15.3	2	
Sr	88	1	He	2.009	6.7	48869	6.8	2	CCB Main CR1 Failed
Mo	95	1	He	0.115	19.3	1691	10.8	2	
Ag	107	1	He	0.027	43.9	1185	31.8	1	
Cd	111	1	He	0.007	22.8	63	13.9	1	
Sn	118	1	He	0.157	12.3	3077	6.3	2	
Sb	123	1	He	0.182	8.1	2838	5.3	1	
Ba	137	1	He	0.012	48.7	202	14.0	1	
Ce	140	1	He	0.009	61.3	1028	38.8	1	
Tl	205	1	He	0.013	33.5	1280	21.3	1	
Pb	208	1	He	0.012	38.5	1903	19.9	1	
U	238	1	He	0.047	1.5	4799	1.1	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	736368	0.58	683823	107.68	80	120	
Ge (IS)	72	1	He	412020	0.55	390615	105.48	80	120	
In-115 (IS)	115	1	He	3713091	2.23	3613234	102.76	80	120	
Tb-159 (IS)	159	1	He	8415115	0.29	8473761	99.31	80	120	
Bi-209 (IS)	209	1	He	5910910	1.07	6042462	97.82	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-325535/1-a@20
Data File Name	032_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:29:32-07:00
Sample Type	MB
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-100.3	8	89.2	0.5	
Na	23	1	He	35.765	51.3	724593	9.4	110	
Mg	24	1	He	29.250	28.2	100812	16.8	110	
Al	27	1	He	2.035	6.2	2447	5.0	10	
K	39	1	He	4.660	35.3	179443	1.8	110	
Ca	44	1	He	81.434	24.2	12126	15.6	110	
V	51	1	He	0.010	36.4	2428	2.3	2	
Cr	52	1	He	0.094	2.8	4365	1.3	2	
Mn	55	1	He	0.062	4.6	1310	2.4	1	
Fe	56	1	He	3.462	5.7	71071	4.4	20	
Co	59	1	He	0.003	90.1	407	22.0	1	
Ni	60	1	He	-0.008	-126.1	823	8.8	2	
Cu	65	1	He	-0.680	-1.9	8346	1.8	1	
Zn	66	1	He	0.234	20.7	4552	4.3	20	
As	75	1	He	0.017	39.1	144	11.4	1	
Se	78	1	He	0.067	101.3	187	8.3	2	
Sr	88	1	He	1.391	27.2	35204	17.5	2	
Mo	95	1	He	0.225	19.5	2592	15.9	2	
Ag	107	1	He	-0.001	-111.2	314	10.1	1	
Cd	111	1	He	0.002	68.3	34	20.1	1	
Sn	118	1	He	1.538	3.1	18301	3.1	2	
Sb	123	1	He	0.044	64.2	1069	30.0	1	
Ba	137	1	He	0.070	19.4	479	14.3	1	
Ce	140	1	He	0.004	22.2	640	9.5	1	
Tl	205	1	He	0.002	42.1	551	8.6	1	
Pb	208	1	He	0.009	10.3	1626	5.0	1	
U	238	1	He	0.009	7.5	1603	4.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	649013	0.31	683823	94.91	80	120	
Ge (IS)	72	1	He	371991	0.79	390615	95.23	80	120	
In-115 (IS)	115	1	He	3443761	0.18	3613234	95.31	80	120	
Tb-159 (IS)	159	1	He	7987577	1.68	8473761	94.26	80	120	
Bi-209 (IS)	209	1	He	5672004	0.78	6042462	93.87	80	120	

Sample Report

Sample Table

Sample Name	lcs 440-325535/2-a@20
Data File Name	033SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:32:06-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3301
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	102.717	102.717	1.80	21024	1.72	100	>LDR
Na	23	1	He	1022.478	1022.478	0.33	4357478	0.45	75000	
Mg	24	1	He	518.065	518.065	0.86	1101035	0.45	125000	
Al	27	1	He	105.226	105.226	0.98	105788	0.61	4000	
K	39	1	He	1058.171	1058.171	0.33	2112375	0.67	100000	
Ca	44	1	He	703.066	703.066	1.80	71776	1.52	250000	
V	51	1	He	103.641	103.641	1.66	1657939	1.34	4000	
Cr	52	1	He	102.442	102.442	1.78	1935364	1.44	4000	
Mn	55	1	He	103.439	103.439	1.42	1277788	1.06	4000	
Fe	56	1	He	119.411	119.411	1.96	2021114	1.75	40000	
Co	59	1	He	103.109	103.109	1.14	2953878	0.89	4000	
Ni	60	1	He	102.479	102.479	0.36	747399	0.04	4000	
[Cu]	63	1	He	101.102	101.102	0.85	2018897	0.58	4000	
Cu	65	1	He	102.100	102.100	0.84	979185	0.55	4000	
Zn	66	1	He	100.540	100.540	1.04	358545	0.15	4000	
As	75	1	He	101.002	101.002	0.94	229327	0.35	4000	
Se	78	1	He	97.180	97.180	1.06	19988	1.24	4000	
Sr	88	1	He	103.417	103.417	0.86	1689184	1.48	4000	
Mo	95	1	He	102.721	102.721	1.13	945970	0.67	4000	
Ag	107	1	He	52.102	52.102	0.55	1451613	0.62	100	
Cd	111	1	He	101.496	101.496	0.93	482830	0.92	3500	
Sn	118	1	He	103.881	103.881	0.63	1153899	0.13	4000	
Sb	123	1	He	104.442	104.442	0.46	1172271	0.59	4000	
Ba	137	1	He	102.669	102.669	0.28	508109	0.92	4000	
Ce	140	1	He	0.003	0.003	29.55	553	10.06	4000	
Tl	205	1	He	99.750	99.750	0.20	5721897	0.29	3500	
Pb	208	1	He	102.969	102.969	1.54	7815832	0.36	4000	
U	238	1	He	-0.007	-0.007	-2.92	394	3.52	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647067	0.38	683823	94.62	80	120	
Ge (IS)	72	1	He	364955	0.89	390615	93.43	80	120	
In-115 (IS)	115	1	He	3418244	0.63	3613234	94.60	80	120	
Tb-159 (IS)	159	1	He	7969613	0.47	8473761	94.05	80	120	
Bi-209 (IS)	209	1	He	5652062	1.39	6042462	93.54	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-d@20
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:34:30-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3302
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.425	0.425	24.89	104	21.25	100	
Na	23	1	He	961.205	961.205	2.05	4246465	1.27	75000	
Mg	24	1	He	3983.884	3983.884	1.66	8423414	1.97	125000	
Al	27	1	He	10998.491	10998.491	1.21	11321894	0.62	4000	>LDR
K	39	1	He	1510.884	1510.884	2.00	3024961	1.58	100000	
Ca	44	1	He	5692.600	5692.600	0.56	566183	0.84	250000	
V	51	1	He	92.082	92.082	1.62	1514461	2.34	4000	
Cr	52	1	He	18.156	18.156	1.09	354748	1.61	4000	
Mn	55	1	He	392.138	392.138	0.52	4977703	1.25	4000	
Fe	56	1	He	31355.278	31355.278	1.55	542139374	2.24	40000	
Co	59	1	He	7.672	7.672	1.55	226208	1.40	4000	
Ni	60	1	He	10.138	10.138	1.34	76814	1.99	4000	
[Cu]	63	1	He	21.916	21.916	0.77	475721	0.83	4000	
Cu	65	1	He	22.338	22.338	0.35	232043	1.03	4000	
Zn	66	1	He	49.433	49.433	0.54	178611	0.60	4000	
As	75	1	He	12.371	12.371	1.30	28251	0.38	4000	
Se	78	1	He	0.986	0.986	13.05	372	8.13	4000	
Sr	88	1	He	93.942	93.942	2.26	1501469	3.17	4000	
Mo	95	1	He	1.114	1.114	1.07	10510	1.65	4000	
Ag	107	1	He	0.085	0.085	11.68	2639	8.43	100	
Cd	111	1	He	0.098	0.098	12.04	477	9.79	3500	
Sn	118	1	He	1.829	1.829	2.85	20917	1.95	4000	
Sb	123	1	He	0.587	0.587	2.76	6994	4.07	4000	
Ba	137	1	He	98.183	98.183	2.12	475044	1.90	4000	
Ce	140	1	He	47.481	47.481	2.00	2985993	0.42	4000	
Tl	205	1	He	0.233	0.233	4.82	13748	4.45	3500	
Pb	208	1	He	5.488	5.488	0.90	415485	1.11	4000	
U	238	1	He	2.947	2.947	1.50	225407	0.56	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665076	0.73	683823	97.26	80	120	
Ge (IS)	72	1	He	365913	1.13	390615	93.68	80	120	
In-115 (IS)	115	1	He	3342257	1.74	3613234	92.50	80	120	
Tb-159 (IS)	159	1	He	7946738	1.38	8473761	93.78	80	120	
Bi-209 (IS)	209	1	He	5624594	0.43	6042462	93.08	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-e ms@20
Data File Name	035SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:36:56-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3303
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	97.357	97.357	1.86	21008	1.25	100	>LDR
Na	23	1	He	2501.806	2501.806	0.77	10339889	0.92	75000	
Mg	24	1	He	5133.453	5133.453	0.57	11120824	0.56	125000	
Al	27	1	He	15220.495	15220.495	1.68	16071122	1.05	4000	>LDR
K	39	1	He	3371.654	3371.654	0.70	6703546	1.13	100000	
Ca	44	1	He	8386.265	8386.265	0.39	853456	0.93	250000	
V	51	1	He	200.113	200.113	1.09	3372778	0.45	4000	
Cr	52	1	He	119.665	119.665	0.50	2383132	0.64	4000	
Mn	55	1	He	526.973	526.973	1.29	6860922	0.99	4000	
Fe	56	1	He	34743.625	34743.625	0.92	616126856	0.22	40000	
Co	59	1	He	106.767	106.767	1.52	3224624	0.99	4000	
Ni	60	1	He	106.795	106.795	0.78	821122	0.51	4000	
[Cu]	63	1	He	117.542	117.542	0.20	2469188	0.68	4000	
Cu	65	1	He	118.730	118.730	0.71	1197967	0.31	4000	
Zn	66	1	He	150.992	150.992	0.66	546990	0.55	4000	
As	75	1	He	112.398	112.398	0.29	260114	0.66	4000	
Se	78	1	He	96.052	96.052	0.57	20138	0.77	4000	
Sr	88	1	He	223.685	223.685	1.71	3606565	0.75	4000	
Mo	95	1	He	104.762	104.762	1.38	956195	0.44	4000	
Ag	107	1	He	51.941	51.941	1.23	1434266	0.15	100	
Cd	111	1	He	101.822	101.822	1.96	480060	1.14	3500	
Sn	118	1	He	106.757	106.757	1.33	1175288	0.22	4000	
Sb	123	1	He	103.848	103.848	1.02	1155276	0.50	4000	
Ba	137	1	He	229.069	229.069	1.81	1123357	0.78	4000	
Ce	140	1	He	60.233	60.233	1.53	3840431	1.06	4000	
Tl	205	1	He	100.249	100.249	2.30	5760036	0.39	3500	
Pb	208	1	He	111.413	111.413	0.73	8299824	0.61	4000	
U	238	1	He	2.792	2.792	1.70	214647	0.83	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	682209	0.79	683823	99.76	80	120	
Ge (IS)	72	1	He	371975	0.49	390615	95.23	80	120	
In-115 (IS)	115	1	He	3388128	1.11	3613234	93.77	80	120	
Tb-159 (IS)	159	1	He	7985419	2.22	8473761	94.24	80	120	
Bi-209 (IS)	209	1	He	5546614	0.71	6042462	91.79	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-f msd@20
Data File Name	036SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:39:15-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3304
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	99.532	99.532	1.33	21528	1.17	100	>LDR
Na	23	1	He	2407.161	2407.161	0.82	9995152	0.73	75000	
Mg	24	1	He	4969.142	4969.142	1.37	10790831	1.09	125000	
Al	27	1	He	14864.679	14864.679	0.91	15732320	0.67	4000	>LDR
K	39	1	He	3123.324	3123.324	1.50	6237092	1.22	100000	
Ca	44	1	He	7979.740	7979.740	0.55	814159	0.62	250000	
V	51	1	He	190.173	190.173	0.39	3212868	0.57	4000	
Cr	52	1	He	118.541	118.541	1.09	2366172	0.76	4000	
Mn	55	1	He	491.532	491.532	0.85	6414383	0.68	4000	
Fe	56	1	He	30666.929	30666.929	1.15	545089241	0.75	40000	
Co	59	1	He	106.295	106.295	1.43	3218053	1.76	4000	
Ni	60	1	He	106.536	106.536	0.28	821028	0.12	4000	
[Cu]	63	1	He	118.496	118.496	1.79	2494587	1.54	4000	
Cu	65	1	He	117.793	117.793	0.45	1191390	0.18	4000	
Zn	66	1	He	148.135	148.135	0.85	538162	0.52	4000	
As	75	1	He	111.260	111.260	0.55	258174	0.23	4000	
Se	78	1	He	96.295	96.295	1.41	20242	1.04	4000	
Sr	88	1	He	227.862	227.862	1.49	3651303	0.66	4000	
Mo	95	1	He	106.417	106.417	0.83	965400	0.56	4000	
Ag	107	1	He	42.685	42.685	0.63	1171580	0.23	100	
Cd	111	1	He	103.224	103.224	0.61	483731	0.36	3500	
Sn	118	1	He	107.428	107.428	1.13	1175457	0.29	4000	
Sb	123	1	He	105.243	105.243	1.47	1163593	0.65	4000	
Ba	137	1	He	229.944	229.944	0.80	1120838	0.35	4000	
Ce	140	1	He	49.446	49.446	1.77	3133386	1.26	4000	
Tl	205	1	He	101.533	101.533	1.16	5830441	0.89	3500	
Pb	208	1	He	110.249	110.249	1.15	8357537	1.09	4000	
U	238	1	He	3.764	3.764	1.50	288815	0.68	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	683772	0.40	683823	99.99	80	120	
Ge (IS)	72	1	He	372985	0.35	390615	95.49	80	120	
In-115 (IS)	115	1	He	3367368	0.86	3613234	93.20	80	120	
Tb-159 (IS)	159	1	He	7978637	1.12	8473761	94.16	80	120	
Bi-209 (IS)	209	1	He	5644065	0.34	6042462	93.41	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-20-d pds@20
Data File Name	037SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:41:34-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3305
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	92.378	92.378	2.53	19502	2.13	100	>LDR
Na	23	1	He	3414.372	3414.372	2.04	13582136	1.33	75000	
Mg	24	1	He	6382.401	6382.401	0.93	13516059	0.36	125000	
Al	27	1	He	11252.533	11252.533	1.35	11624132	0.98	4000	>LDR
K	39	1	He	3880.660	3880.660	1.95	7521106	1.47	100000	
Ca	44	1	He	10496.569	10496.569	0.42	1043912	0.32	250000	
V	51	1	He	186.194	186.194	0.28	3070387	0.41	4000	
Cr	52	1	He	111.481	111.481	0.33	2172217	0.83	4000	
Mn	55	1	He	489.486	489.486	1.07	6234651	0.61	4000	
Fe	56	1	He	32616.843	32616.843	1.26	565868866	0.95	40000	
Co	59	1	He	100.366	100.366	1.18	2965606	0.59	4000	
Ni	60	1	He	100.263	100.263	0.81	754238	0.66	4000	
[Cu]	63	1	He	113.822	113.822	0.46	2340244	0.97	4000	
Cu	65	1	He	114.001	114.001	0.56	1125930	0.55	4000	
Zn	66	1	He	143.075	143.075	0.43	511255	0.18	4000	
As	75	1	He	107.743	107.743	0.27	245861	0.82	4000	
Se	78	1	He	92.675	92.675	2.17	19163	1.59	4000	
Sr	88	1	He	194.618	194.618	1.13	3111644	0.95	4000	
Mo	95	1	He	97.540	97.540	0.12	882407	0.34	4000	
Ag	107	1	He	100.822	100.822	1.40	2758973	1.44	100	>LDR
Cd	111	1	He	93.863	93.863	0.47	438623	0.56	3500	
Sn	118	1	He	99.843	99.843	0.88	1089478	0.81	4000	
Sb	123	1	He	99.216	99.216	0.56	1093922	0.10	4000	
Ba	137	1	He	194.491	194.491	0.29	945365	0.22	4000	
Ce	140	1	He	143.679	143.679	1.84	9078439	1.39	4000	
Tl	205	1	He	93.131	93.131	1.71	5307534	1.46	3500	
Pb	208	1	He	101.397	101.397	1.61	7664951	0.35	4000	
U	238	1	He	98.110	98.110	0.58	7449331	0.90	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	667407	0.64	683823	97.60	80	120	
Ge (IS)	72	1	He	366778	0.58	390615	93.90	80	120	
In-115 (IS)	115	1	He	3357733	0.46	3613234	92.93	80	120	
Tb-159 (IS)	159	1	He	7918060	0.32	8473761	93.44	80	120	
Bi-209 (IS)	209	1	He	5628855	1.27	6042462	93.15	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-1-h@20
Data File Name	038SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:43:53-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3306
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.474	1.474	6.40	348	5.62	100	
Na	23	1	He	896.482	896.482	1.00	4284149	0.37	75000	
Mg	24	1	He	13917.408	13917.408	0.57	31392230	0.51	125000	
Al	27	1	He	38888.344	38888.344	1.03	42858709	0.59	4000	>LDR
K	39	1	He	8730.803	8730.803	0.72	17819354	0.42	100000	
Ca	44	1	He	18138.072	18138.072	0.85	1921082	0.41	250000	
V	51	1	He	121.939	121.939	1.95	2146098	1.74	4000	
Cr	52	1	He	28.042	28.042	0.62	585042	0.18	4000	
Mn	55	1	He	923.404	923.404	1.28	12547702	0.96	4000	
Fe	56	1	He	41432.194	41432.194	0.85	766895650	0.79	40000	>LDR
Co	59	1	He	15.286	15.286	1.22	482179	0.82	4000	
Ni	60	1	He	20.791	20.791	0.39	167630	0.50	4000	
[Cu]	63	1	He	64.383	64.383	0.41	1427636	0.37	4000	
Cu	65	1	He	65.606	65.606	0.46	698182	0.17	4000	
Zn	66	1	He	102.055	102.055	0.20	371120	0.57	4000	
As	75	1	He	21.362	21.362	1.25	49547	1.33	4000	
Se	78	1	He	1.452	1.452	4.01	475	3.02	4000	
Sr	88	1	He	229.763	229.763	1.41	3679495	0.50	4000	
Mo	95	1	He	2.076	2.076	1.50	19302	1.77	4000	
Ag	107	1	He	0.225	0.225	4.33	6498	2.77	100	
Cd	111	1	He	0.290	0.290	1.83	1382	2.28	3500	
Sn	118	1	He	2.636	2.636	3.24	29875	2.87	4000	
Sb	123	1	He	1.214	1.214	1.52	13966	2.05	4000	
Ba	137	1	He	312.156	312.156	1.64	1520559	0.84	4000	
Ce	140	1	He	74.792	74.792	2.06	4736519	1.42	4000	
Tl	205	1	He	0.543	0.543	2.27	31379	2.21	3500	
Pb	208	1	He	16.930	16.930	0.53	1256318	0.87	4000	
U	238	1	He	5.146	5.146	0.75	391443	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	712043	0.47	683823	104.13	80	120	
Ge (IS)	72	1	He	372181	0.52	390615	95.28	80	120	
In-115 (IS)	115	1	He	3365518	1.37	3613234	93.14	80	120	
Tb-159 (IS)	159	1	He	7915545	0.29	8473761	93.41	80	120	
Bi-209 (IS)	209	1	He	5521735	1.18	6042462	91.38	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-1-h SD@100
Data File Name	039SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:46:18-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3307
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.210	0.210	75.67	60	56.39	100	
Na	23	1	He	178.467	178.467	57.11	1298295	29.97	75000	
Mg	24	1	He	3048.731	3048.731	2.81	6533916	2.00	125000	
Al	27	1	He	8323.224	8323.224	2.43	8671988	1.19	4000	>LDR
K	39	1	He	1888.044	1888.044	1.52	3782147	1.12	100000	
Ca	44	1	He	3803.422	3803.422	2.95	384359	2.51	250000	
V	51	1	He	25.217	25.217	0.91	421473	0.44	4000	
Cr	52	1	He	6.088	6.088	1.76	122179	0.98	4000	
Mn	55	1	He	203.952	203.952	0.78	2620817	1.05	4000	
Fe	56	1	He	9051.408	9051.408	0.45	158418300	1.13	40000	
Co	59	1	He	3.375	3.375	1.75	100901	1.14	4000	
Ni	60	1	He	4.570	4.570	2.06	35556	2.51	4000	
[Cu]	63	1	He	13.466	13.466	1.21	308759	0.35	4000	
Cu	65	1	He	13.748	13.748	1.41	150446	0.23	4000	
Zn	66	1	He	21.317	21.317	1.31	81191	1.86	4000	
As	75	1	He	4.349	4.349	1.18	10263	1.87	4000	
Se	78	1	He	0.285	0.285	47.78	235	11.64	4000	
Sr	88	1	He	44.280	44.280	5.16	730703	5.00	4000	
Mo	95	1	He	0.477	0.477	25.01	4895	22.84	4000	
Ag	107	1	He	0.061	0.061	38.84	2045	32.23	100	
Cd	111	1	He	0.087	0.087	27.98	437	26.26	3500	
Sn	118	1	He	0.565	0.565	7.83	7372	6.88	4000	
Sb	123	1	He	0.266	0.266	14.97	3553	13.51	4000	
Ba	137	1	He	62.499	62.499	1.23	309517	0.88	4000	
Ce	140	1	He	14.573	14.573	0.79	938304	1.24	4000	
Tl	205	1	He	0.134	0.134	23.75	8288	21.39	3500	
Pb	208	1	He	3.341	3.341	0.57	259303	1.15	4000	
U	238	1	He	1.000	1.000	2.97	78727	2.26	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	673242	1.24	683823	98.45	80	120	
Ge (IS)	72	1	He	375560	0.78	390615	96.15	80	120	
In-115 (IS)	115	1	He	3420582	1.91	3613234	94.67	80	120	
Tb-159 (IS)	159	1	He	8110751	1.03	8473761	95.72	80	120	
Bi-209 (IS)	209	1	He	5758041	1.06	6042462	95.29	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	040_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:48:46-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.368	3.538	10535	4.10	50	100.7	89.5	110.49	
Na	23	1	He	1216.200	2.453	5177547	1.71	1250	97.3	89.5	110.49	
Mg	24	1	He	1269.513	2.267	2694451	1.46	1250	101.6	89.5	110.49	
Al	27	1	He	60.127	1.197	61902	1.86	50	120.3	89.5	110.49	>+\-10%
K	39	1	He	1299.036	1.166	2608120	0.90	1250	103.9	89.5	110.49	
Ca	44	1	He	2509.254	0.701	250356	0.28	2500	100.4	89.5	110.49	
V	51	1	He	49.532	1.276	810225	0.58	50	99.1	89.5	110.49	
Cr	52	1	He	49.107	1.065	948637	0.30	50	98.2	89.5	110.49	
Mn	55	1	He	50.570	1.287	638122	0.81	50	101.1	89.5	110.49	
Fe	56	1	He	518.380	0.488	8915839	0.75	500	103.7	89.5	110.49	
Co	59	1	He	50.733	0.705	1484156	0.27	50	101.5	89.5	110.49	
Ni	60	1	He	50.164	1.007	374008	0.81	50	100.3	89.5	110.49	
Cu	65	1	He	49.446	0.903	491945	0.23	50	98.9	89.5	110.49	
Zn	66	1	He	51.820	1.004	190967	0.33	50	103.6	89.5	110.49	
As	75	1	He	50.009	0.826	116280	0.59	50	100.0	89.5	110.49	
Se	78	1	He	49.845	2.724	10578	2.28	50	99.7	89.5	110.49	
Sr	88	1	He	47.093	0.572	786817	1.03	50	94.2	89.5	110.49	
Mo	95	1	He	49.485	0.111	462375	0.42	50	99.0	89.5	110.49	
Ag	107	1	He	49.502	0.419	1398501	0.15	50	99.0	89.5	110.49	
Cd	111	1	He	49.467	0.558	238631	0.14	50	98.9	89.5	110.49	
Sn	118	1	He	49.764	0.175	561113	0.30	50	99.5	89.5	110.49	
Sb	123	1	He	49.733	0.906	566334	0.65	50	99.5	89.5	110.49	
Ba	137	1	He	49.619	0.879	249062	0.43	50	99.2	89.5	110.49	
Ce	140	1	He	51.143	0.982	3336312	1.37	50	102.3	89.5	110.49	
Tl	205	1	He	49.755	1.582	2891349	0.85	50	99.5	89.5	110.49	
Pb	208	1	He	50.123	2.016	3889343	1.23	50	100.2	89.5	110.49	
U	238	1	He	50.147	1.196	3882612	0.63	50	100.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660694	0.77	683823	96.62	80	120	
Ge (IS)	72	1	He	373577	1.30	390615	95.64	80	120	
In-115 (IS)	115	1	He	3466144	0.46	3613234	95.93	80	120	
Tb-159 (IS)	159	1	He	8073941	1.23	8473761	95.28	80	120	
Bi-209 (IS)	209	1	He	5777150	0.79	6042462	95.61	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	041_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:51:12-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.009	-323.1	13	43.3	0.5	
Na	23	1	He	-102.962	-0.7	218915	0.4	110	
Mg	24	1	He	-14.810	-1.3	10698	3.1	110	
Al	27	1	He	5.283	10.1	5894	8.6	10	
K	39	1	He	-6.434	-18.6	164221	0.6	110	
Ca	44	1	He	-32.006	-1.8	1241	3.9	110	
V	51	1	He	0.015	76.9	2587	6.4	2	
Cr	52	1	He	0.027	12.4	3197	2.6	2	
Mn	55	1	He	0.175	7.3	2799	5.3	1	
Fe	56	1	He	9.194	4.3	173258	3.5	20	
Co	59	1	He	0.025	8.6	1066	5.2	1	
Ni	60	1	He	0.058	15.2	1352	5.7	2	
Cu	65	1	He	-0.836	-4.5	7091	4.3	1	
Zn	66	1	He	0.093	59.9	4118	5.5	20	
As	75	1	He	0.025	17.6	165	5.8	1	
Se	78	1	He	0.083	191.2	194	18.3	2	
Sr	88	1	He	-0.595	-2.6	2811	9.2	2	
Mo	95	1	He	0.061	14.0	1082	7.1	2	
Ag	107	1	He	0.038	33.9	1427	25.4	1	
Cd	111	1	He	0.020	55.5	120	43.7	1	
Sn	118	1	He	0.139	7.8	2695	4.8	2	
Sb	123	1	He	0.226	8.0	3171	6.6	1	
Ba	137	1	He	0.065	10.8	459	7.3	1	
Ce	140	1	He	0.021	14.1	1773	10.8	1	
Tl	205	1	He	0.030	10.9	2177	8.4	1	
Pb	208	1	He	0.025	14.1	2899	10.4	1	
U	238	1	He	0.026	4.9	2935	2.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	670295	0.86	683823	98.02	80	120	
Ge (IS)	72	1	He	378737	1.19	390615	96.96	80	120	
In-115 (IS)	115	1	He	3498431	0.53	3613234	96.82	80	120	
Tb-159 (IS)	159	1	He	8030677	0.57	8473761	94.77	80	120	
Bi-209 (IS)	209	1	He	5772913	0.87	6042462	95.54	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-2-d@20
Data File Name	042SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:53:46-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3308
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.638	1.638	8.89	400	8.21	100	
Na	23	1	He	1419.650	1419.650	0.64	6658466	0.11	75000	
Mg	24	1	He	16072.995	16072.995	1.16	37681457	1.08	125000	
Al	27	1	He	44891.103	44891.103	0.34	51433670	0.74	4000	>LDR
K	39	1	He	7029.809	7029.809	0.81	14953339	0.61	100000	
Ca	44	1	He	37574.975	37574.975	1.11	4131922	0.67	250000	
V	51	1	He	137.628	137.628	0.81	2517767	0.59	4000	
Cr	52	1	He	34.218	34.218	1.13	741479	0.84	4000	
Mn	55	1	He	1015.397	1015.397	1.59	14343382	1.15	4000	
Fe	56	1	He	48713.288	48713.288	0.37	937338843	0.24	40000	>LDR
Co	59	1	He	18.587	18.587	0.31	609434	0.18	4000	
Ni	60	1	He	25.470	25.470	0.76	213253	0.38	4000	
[Cu]	63	1	He	65.422	65.422	0.63	1507518	1.04	4000	
Cu	65	1	He	65.530	65.530	0.41	724991	0.60	4000	
Zn	66	1	He	114.921	114.921	0.18	419870	1.14	4000	
As	75	1	He	27.586	27.586	0.77	64321	0.32	4000	
Se	78	1	He	1.779	1.779	10.96	547	8.35	4000	
Sr	88	1	He	351.655	351.655	1.61	5537526	1.48	4000	
Mo	95	1	He	4.981	4.981	1.11	44919	0.77	4000	
Ag	107	1	He	0.187	0.187	1.40	5383	1.07	100	
Cd	111	1	He	0.287	0.287	2.66	1349	3.22	3500	
Sn	118	1	He	2.624	2.624	1.25	29283	0.62	4000	
Sb	123	1	He	1.406	1.406	0.86	15832	0.27	4000	
Ba	137	1	He	466.081	466.081	1.72	2234932	1.37	4000	
Ce	140	1	He	92.988	92.988	0.52	5797310	0.66	4000	
Tl	205	1	He	0.597	0.597	0.53	34639	0.08	3500	
Pb	208	1	He	18.909	18.909	0.32	1383760	0.51	4000	
U	238	1	He	11.957	11.957	0.68	913155	0.64	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	740216	0.48	683823	108.25	80	120	
Ge (IS)	72	1	He	374346	1.04	390615	95.84	80	120	
In-115 (IS)	115	1	He	3312837	0.61	3613234	91.69	80	120	
Tb-159 (IS)	159	1	He	7957396	0.60	8473761	93.91	80	120	
Bi-209 (IS)	209	1	He	5445494	0.20	6042462	90.12	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-3-d@20
Data File Name	043SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:56:09-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3309
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.668	1.668	14.39	413	14.72	100	
Na	23	1	He	5173.519	5173.519	2.48	22802515	1.22	75000	
Mg	24	1	He	14471.437	14471.437	0.34	34426286	0.87	125000	
Al	27	1	He	44752.172	44752.172	1.41	52016797	0.22	4000	>LDR
K	39	1	He	5083.009	5083.009	1.49	11024647	1.61	100000	
Ca	44	1	He	13233.031	13233.031	1.97	1479439	0.77	250000	
V	51	1	He	131.929	131.929	0.59	2448979	1.69	4000	
Cr	52	1	He	36.553	36.553	0.31	803450	0.91	4000	
Mn	55	1	He	1852.944	1852.944	0.61	26556912	1.16	4000	
Fe	56	1	He	50721.544	50721.544	1.36	990133401	0.31	40000	>LDR
Co	59	1	He	18.354	18.354	0.37	610607	1.46	4000	
Ni	60	1	He	26.902	26.902	0.58	228477	1.10	4000	
[Cu]	63	1	He	63.181	63.181	0.56	1478353	0.99	4000	
Cu	65	1	He	63.143	63.143	0.90	709358	0.54	4000	
Zn	66	1	He	122.461	122.461	0.43	450040	0.90	4000	
As	75	1	He	28.740	28.740	1.03	67439	0.67	4000	
Se	78	1	He	1.758	1.758	8.52	546	5.85	4000	
Sr	88	1	He	331.368	331.368	1.75	5238856	1.84	4000	
Mo	95	1	He	10.245	10.245	0.26	92227	0.40	4000	
Ag	107	1	He	0.195	0.195	1.56	5611	1.56	100	
Cd	111	1	He	0.232	0.232	3.18	1097	3.43	3500	
Sn	118	1	He	2.792	2.792	1.18	31212	1.50	4000	
Sb	123	1	He	1.145	1.145	0.42	13053	0.78	4000	
Ba	137	1	He	550.481	550.481	1.25	2649811	1.21	4000	
Ce	140	1	He	101.401	101.401	0.96	6345839	0.59	4000	
Tl	205	1	He	0.647	0.647	1.50	37559	2.01	3500	
Pb	208	1	He	19.650	19.650	1.20	1449213	0.20	4000	
U	238	1	He	7.552	7.552	0.49	578326	0.27	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	751021	1.19	683823	109.83	80	120	
Ge (IS)	72	1	He	376758	1.11	390615	96.45	80	120	
In-115 (IS)	115	1	He	3325493	0.38	3613234	92.04	80	120	
Tb-159 (IS)	159	1	He	7973925	0.54	8473761	94.10	80	120	
Bi-209 (IS)	209	1	He	5488552	1.07	6042462	90.83	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-4-e@20
Data File Name	044SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T16:58:33-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3310
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.578	0.578	12.53	143	10.66	100	
Na	23	1	He	2121.201	2121.201	1.58	9063793	0.89	75000	
Mg	24	1	He	5819.175	5819.175	1.07	12888392	0.28	125000	
Al	27	1	He	17011.415	17011.415	0.55	18374988	1.38	4000	>LDR
K	39	1	He	1922.736	1922.736	1.19	3988970	0.69	100000	
Ca	44	1	He	6748.077	6748.077	1.17	703302	0.22	250000	
V	51	1	He	92.221	92.221	2.49	1591077	1.76	4000	
Cr	52	1	He	22.179	22.179	1.48	454027	0.53	4000	
Mn	55	1	He	742.524	742.524	0.63	9888342	0.46	4000	
Fe	56	1	He	32379.358	32379.358	0.58	587353026	0.65	40000	
Co	59	1	He	9.468	9.468	0.69	292821	0.30	4000	
Ni	60	1	He	12.912	12.912	1.51	102381	0.94	4000	
[Cu]	63	1	He	25.263	25.263	1.65	570018	0.70	4000	
Cu	65	1	He	25.599	25.599	1.00	276666	0.45	4000	
Zn	66	1	He	56.388	56.388	1.56	210405	1.11	4000	
As	75	1	He	17.939	17.939	1.52	42367	0.28	4000	
Se	78	1	He	1.069	1.069	9.21	403	6.02	4000	
Sr	88	1	He	117.495	117.495	2.15	1931207	2.33	4000	
Mo	95	1	He	3.290	3.290	1.69	31000	0.94	4000	
Ag	107	1	He	0.058	0.058	11.56	1977	9.53	100	
Cd	111	1	He	0.087	0.087	11.86	440	10.61	3500	
Sn	118	1	He	1.885	1.885	3.91	22167	2.72	4000	
Sb	123	1	He	0.699	0.699	0.75	8470	0.34	4000	
Ba	137	1	He	148.569	148.569	1.32	740448	0.39	4000	
Ce	140	1	He	55.613	55.613	1.54	3603123	0.58	4000	
Tl	205	1	He	0.209	0.209	1.21	12671	0.47	3500	
Pb	208	1	He	7.368	7.368	0.18	554385	0.36	4000	
U	238	1	He	3.639	3.639	1.12	284200	0.97	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	697821	0.95	683823	102.05	80	120	
Ge (IS)	72	1	He	378857	1.27	390615	96.99	80	120	
In-115 (IS)	115	1	He	3442937	1.04	3613234	95.29	80	120	
Tb-159 (IS)	159	1	He	8117978	0.81	8473761	95.80	80	120	
Bi-209 (IS)	209	1	He	5593221	0.39	6042462	92.57	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-5-d@20
Data File Name	045SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:01:00-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3311
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.007	1.007	30.48	242	28.35	100	
Na	23	1	He	5995.438	5995.438	0.50	24907662	0.41	75000	
Mg	24	1	He	9397.580	9397.580	1.16	21171943	1.34	125000	
Al	27	1	He	26588.363	26588.363	0.44	29248284	0.49	4000	>LDR
K	39	1	He	6628.211	6628.211	2.31	13548229	2.58	100000	
Ca	44	1	He	12293.094	12293.094	1.09	1301087	1.12	250000	
V	51	1	He	54.177	54.177	0.34	953105	0.63	4000	
Cr	52	1	He	14.822	14.822	0.50	309987	0.39	4000	
Mn	55	1	He	533.229	533.229	0.22	7232524	0.45	4000	
Fe	56	1	He	24382.423	24382.423	0.57	450462942	0.62	40000	
Co	59	1	He	8.937	8.937	0.52	281527	0.36	4000	
Ni	60	1	He	11.961	11.961	0.07	96666	0.25	4000	
[Cu]	63	1	He	71.313	71.313	1.13	1574465	0.84	4000	
Cu	65	1	He	71.632	71.632	0.94	759366	0.62	4000	
Zn	66	1	He	61.310	61.310	0.49	227587	0.44	4000	
As	75	1	He	8.333	8.333	0.74	19663	0.58	4000	
Se	78	1	He	1.108	1.108	20.04	409	10.93	4000	
Sr	88	1	He	141.949	141.949	0.55	2258926	0.33	4000	
Mo	95	1	He	4.479	4.479	1.31	40738	1.58	4000	
Ag	107	1	He	0.079	0.079	3.23	2484	3.07	100	
Cd	111	1	He	0.175	0.175	7.13	834	6.65	3500	
Sn	118	1	He	1.374	1.374	2.29	15958	2.35	4000	
Sb	123	1	He	0.552	0.552	2.92	6604	2.84	4000	
Ba	137	1	He	174.062	174.062	0.23	840901	0.48	4000	
Ce	140	1	He	42.716	42.716	0.47	2682849	0.20	4000	
Tl	205	1	He	0.244	0.244	2.02	14528	1.33	3500	
Pb	208	1	He	9.503	9.503	0.48	710876	0.36	4000	
U	238	1	He	2.352	2.352	0.35	182050	0.57	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710690	0.30	683823	103.93	80	120	
Ge (IS)	72	1	He	377414	0.50	390615	96.62	80	120	
In-115 (IS)	115	1	He	3337142	0.28	3613234	92.36	80	120	
Tb-159 (IS)	159	1	He	8031061	0.65	8473761	94.78	80	120	
Bi-209 (IS)	209	1	He	5563284	0.63	6042462	92.07	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-6-d@20
Data File Name	046SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:03:25-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3312
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.543	1.543	5.52	390	4.76	100	
Na	23	1	He	11654.959	11654.959	1.38	51413082	0.75	75000	
Mg	24	1	He	17690.686	17690.686	0.45	42820094	0.23	125000	
Al	27	1	He	51861.237	51861.237	0.29	61354258	0.36	4000	>LDR
K	39	1	He	10203.800	10203.800	0.39	22321122	0.30	100000	
Ca	44	1	He	26149.577	26149.577	1.71	2970684	1.29	250000	
V	51	1	He	115.213	115.213	1.02	2176797	0.87	4000	
Cr	52	1	He	29.325	29.325	0.68	656615	0.63	4000	
Mn	55	1	He	1038.572	1038.572	1.71	15149293	1.77	4000	
Fe	56	1	He	46645.978	46645.978	0.98	926828337	1.38	40000	>LDR
Co	59	1	He	17.455	17.455	0.95	590955	0.44	4000	
Ni	60	1	He	23.087	23.087	1.45	199682	0.80	4000	
[Cu]	63	1	He	135.928	135.928	1.89	3193021	1.45	4000	
Cu	65	1	He	141.860	141.860	0.71	1600261	0.16	4000	
Zn	66	1	He	121.880	121.880	0.61	450019	0.85	4000	
As	75	1	He	28.042	28.042	0.08	66114	0.33	4000	
Se	78	1	He	1.891	1.891	15.48	576	10.99	4000	
Sr	88	1	He	301.763	301.763	2.47	4809501	1.49	4000	
Mo	95	1	He	10.759	10.759	1.94	97596	0.76	4000	
Ag	107	1	He	0.145	0.145	6.46	4298	4.91	100	
Cd	111	1	He	0.331	0.331	9.24	1568	8.03	3500	
Sn	118	1	He	2.772	2.772	2.63	31240	1.37	4000	
Sb	123	1	He	0.942	0.942	2.34	10920	1.95	4000	
Ba	137	1	He	418.485	418.485	3.00	2030255	1.87	4000	
Ce	140	1	He	85.532	85.532	2.60	5395155	1.71	4000	
Tl	205	1	He	0.495	0.495	1.05	29042	0.87	3500	
Pb	208	1	He	19.697	19.697	1.22	1432974	0.45	4000	
U	238	1	He	6.543	6.543	1.39	504767	1.16	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	764331	0.65	683823	111.77	80	120	
Ge (IS)	72	1	He	378510	0.38	390615	96.90	80	120	
In-115 (IS)	115	1	He	3352306	1.16	3613234	92.78	80	120	
Tb-159 (IS)	159	1	He	8031564	0.24	8473761	94.78	80	120	
Bi-209 (IS)	209	1	He	5414054	0.88	6042462	89.60	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-7-d@20
Data File Name	047SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:05:47-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3401
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.222	1.222	10.60	307	9.96	100	
Na	23	1	He	7334.487	7334.487	1.11	32001165	0.76	75000	
Mg	24	1	He	15191.755	15191.755	1.80	36084169	0.60	125000	
Al	27	1	He	47841.303	47841.303	1.81	55530192	0.68	4000	>LDR
K	39	1	He	5962.598	5962.598	1.39	12879931	0.77	100000	
Ca	44	1	He	91890.487	91890.487	2.03	10229852	0.90	250000	
V	51	1	He	120.750	120.750	1.80	2238274	0.95	4000	
Cr	52	1	He	30.347	30.347	1.43	666588	0.15	4000	
Mn	55	1	He	775.554	775.554	1.30	11100271	1.19	4000	
Fe	56	1	He	46392.480	46392.480	1.54	904381973	0.35	40000	>LDR
Co	59	1	He	15.365	15.365	0.96	510484	0.41	4000	
Ni	60	1	He	21.297	21.297	0.66	180828	0.65	4000	
[Cu]	63	1	He	112.566	112.566	1.59	2600919	0.53	4000	
Cu	65	1	He	111.291	111.291	1.30	1235485	0.30	4000	
Zn	66	1	He	112.789	112.789	0.47	410751	0.75	4000	
As	75	1	He	38.287	38.287	0.21	88935	0.50	4000	
Se	78	1	He	1.449	1.449	15.81	476	9.51	4000	
Sr	88	1	He	354.859	354.859	1.87	5599222	1.55	4000	
Mo	95	1	He	3.243	3.243	0.93	29470	1.34	4000	
Ag	107	1	He	0.154	0.154	1.18	4493	1.09	100	
Cd	111	1	He	0.490	0.490	1.76	2286	3.22	3500	
Sn	118	1	He	2.715	2.715	1.87	30316	0.33	4000	
Sb	123	1	He	0.958	0.958	1.43	10987	0.79	4000	
Ba	137	1	He	370.600	370.600	2.13	1780655	1.28	4000	
Ce	140	1	He	83.839	83.839	0.73	5237685	0.77	4000	
Tl	205	1	He	0.488	0.488	1.10	27903	0.96	3500	
Pb	208	1	He	18.729	18.729	0.38	1331111	0.49	4000	
U	238	1	He	10.371	10.371	0.62	778351	0.41	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	750007	1.30	683823	109.68	80	120	
Ge (IS)	72	1	He	373077	0.58	390615	95.51	80	120	
In-115 (IS)	115	1	He	3319849	1.49	3613234	91.88	80	120	
Tb-159 (IS)	159	1	He	7818168	0.22	8473761	92.26	80	120	
Bi-209 (IS)	209	1	He	5288580	0.35	6042462	87.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-8-d@20
Data File Name	048SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:08:13-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3402
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.485	1.485	9.98	370	8.87	100	
Na	23	1	He	3155.290	3155.290	1.12	14204194	0.66	75000	
Mg	24	1	He	13223.753	13223.753	1.29	31522189	0.39	125000	
Al	27	1	He	44410.424	44410.424	1.10	51727270	1.59	4000	>LDR
K	39	1	He	4441.430	4441.430	1.71	9676324	0.82	100000	
Ca	44	1	He	14267.298	14267.298	0.93	1598046	1.25	250000	
V	51	1	He	119.509	119.509	1.88	2222730	1.22	4000	
Cr	52	1	He	36.289	36.289	0.88	799206	0.34	4000	
Mn	55	1	He	868.936	868.936	1.59	12478633	1.76	4000	
Fe	56	1	He	50254.698	50254.698	1.31	983081596	1.91	40000	>LDR
Co	59	1	He	19.037	19.037	1.16	634495	0.28	4000	
Ni	60	1	He	24.167	24.167	1.74	205741	1.22	4000	
[Cu]	63	1	He	89.935	89.935	0.82	2092575	0.28	4000	
Cu	65	1	He	89.042	89.042	1.28	995266	1.21	4000	
Zn	66	1	He	113.316	113.316	0.21	421357	0.61	4000	
As	75	1	He	20.553	20.553	0.56	48799	0.69	4000	
Se	78	1	He	1.891	1.891	6.98	580	5.31	4000	
Sr	88	1	He	271.922	271.922	2.45	4350672	0.47	4000	
Mo	95	1	He	2.340	2.340	4.94	21680	2.93	4000	
Ag	107	1	He	0.168	0.168	2.68	4936	0.90	100	
Cd	111	1	He	0.170	0.170	11.44	820	9.15	3500	
Sn	118	1	He	2.737	2.737	1.51	30977	1.99	4000	
Sb	123	1	He	1.088	1.088	2.58	12570	0.56	4000	
Ba	137	1	He	454.245	454.245	1.24	2212140	0.88	4000	
Ce	140	1	He	96.476	96.476	2.03	6107631	0.26	4000	
Tl	205	1	He	0.543	0.543	1.82	31808	1.11	3500	
Pb	208	1	He	18.814	18.814	0.31	1374123	0.69	4000	
U	238	1	He	5.196	5.196	0.69	400424	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	752492	0.93	683823	110.04	80	120	
Ge (IS)	72	1	He	380947	0.54	390615	97.53	80	120	
In-115 (IS)	115	1	He	3364919	2.13	3613234	93.13	80	120	
Tb-159 (IS)	159	1	He	8019064	0.84	8473761	94.63	80	120	
Bi-209 (IS)	209	1	He	5435004	0.75	6042462	89.95	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-9-d@20
Data File Name	049SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:10:36-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3403
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.653	0.653	7.00	163	5.40	100	
Na	23	1	He	562.658	562.658	2.37	2934177	1.27	75000	
Mg	24	1	He	8474.202	8474.202	1.30	19153335	0.38	125000	
Al	27	1	He	25695.657	25695.657	0.88	28352559	0.62	4000	>LDR
K	39	1	He	6090.048	6090.048	0.32	12501151	0.63	100000	
Ca	44	1	He	9347.260	9347.260	0.31	993508	1.22	250000	
V	51	1	He	49.196	49.196	0.56	868358	0.52	4000	
Cr	52	1	He	14.339	14.339	0.57	300902	0.48	4000	
Mn	55	1	He	459.600	459.600	1.82	6252718	1.37	4000	
Fe	56	1	He	23474.668	23474.668	1.26	435010934	0.91	40000	
Co	59	1	He	8.039	8.039	1.06	254020	0.46	4000	
Ni	60	1	He	11.370	11.370	1.18	92217	0.79	4000	
[Cu]	63	1	He	66.735	66.735	2.23	1480369	2.80	4000	
Cu	65	1	He	66.869	66.869	0.93	712136	0.89	4000	
Zn	66	1	He	57.884	57.884	1.79	217106	0.62	4000	
As	75	1	He	7.984	7.984	1.87	19023	1.68	4000	
Se	78	1	He	0.851	0.851	17.42	359	10.01	4000	
Sr	88	1	He	127.436	127.436	3.29	2053373	1.86	4000	
Mo	95	1	He	0.687	0.687	5.60	6735	3.65	4000	
Ag	107	1	He	0.071	0.071	3.19	2291	1.35	100	
Cd	111	1	He	0.163	0.163	10.66	790	8.98	3500	
Sn	118	1	He	1.351	1.351	2.01	15897	0.78	4000	
Sb	123	1	He	0.534	0.534	2.13	6479	1.56	4000	
Ba	137	1	He	156.463	156.463	2.20	764954	0.72	4000	
Ce	140	1	He	39.802	39.802	3.57	2529541	2.09	4000	
Tl	205	1	He	0.230	0.230	2.98	13706	1.31	3500	
Pb	208	1	He	8.808	8.808	1.13	661594	0.31	4000	
U	238	1	He	1.751	1.751	1.24	135103	0.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	712888	0.91	683823	104.25	80	120	
Ge (IS)	72	1	He	381020	1.19	390615	97.54	80	120	
In-115 (IS)	115	1	He	3377979	1.67	3613234	93.49	80	120	
Tb-159 (IS)	159	1	He	7994223	1.91	8473761	94.34	80	120	
Bi-209 (IS)	209	1	He	5586087	1.41	6042462	92.45	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-10-e@20
Data File Name	050SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:13:02-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3404
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.531	0.531	12.44	132	10.19	100	
Na	23	1	He	713.064	713.064	1.16	3453205	0.26	75000	
Mg	24	1	He	5417.504	5417.504	1.28	11944789	1.15	125000	
Al	27	1	He	17419.524	17419.524	1.38	18724606	1.17	4000	>LDR
K	39	1	He	2510.160	2510.160	0.69	5127312	1.35	100000	
Ca	44	1	He	9133.531	9133.531	0.82	945774	0.11	250000	
V	51	1	He	104.538	104.538	0.46	1794925	1.28	4000	
Cr	52	1	He	21.475	21.475	0.25	437643	0.65	4000	
Mn	55	1	He	389.643	389.643	0.46	5164731	1.27	4000	
Fe	56	1	He	35409.697	35409.697	0.30	639261166	0.71	40000	
Co	59	1	He	8.317	8.317	0.91	256033	0.31	4000	
Ni	60	1	He	11.394	11.394	0.91	90027	0.55	4000	
[Cu]	63	1	He	33.185	33.185	0.76	734398	0.28	4000	
Cu	65	1	He	33.513	33.513	0.75	355583	0.30	4000	
Zn	66	1	He	56.499	56.499	0.59	210874	1.00	4000	
As	75	1	He	16.156	16.156	0.63	38177	0.18	4000	
Se	78	1	He	0.962	0.962	18.09	380	10.00	4000	
Sr	88	1	He	123.300	123.300	0.75	1988801	0.94	4000	
Mo	95	1	He	0.898	0.898	4.00	8667	4.02	4000	
Ag	107	1	He	0.049	0.049	5.32	1688	4.39	100	
Cd	111	1	He	0.099	0.099	10.42	489	9.58	3500	
Sn	118	1	He	1.911	1.911	0.91	22046	0.86	4000	
Sb	123	1	He	1.080	1.080	2.62	12537	2.85	4000	
Ba	137	1	He	124.567	124.567	0.09	609487	0.30	4000	
Ce	140	1	He	58.489	58.489	1.41	3720074	1.05	4000	
Tl	205	1	He	0.167	0.167	1.15	10060	2.11	3500	
Pb	208	1	He	7.389	7.389	0.45	552509	0.38	4000	
U	238	1	He	2.829	2.829	0.31	218143	0.83	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	694483	0.82	683823	101.56	80	120	
Ge (IS)	72	1	He	378930	0.53	390615	97.01	80	120	
In-115 (IS)	115	1	He	3379662	0.37	3613234	93.54	80	120	
Tb-159 (IS)	159	1	He	8008452	1.07	8473761	94.51	80	120	
Bi-209 (IS)	209	1	He	5558794	0.16	6042462	92.00	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	051_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:15:28-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.505	1.240	10531	1.72	50	101.0	89.5	110.49	
Na	23	1	He	1206.155	3.620	5123904	2.70	1250	96.5	89.5	110.49	
Mg	24	1	He	1296.343	1.547	2742362	1.41	1250	103.7	89.5	110.49	
Al	27	1	He	68.349	2.636	70094	2.86	50	136.7	89.5	110.49	>+\-10%
K	39	1	He	1323.962	1.100	2646798	1.18	1250	105.9	89.5	110.49	
Ca	44	1	He	2522.645	0.518	250904	0.28	2500	100.9	89.5	110.49	
V	51	1	He	49.757	0.778	811438	0.41	50	99.5	89.5	110.49	
Cr	52	1	He	49.324	0.868	949932	0.54	50	98.6	89.5	110.49	
Mn	55	1	He	50.730	0.879	638196	0.39	50	101.5	89.5	110.49	
Fe	56	1	He	536.547	0.260	9199707	0.58	500	107.3	89.5	110.49	
Co	59	1	He	50.460	3.390	1471625	3.24	50	100.9	89.5	110.49	
Ni	60	1	He	49.657	0.512	369117	0.10	50	99.3	89.5	110.49	
Cu	65	1	He	48.693	1.226	483220	1.05	50	97.4	89.5	110.49	
Zn	66	1	He	50.976	1.546	188499	1.01	50	102.0	89.5	110.49	
As	75	1	He	49.867	1.036	116308	0.71	50	99.7	89.5	110.49	
Se	78	1	He	49.491	1.834	10536	1.16	50	99.0	89.5	110.49	
Sr	88	1	He	47.440	1.094	784907	0.09	50	94.9	89.5	110.49	
Mo	95	1	He	50.087	2.146	463482	1.21	50	100.2	89.5	110.49	
Ag	107	1	He	49.571	1.723	1387006	0.80	50	99.1	89.5	110.49	
Cd	111	1	He	49.525	2.003	236610	1.14	50	99.0	89.5	110.49	
Sn	118	1	He	50.314	1.659	561843	0.67	50	100.6	89.5	110.49	
Sb	123	1	He	49.863	1.472	562365	0.51	50	99.7	89.5	110.49	
Ba	137	1	He	49.849	1.473	247819	0.46	50	99.7	89.5	110.49	
Ce	140	1	He	51.013	2.299	3295593	1.33	50	102.0	89.5	110.49	
Tl	205	1	He	49.829	0.938	2858007	0.50	50	99.7	89.5	110.49	
Pb	208	1	He	49.795	1.103	3811253	0.73	50	99.6	89.5	110.49	
U	238	1	He	50.342	2.739	3846642	2.12	50	100.7	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	658672	0.49	683823	96.32	80	120	
Ge (IS)	72	1	He	374727	0.91	390615	95.93	80	120	
In-115 (IS)	115	1	He	3433170	1.02	3613234	95.02	80	120	
Tb-159 (IS)	159	1	He	7968336	0.66	8473761	94.04	80	120	
Bi-209 (IS)	209	1	He	5698331	1.55	6042462	94.30	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	052_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:17:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.013	349.1	18	54.1	0.5	
Na	23	1	He	-117.931	-0.6	159758	0.8	110	
Mg	24	1	He	-13.659	-1.1	12977	3.1	110	
Al	27	1	He	12.625	4.4	13348	4.9	10	CCB Main CR1 Failed
K	39	1	He	-8.020	-10.7	159188	0.6	110	
Ca	44	1	He	-27.300	-1.2	1688	0.8	110	
V	51	1	He	0.023	45.9	2697	7.5	2	
Cr	52	1	He	0.016	84.0	2940	8.0	2	
Mn	55	1	He	0.300	7.4	4346	6.8	1	
Fe	56	1	He	17.589	3.5	315539	3.2	20	
Co	59	1	He	0.013	30.8	708	17.3	1	
Ni	60	1	He	0.043	17.5	1218	5.7	2	
Cu	65	1	He	-0.937	-3.0	6024	3.6	1	
Zn	66	1	He	0.086	40.2	4078	3.6	20	
As	75	1	He	0.028	38.1	172	14.1	1	
Se	78	1	He	-0.051	-135.5	165	9.5	2	
Sr	88	1	He	-0.643	-0.4	1997	2.8	2	
Mo	95	1	He	0.040	25.1	881	11.2	2	
Ag	107	1	He	0.028	45.9	1147	32.6	1	
Cd	111	1	He	0.008	22.1	63	13.9	1	
Sn	118	1	He	0.070	16.4	1896	6.2	2	
Sb	123	1	He	0.196	5.7	2797	4.0	1	
Ba	137	1	He	0.107	5.8	667	4.8	1	
Ce	140	1	He	0.033	14.6	2529	13.0	1	
Tl	205	1	He	0.018	22.0	1456	15.0	1	
Pb	208	1	He	0.019	22.3	2352	13.8	1	
U	238	1	He	0.019	8.1	2411	4.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661900	1.16	683823	96.79	80	120	
Ge (IS)	72	1	He	377280	0.65	390615	96.59	80	120	
In-115 (IS)	115	1	He	3463210	0.59	3613234	95.85	80	120	
Tb-159 (IS)	159	1	He	7960402	0.52	8473761	93.94	80	120	
Bi-209 (IS)	209	1	He	5665304	0.80	6042462	93.76	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-11-f@20
Data File Name	053SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:20:30-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3405
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.479	0.479	17.77	122	15.51	100	
Na	23	1	He	734.915	734.915	0.66	3580202	1.15	75000	
Mg	24	1	He	4524.666	4524.666	0.15	10097565	0.72	125000	
Al	27	1	He	13978.601	13978.601	0.96	15197808	1.08	4000	>LDR
K	39	1	He	1743.052	1743.052	1.24	3657436	1.41	100000	
Ca	44	1	He	7347.539	7347.539	0.42	770437	0.34	250000	
V	51	1	He	103.380	103.380	0.99	1795198	0.67	4000	
Cr	52	1	He	21.318	21.318	1.22	439412	1.12	4000	
Mn	55	1	He	347.086	347.086	1.48	4653049	1.66	4000	
Fe	56	1	He	34745.022	34745.022	0.86	634408970	0.85	40000	
Co	59	1	He	8.894	8.894	0.65	276885	0.84	4000	
Ni	60	1	He	10.285	10.285	1.17	82280	0.54	4000	
[Cu]	63	1	He	24.897	24.897	0.40	566000	0.45	4000	
Cu	65	1	He	25.164	25.164	0.85	274032	0.53	4000	
Zn	66	1	He	52.341	52.341	0.68	197429	0.73	4000	
As	75	1	He	11.685	11.685	1.34	27896	1.50	4000	
Se	78	1	He	1.046	1.046	10.66	402	5.48	4000	
Sr	88	1	He	108.131	108.131	1.41	1778577	1.19	4000	
Mo	95	1	He	0.850	0.850	4.96	8384	5.21	4000	
Ag	107	1	He	0.074	0.074	3.72	2407	2.93	100	
Cd	111	1	He	0.092	0.092	11.02	464	10.99	3500	
Sn	118	1	He	1.842	1.842	2.08	21697	1.51	4000	
Sb	123	1	He	0.708	0.708	3.08	8569	2.65	4000	
Ba	137	1	He	105.790	105.790	0.46	527417	0.41	4000	
Ce	140	1	He	51.199	51.199	0.59	3318119	0.68	4000	
Tl	205	1	He	0.170	0.170	1.66	10346	1.97	3500	
Pb	208	1	He	6.512	6.512	0.90	489783	0.83	4000	
U	238	1	He	3.112	3.112	0.99	241565	0.59	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	702400	0.62	683823	102.72	80	120	
Ge (IS)	72	1	He	382420	0.44	390615	97.90	80	120	
In-115 (IS)	115	1	He	3443564	0.55	3613234	95.30	80	120	
Tb-159 (IS)	159	1	He	8064577	0.40	8473761	95.17	80	120	
Bi-209 (IS)	209	1	He	5590221	0.95	6042462	92.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-12-d@20
Data File Name	054SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:22:57-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3406
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.399	0.399	10.82	102	9.96	100	
Na	23	1	He	537.693	537.693	1.28	2731221	0.46	75000	
Mg	24	1	He	4002.927	4002.927	0.69	8745717	0.72	125000	
Al	27	1	He	10639.712	10639.712	1.84	11317946	1.25	4000	>LDR
K	39	1	He	1478.365	1478.365	0.67	3062693	0.78	100000	
Ca	44	1	He	6259.272	6259.272	0.22	642888	1.00	250000	
V	51	1	He	121.379	121.379	3.08	2061727	2.37	4000	
Cr	52	1	He	22.109	22.109	1.38	445798	1.13	4000	
Mn	55	1	He	536.812	536.812	0.71	7041075	0.45	4000	
Fe	56	1	He	42071.500	42071.500	0.35	751652628	0.77	40000	>LDR
Co	59	1	He	7.801	7.801	1.18	237694	1.41	4000	
Ni	60	1	He	10.930	10.930	0.55	85506	1.29	4000	
[Cu]	63	1	He	22.576	22.576	0.86	505352	0.25	4000	
Cu	65	1	He	22.859	22.859	1.54	245011	1.37	4000	
Zn	66	1	He	53.360	53.360	0.47	199670	0.63	4000	
As	75	1	He	14.609	14.609	0.16	34585	0.59	4000	
Se	78	1	He	1.008	1.008	4.38	391	2.83	4000	
Sr	88	1	He	75.450	75.450	1.36	1235284	0.50	4000	
Mo	95	1	He	1.288	1.288	3.14	12350	2.07	4000	
Ag	107	1	He	0.059	0.059	4.39	1971	4.83	100	
Cd	111	1	He	0.072	0.072	19.66	366	17.41	3500	
Sn	118	1	He	1.809	1.809	0.72	21163	1.74	4000	
Sb	123	1	He	0.599	0.599	3.51	7279	2.61	4000	
Ba	137	1	He	87.510	87.510	0.65	432985	0.52	4000	
Ce	140	1	He	58.775	58.775	1.58	3779956	1.32	4000	
Tl	205	1	He	0.147	0.147	1.91	8958	1.94	3500	
Pb	208	1	He	5.667	5.667	1.08	430397	0.09	4000	
U	238	1	He	3.908	3.908	1.99	302636	0.91	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	687283	0.82	683823	100.51	80	120	
Ge (IS)	72	1	He	379507	0.45	390615	97.16	80	120	
In-115 (IS)	115	1	He	3417492	1.18	3613234	94.58	80	120	
Tb-159 (IS)	159	1	He	8053535	1.77	8473761	95.04	80	120	
Bi-209 (IS)	209	1	He	5643461	1.03	6042462	93.40	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-13-d@20
Data File Name	055SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:25:25-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3407
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.499	0.499	7.28	122	6.86	100	
Na	23	1	He	572.806	572.806	2.80	2828547	1.69	75000	
Mg	24	1	He	8285.689	8285.689	0.36	17805439	0.82	125000	
Al	27	1	He	13294.867	13294.867	0.79	13945876	0.27	4000	>LDR
K	39	1	He	2910.161	2910.161	1.67	5771866	1.18	100000	
Ca	44	1	He	5174.214	5174.214	0.12	524801	0.42	250000	
V	51	1	He	42.476	42.476	0.33	713091	0.85	4000	
Cr	52	1	He	8.877	8.877	0.39	178118	0.90	4000	
Mn	55	1	He	234.136	234.136	0.23	3028639	0.61	4000	
Fe	56	1	He	21216.994	21216.994	0.39	373786110	0.45	40000	
Co	59	1	He	6.384	6.384	1.11	191855	1.49	4000	
Ni	60	1	He	11.295	11.295	2.48	87090	1.95	4000	
[Cu]	63	1	He	619.660	619.660	0.75	12787031	0.57	4000	
Cu	65	1	He	624.972	624.972	1.32	6198318	0.87	4000	
Zn	66	1	He	35.288	35.288	0.19	132371	0.22	4000	
As	75	1	He	9.968	9.968	0.23	23463	0.29	4000	
Se	78	1	He	1.780	1.780	1.92	550	1.21	4000	
Sr	88	1	He	111.817	111.817	2.14	1802772	1.28	4000	
Mo	95	1	He	2.001	2.001	4.04	18680	2.96	4000	
Ag	107	1	He	0.090	0.090	6.81	2801	4.48	100	
Cd	111	1	He	0.080	0.080	8.93	399	9.17	3500	
Sn	118	1	He	2.504	2.504	1.45	28534	0.83	4000	
Sb	123	1	He	0.587	0.587	3.24	7069	4.08	4000	
Ba	137	1	He	95.128	95.128	1.79	464972	0.35	4000	
Ce	140	1	He	30.427	30.427	1.73	1933431	0.69	4000	
Tl	205	1	He	0.650	0.650	1.12	37878	0.25	3500	
Pb	208	1	He	4.230	4.230	0.33	316615	0.16	4000	
U	238	1	He	2.450	2.450	1.06	188861	0.34	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	677701	0.53	683823	99.10	80	120	
Ge (IS)	72	1	He	376786	0.11	390615	96.46	80	120	
In-115 (IS)	115	1	He	3376626	1.57	3613234	93.45	80	120	
Tb-159 (IS)	159	1	He	7999117	0.89	8473761	94.40	80	120	
Bi-209 (IS)	209	1	He	5557925	0.24	6042462	91.98	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-14-d@20
Data File Name	056SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:27:51-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3408
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.839	0.839	18.60	197	17.69	100	
Na	23	1	He	693.871	693.871	0.54	3320898	0.60	75000	
Mg	24	1	He	5480.002	5480.002	1.27	11880686	1.85	125000	
Al	27	1	He	13754.017	13754.017	0.25	14537579	0.72	4000	>LDR
K	39	1	He	2462.714	2462.714	2.66	4949488	2.71	100000	
Ca	44	1	He	6131.716	6131.716	0.40	625820	0.96	250000	
V	51	1	He	57.897	57.897	0.52	978475	0.76	4000	
Cr	52	1	He	11.525	11.525	0.43	232190	0.78	4000	
Mn	55	1	He	271.088	271.088	0.30	3533235	0.98	4000	
Fe	56	1	He	24677.325	24677.325	1.60	438053947	1.74	40000	
Co	59	1	He	7.705	7.705	0.93	233240	1.48	4000	
Ni	60	1	He	11.409	11.409	0.62	88632	0.15	4000	
[Cu]	63	1	He	302.778	302.778	0.30	6313053	1.01	4000	
Cu	65	1	He	312.165	312.165	0.46	3127465	0.98	4000	
Zn	66	1	He	58.174	58.174	0.17	215875	0.91	4000	
As	75	1	He	18.040	18.040	0.90	42395	1.25	4000	
Se	78	1	He	1.609	1.609	7.66	515	5.73	4000	
Sr	88	1	He	114.896	114.896	0.69	1846467	0.83	4000	
Mo	95	1	He	1.530	1.530	0.78	14354	1.35	4000	
Ag	107	1	He	0.082	0.082	5.70	2580	4.36	100	
Cd	111	1	He	0.153	0.153	5.28	740	6.19	3500	
Sn	118	1	He	1.903	1.903	2.05	21869	0.59	4000	
Sb	123	1	He	0.522	0.522	2.87	6330	2.37	4000	
Ba	137	1	He	102.282	102.282	0.80	498412	0.64	4000	
Ce	140	1	He	56.053	56.053	1.03	3550614	0.79	4000	
Tl	205	1	He	0.282	0.282	1.96	16623	2.63	3500	
Pb	208	1	He	5.660	5.660	0.39	429597	1.11	4000	
U	238	1	He	2.901	2.901	0.50	222886	0.87	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	682855	0.71	683823	99.86	80	120	
Ge (IS)	72	1	He	376947	0.88	390615	96.50	80	120	
In-115 (IS)	115	1	He	3366010	1.43	3613234	93.16	80	120	
Tb-159 (IS)	159	1	He	7978654	0.73	8473761	94.16	80	120	
Bi-209 (IS)	209	1	He	5640033	1.23	6042462	93.34	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-15-d@20
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:30:17-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3409
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.257	1.257	7.90	299	7.91	100	
Na	23	1	He	1147.046	1147.046	1.47	5294643	1.32	75000	
Mg	24	1	He	10182.811	10182.811	0.90	22956946	0.70	125000	
Al	27	1	He	29391.082	29391.082	0.63	32360556	1.03	4000	>LDR
K	39	1	He	4290.263	4290.263	0.99	8842527	0.23	100000	
Ca	44	1	He	10219.680	10219.680	0.69	1083376	0.50	250000	
V	51	1	He	107.761	107.761	1.05	1894958	0.76	4000	
Cr	52	1	He	23.967	23.967	0.22	499944	0.62	4000	
Mn	55	1	He	445.927	445.927	1.30	6053509	0.49	4000	
Fe	56	1	He	39102.620	39102.620	1.68	723039118	1.60	40000	>LDR
Co	59	1	He	11.385	11.385	1.05	358830	0.27	4000	
Ni	60	1	He	16.797	16.797	1.56	135468	0.71	4000	
[Cu]	63	1	He	222.164	222.164	0.46	4834809	1.14	4000	
Cu	65	1	He	230.752	230.752	1.14	2412325	0.72	4000	
Zn	66	1	He	94.409	94.409	1.11	349696	0.64	4000	
As	75	1	He	28.271	28.271	0.83	66704	0.52	4000	
Se	78	1	He	2.122	2.122	9.98	626	7.19	4000	
Sr	88	1	He	182.087	182.087	1.19	2920038	0.54	4000	
Mo	95	1	He	1.138	1.138	4.92	10812	5.31	4000	
Ag	107	1	He	0.178	0.178	5.03	5228	5.43	100	
Cd	111	1	He	0.169	0.169	4.13	813	3.69	3500	
Sn	118	1	He	2.246	2.246	1.22	25634	0.75	4000	
Sb	123	1	He	1.094	1.094	3.40	12646	2.79	4000	
Ba	137	1	He	275.395	275.395	0.88	1342226	0.18	4000	
Ce	140	1	He	112.619	112.619	0.61	7136045	0.93	4000	
Tl	205	1	He	0.408	0.408	2.19	24096	1.26	3500	
Pb	208	1	He	13.000	13.000	1.15	968328	0.38	4000	
U	238	1	He	4.864	4.864	1.40	376355	0.56	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	711333	0.84	683823	104.02	80	120	
Ge (IS)	72	1	He	378802	0.47	390615	96.98	80	120	
In-115 (IS)	115	1	He	3367032	0.71	3613234	93.19	80	120	
Tb-159 (IS)	159	1	He	8049760	0.88	8473761	95.00	80	120	
Bi-209 (IS)	209	1	He	5541592	0.76	6042462	91.71	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-16-d@20
Data File Name	058SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:32:42-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3410
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.821	0.821	19.35	204	17.88	100	
Na	23	1	He	1119.740	1119.740	0.75	5281153	1.58	75000	
Mg	24	1	He	12536.737	12536.737	0.79	28781600	1.09	125000	
Al	27	1	He	33812.225	33812.225	0.42	37923346	1.03	4000	>LDR
K	39	1	He	5664.886	5664.886	1.59	11833811	2.22	100000	
Ca	44	1	He	10005.256	10005.256	0.25	1080583	1.03	250000	
V	51	1	He	126.181	126.181	1.14	2259903	1.32	4000	
Cr	52	1	He	21.322	21.322	0.70	453409	1.38	4000	
Mn	55	1	He	497.158	497.158	1.35	6874829	0.51	4000	
Fe	56	1	He	42754.014	42754.014	0.55	805322279	0.74	40000	>LDR
Co	59	1	He	10.990	10.990	0.18	352880	0.81	4000	
Ni	60	1	He	15.551	15.551	0.49	127841	0.45	4000	
[Cu]	63	1	He	89.871	89.871	1.33	2013809	1.93	4000	
Cu	65	1	He	89.839	89.839	1.08	966787	0.20	4000	
Zn	66	1	He	105.282	105.282	1.07	384257	0.41	4000	
As	75	1	He	42.710	42.710	0.55	99356	0.87	4000	
Se	78	1	He	1.620	1.620	4.90	512	2.28	4000	
Sr	88	1	He	189.807	189.807	2.31	3005951	0.16	4000	
Mo	95	1	He	1.855	1.855	1.47	17099	1.03	4000	
Ag	107	1	He	0.174	0.174	3.91	5057	4.83	100	
Cd	111	1	He	0.125	0.125	3.65	602	4.15	3500	
Sn	118	1	He	2.643	2.643	2.68	29603	0.72	4000	
Sb	123	1	He	1.298	1.298	0.96	14730	3.05	4000	
Ba	137	1	He	280.146	280.146	1.68	1348717	0.52	4000	
Ce	140	1	He	83.842	83.842	2.15	5247562	1.18	4000	
Tl	205	1	He	0.460	0.460	1.44	26630	1.00	3500	
Pb	208	1	He	16.832	16.832	0.84	1250869	0.55	4000	
U	238	1	He	9.526	9.526	1.59	723322	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	724612	0.94	683823	105.96	80	120	
Ge (IS)	72	1	He	373680	0.95	390615	95.66	80	120	
In-115 (IS)	115	1	He	3326611	2.17	3613234	92.07	80	120	
Tb-159 (IS)	159	1	He	7910798	1.66	8473761	93.36	80	120	
Bi-209 (IS)	209	1	He	5530028	1.24	6042462	91.52	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-17-d@20
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:35:07-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3411
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.908	0.908	35.88	216	32.78	100	
Na	23	1	He	1060.277	1060.277	0.22	4844753	0.38	75000	
Mg	24	1	He	9398.435	9398.435	1.11	20770753	1.52	125000	
Al	27	1	He	29072.007	29072.007	1.57	31372692	2.07	4000	>LDR
K	39	1	He	7230.108	7230.108	1.46	14480165	1.86	100000	
Ca	44	1	He	10638.371	10638.371	0.60	1105120	0.79	250000	
V	51	1	He	80.197	80.197	0.59	1382783	0.17	4000	
Cr	52	1	He	20.291	20.291	1.16	415240	0.63	4000	
Mn	55	1	He	592.116	592.116	1.00	7878062	0.96	4000	
Fe	56	1	He	35073.187	35073.187	0.81	635610393	0.60	40000	
Co	59	1	He	9.669	9.669	0.64	298744	1.15	4000	
Ni	60	1	He	13.060	13.060	0.58	103448	0.44	4000	
[Cu]	63	1	He	59.269	59.269	0.79	1289485	0.25	4000	
Cu	65	1	He	60.240	60.240	0.83	628973	0.92	4000	
Zn	66	1	He	76.903	76.903	0.75	280743	0.86	4000	
As	75	1	He	9.567	9.567	1.14	22260	1.04	4000	
Se	78	1	He	1.246	1.246	11.27	433	6.60	4000	
Sr	88	1	He	137.506	137.506	1.13	2192418	1.57	4000	
Mo	95	1	He	0.895	0.895	0.86	8542	1.42	4000	
Ag	107	1	He	0.089	0.089	1.85	2749	0.57	100	
Cd	111	1	He	0.239	0.239	6.78	1138	7.65	3500	
Sn	118	1	He	2.191	2.191	0.59	24855	1.56	4000	
Sb	123	1	He	0.639	0.639	0.21	7567	1.24	4000	
Ba	137	1	He	175.558	175.558	0.75	849582	1.17	4000	
Ce	140	1	He	63.360	63.360	1.68	3985797	0.99	4000	
Tl	205	1	He	0.253	0.253	0.67	15094	1.45	3500	
Pb	208	1	He	13.170	13.170	0.73	980049	0.32	4000	
U	238	1	He	2.402	2.402	0.75	185979	0.40	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	697150	0.54	683823	101.95	80	120	
Ge (IS)	72	1	He	372409	0.16	390615	95.34	80	120	
In-115 (IS)	115	1	He	3342926	1.05	3613234	92.52	80	120	
Tb-159 (IS)	159	1	He	8035299	0.87	8473761	94.83	80	120	
Bi-209 (IS)	209	1	He	5535997	0.83	6042462	91.62	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-18-d@20
Data File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:37:34-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3412
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.028	1.028	13.18	248	11.60	100	
Na	23	1	He	1692.631	1692.631	0.97	7524264	0.18	75000	
Mg	24	1	He	10081.000	10081.000	0.47	22790015	0.87	125000	
Al	27	1	He	30953.342	30953.342	0.55	34171931	0.39	4000	>LDR
K	39	1	He	5775.941	5775.941	0.92	11872981	1.71	100000	
Ca	44	1	He	12294.120	12294.120	0.78	1305839	0.08	250000	
V	51	1	He	101.497	101.497	1.30	1789747	0.83	4000	
Cr	52	1	He	24.486	24.486	1.09	512072	0.90	4000	
Mn	55	1	He	624.787	624.787	1.40	8504712	1.43	4000	
Fe	56	1	He	40275.907	40275.907	1.07	746729073	0.30	40000	>LDR
Co	59	1	He	11.752	11.752	0.18	371427	0.79	4000	
Ni	60	1	He	16.185	16.185	1.25	130927	0.43	4000	
[Cu]	63	1	He	55.498	55.498	0.28	1237633	1.08	4000	
Cu	65	1	He	56.274	56.274	0.76	602216	1.19	4000	
Zn	66	1	He	86.544	86.544	0.99	316908	1.41	4000	
As	75	1	He	16.658	16.658	0.14	38859	0.75	4000	
Se	78	1	He	1.500	1.500	11.61	488	6.78	4000	
Sr	88	1	He	170.331	170.331	1.63	2720848	1.00	4000	
Mo	95	1	He	2.220	2.220	2.25	20530	1.19	4000	
Ag	107	1	He	0.153	0.153	4.13	4512	2.85	100	
Cd	111	1	He	0.198	0.198	13.93	950	14.28	3500	
Sn	118	1	He	2.206	2.206	1.10	25086	0.48	4000	
Sb	123	1	He	0.752	0.752	2.38	8827	1.49	4000	
Ba	137	1	He	218.790	218.790	1.19	1061892	0.20	4000	
Ce	140	1	He	72.600	72.600	1.41	4580957	1.05	4000	
Tl	205	1	He	0.330	0.330	0.98	19426	1.92	3500	
Pb	208	1	He	12.203	12.203	1.45	910554	0.26	4000	
U	238	1	He	4.484	4.484	1.45	344108	0.47	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	713256	0.81	683823	104.30	80	120	
Ge (IS)	72	1	He	374098	0.71	390615	95.77	80	120	
In-115 (IS)	115	1	He	3353024	1.01	3613234	92.80	80	120	
Tb-159 (IS)	159	1	He	7982892	0.97	8473761	94.21	80	120	
Bi-209 (IS)	209	1	He	5551141	1.19	6042462	91.87	80	120	

Sample Report

Sample Table

Sample Name	440-143720-a-19-e@20
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:39:59-07:00
Sample Type	Sample
Dilution	1
Comment	AG SOIL BP 440-325535 TKRD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3501
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.560	0.560	17.58	137	14.83	100	
Na	23	1	He	1162.942	1162.942	0.18	5158379	0.78	75000	
Mg	24	1	He	4941.251	4941.251	0.67	10744921	0.60	125000	
Al	27	1	He	14198.339	14198.339	1.10	15047157	1.07	4000	>LDR
K	39	1	He	1848.626	1848.626	0.99	3770092	0.80	100000	
Ca	44	1	He	6079.214	6079.214	0.24	622156	0.68	250000	
V	51	1	He	76.070	76.070	1.84	1288243	1.45	4000	
Cr	52	1	He	16.342	16.342	1.01	328977	0.81	4000	
Mn	55	1	He	432.429	432.429	1.09	5650949	1.59	4000	
Fe	56	1	He	27407.816	27407.816	0.59	487820407	0.67	40000	
Co	59	1	He	7.546	7.546	0.41	229036	0.56	4000	
Ni	60	1	He	9.690	9.690	1.16	75621	0.40	4000	
[Cu]	63	1	He	23.082	23.082	0.86	513975	0.15	4000	
Cu	65	1	He	23.520	23.520	2.03	250664	1.01	4000	
Zn	66	1	He	52.838	52.838	0.54	196341	0.85	4000	
As	75	1	He	11.549	11.549	1.12	27167	0.83	4000	
Se	78	1	He	0.821	0.821	6.93	348	3.51	4000	
Sr	88	1	He	111.199	111.199	3.27	1805208	1.92	4000	
Mo	95	1	He	0.993	0.993	2.29	9584	2.25	4000	
Ag	107	1	He	0.050	0.050	2.38	1710	1.88	100	
Cd	111	1	He	0.074	0.074	16.26	374	13.39	3500	
Sn	118	1	He	1.731	1.731	1.78	20195	1.31	4000	
Sb	123	1	He	0.451	0.451	1.02	5597	1.80	4000	
Ba	137	1	He	215.471	215.471	2.43	1060346	0.67	4000	
Ce	140	1	He	50.052	50.052	2.41	3202833	2.38	4000	
Tl	205	1	He	0.169	0.169	1.87	10226	2.17	3500	
Pb	208	1	He	6.142	6.142	0.88	462946	0.10	4000	
U	238	1	He	2.592	2.592	0.24	200775	0.61	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684692	0.91	683823	100.13	80	120	
Ge (IS)	72	1	He	376796	0.59	390615	96.46	80	120	
In-115 (IS)	115	1	He	3400529	2.04	3613234	94.11	80	120	
Tb-159 (IS)	159	1	He	8040639	0.44	8473761	94.89	80	120	
Bi-209 (IS)	209	1	He	5601465	0.86	6042462	92.70	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	062_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:44:04-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.574	0.934	10364	1.33	50	101.1	89.5	110.49	
Na	23	1	He	1211.758	1.698	5057293	1.70	1250	96.9	89.5	110.49	
Mg	24	1	He	1295.147	1.472	2693043	1.86	1250	103.6	89.5	110.49	
Al	27	1	He	61.917	0.392	62445	0.11	50	123.8	89.5	110.49	>+\-10%
K	39	1	He	1312.647	2.296	2580770	2.55	1250	105.0	89.5	110.49	
Ca	44	1	He	2539.332	0.787	248207	0.87	2500	101.6	89.5	110.49	
V	51	1	He	50.104	0.471	803092	0.76	50	100.2	89.5	110.49	
Cr	52	1	He	49.679	0.260	940372	0.54	50	99.4	89.5	110.49	
Mn	55	1	He	51.191	0.385	632953	0.04	50	102.4	89.5	110.49	
Fe	56	1	He	535.343	0.924	9021645	0.98	500	107.1	89.5	110.49	
Co	59	1	He	50.761	2.381	1455060	2.24	50	101.5	89.5	110.49	
Ni	60	1	He	50.414	0.298	368306	0.43	50	100.8	89.5	110.49	
Cu	65	1	He	49.360	0.676	481240	0.82	50	98.7	89.5	110.49	
Zn	66	1	He	51.126	0.723	187718	0.83	50	102.3	89.5	110.49	
As	75	1	He	49.667	0.408	115028	0.27	50	99.3	89.5	110.49	
Se	78	1	He	49.377	1.148	10439	1.26	50	98.8	89.5	110.49	
Sr	88	1	He	47.064	1.706	778019	0.29	50	94.1	89.5	110.49	
Mo	95	1	He	49.736	1.904	459811	0.81	50	99.5	89.5	110.49	
Ag	107	1	He	49.570	1.601	1385689	0.65	50	99.1	89.5	110.49	
Cd	111	1	He	49.374	1.745	235671	0.46	50	98.7	89.5	110.49	
Sn	118	1	He	49.632	1.902	553720	0.86	50	99.3	89.5	110.49	
Sb	123	1	He	49.491	1.820	557642	0.95	50	99.0	89.5	110.49	
Ba	137	1	He	49.959	1.289	248136	0.22	50	99.9	89.5	110.49	
Ce	140	1	He	50.846	0.624	3282255	1.10	50	101.7	89.5	110.49	
Tl	205	1	He	49.612	0.838	2830093	0.79	50	99.2	89.5	110.49	
Pb	208	1	He	50.188	1.178	3799998	0.16	50	100.4	89.5	110.49	
U	238	1	He	50.641	1.811	3848573	1.27	50	101.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647376	0.41	683823	94.67	80	120	
Ge (IS)	72	1	He	372077	0.16	390615	95.25	80	120	
In-115 (IS)	115	1	He	3430088	1.48	3613234	94.93	80	120	
Tb-159 (IS)	159	1	He	7925536	1.62	8473761	93.53	80	120	
Bi-209 (IS)	209	1	He	5636979	1.09	6042462	93.29	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	063_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:46:31-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.023	-122.3	10	57.7	0.5	
Na	23	1	He	-123.630	-0.2	135656	0.3	110	
Mg	24	1	He	-14.796	-1.5	10392	4.3	110	
Al	27	1	He	7.856	1.5	8297	1.0	10	
K	39	1	He	-9.729	-7.4	153009	0.5	110	
Ca	44	1	He	-33.658	-1.1	1043	3.5	110	
V	51	1	He	0.002	1083.9	2297	12.3	2	
Cr	52	1	He	0.009	27.6	2755	1.3	2	
Mn	55	1	He	0.172	4.1	2671	3.3	1	
Fe	56	1	He	12.724	3.3	227416	3.1	20	
Co	59	1	He	0.015	28.2	742	16.4	1	
Ni	60	1	He	0.036	10.8	1144	2.2	2	
Cu	65	1	He	-1.015	-0.7	5171	1.2	1	
Zn	66	1	He	0.075	35.3	3973	2.1	20	
As	75	1	He	0.023	37.4	156	13.2	1	
Se	78	1	He	0.076	122.4	189	10.1	2	
Sr	88	1	He	-0.688	-1.6	1232	13.6	2	
Mo	95	1	He	0.030	28.0	768	10.8	2	
Ag	107	1	He	0.025	25.0	1036	15.8	1	
Cd	111	1	He	0.008	80.2	62	48.6	1	
Sn	118	1	He	0.056	8.0	1705	2.9	2	
Sb	123	1	He	0.190	12.2	2672	10.5	1	
Ba	137	1	He	0.068	15.8	458	10.6	1	
Ce	140	1	He	0.026	12.5	2010	9.3	1	
Tl	205	1	He	0.017	21.7	1411	15.4	1	
Pb	208	1	He	0.017	30.0	2180	17.6	1	
U	238	1	He	0.018	18.5	2291	11.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	649263	0.42	683823	94.95	80	120	
Ge (IS)	72	1	He	371193	0.97	390615	95.03	80	120	
In-115 (IS)	115	1	He	3389419	1.01	3613234	93.81	80	120	
Tb-159 (IS)	159	1	He	7866732	0.54	8473761	92.84	80	120	
Bi-209 (IS)	209	1	He	5620641	2.01	6042462	93.02	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	064_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:49:06-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL BP CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.993	22.197	221	21.39	1	99.3	50	150	
Na	23	1	He	81.994	0.855	905072	0.90	200	41.0	50	150	>+/-50%
Mg	24	1	He	191.929	0.313	439510	1.38	200	96.0	50	150	
Al	27	1	He	26.414	1.601	27228	1.85	20	132.1	50	150	
K	39	1	He	196.549	0.458	538437	1.44	200	98.3	50	150	
Ca	44	1	He	953.741	0.313	97173	1.08	1000	95.4	50	150	
V	51	1	He	1.974	2.611	34256	1.45	2	98.7	50	150	
Cr	52	1	He	1.962	0.438	40145	1.27	2	98.1	50	150	
Mn	55	1	He	2.161	2.812	27595	2.91	2	108.0	50	150	
Fe	56	1	He	49.106	1.209	850159	0.25	40	122.8	50	150	
Co	59	1	He	1.943	0.631	56747	1.76	2	97.2	50	150	
Ni	60	1	He	2.088	1.827	16307	0.87	2	104.4	50	150	
Cu	65	1	He	1.040	5.575	24901	1.25	2	52.0	50	150	
Zn	66	1	He	20.903	1.065	79415	0.82	20	104.5	50	150	
As	75	1	He	2.111	2.923	5019	3.52	2	105.5	50	150	
Se	78	1	He	2.066	3.923	607	3.18	2	103.3	50	150	
Sr	88	1	He	1.278	3.423	33212	1.82	2	63.9	50	150	
Mo	95	1	He	2.012	3.027	19077	2.38	2	100.6	50	150	
Ag	107	1	He	1.924	1.639	54104	2.37	2	96.2	50	150	
Cd	111	1	He	1.992	3.501	9529	3.63	2	99.6	50	150	
Sn	118	1	He	20.290	0.884	226994	1.02	20	101.5	50	150	
Sb	123	1	He	1.902	2.599	21974	2.00	2	95.1	50	150	
Ba	137	1	He	2.138	0.984	10740	1.12	2	106.9	50	150	
Ce	140	1	He	1.962	1.413	126961	0.91	2	98.1	50	150	
Tl	205	1	He	1.923	1.216	111034	0.94	2	96.1	50	150	
Pb	208	1	He	2.098	1.235	160871	0.83	2	104.9	50	150	
U	238	1	He	1.902	1.581	146643	1.92	2	95.1	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656030	1.15	683823	95.94	80	120	
Ge (IS)	72	1	He	374352	1.84	390615	95.84	80	120	
In-115 (IS)	115	1	He	3429218	0.78	3613234	94.91	80	120	
Tb-159 (IS)	159	1	He	7990714	0.56	8473761	94.30	80	120	
Bi-209 (IS)	209	1	He	5677701	1.05	6042462	93.96	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	065ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:51:39-07:00
Sample Type	ICSA
Dilution	1
Comment	BP CHK A
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.044	-58.050	6	91.64	-1	1	
Na	23	1	He	103020.028	0.662	373262865	0.70	100000	100000	
Mg	24	1	He	100885.678	1.052	202810490	0.56	100000	100000	
Al	27	1	He	100613.204	1.406	98947878	0.90	100000	100000	
K	39	1	He	102838.053	0.763	185496397	0.70	100000	100000	
Ca	44	1	He	95502.845	0.472	9008799	0.88	100000	100000	
V	51	1	He	0.043	24.015	2894	5.27	-4	4	
Cr	52	1	He	1.274	2.022	26132	0.98	-4	4	
Mn	55	1	He	0.434	4.970	5795	4.53	-2	2	
Co	59	1	He	0.035	4.373	1290	2.98	-2	2	
Ni	60	1	He	0.452	0.969	4094	0.33	-4	4	
Cu	65	1	He	-0.143	-26.503	13150	1.80	-4	4	
Zn	66	1	He	1.231	5.892	7733	2.70	-40	40	
As	75	1	He	0.096	4.033	310	3.07	-2	2	
Se	78	1	He	0.191	30.889	202	4.95	-4	4	
Sr	88	1	He	-0.011	-238.889	11060	2.17	-2	2	
Mo	95	1	He	2119.101	2.203	17663700	0.53	2000	2000	
Ag	107	1	He	0.028	18.216	1022	11.89	-2	2	
Cd	111	1	He	0.818	5.063	3546	4.19	-2	2	
Sn	118	1	He	0.037	12.919	1361	2.38	-20	20	
Sb	123	1	He	0.086	14.302	1388	8.34	-4	4	
Ba	137	1	He	0.118	23.147	642	19.21	-2	2	
Ce	140	1	He	0.036	2.407	2410	1.80	-2	2	
Tl	205	1	He	0.005	18.751	703	5.94	-2	2	
Pb	208	1	He	0.228	1.673	15916	0.55	-2	2	
U	238	1	He	-0.001	-107.829	782	12.25	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	635417	1.00	683823	92.92	80	120	
Ge (IS)	72	1	He	353371	0.86	390615	90.47	80	120	
In-115 (IS)	115	1	He	3096177	1.73	3613234	85.69	80	120	
Tb-159 (IS)	159	1	He	7465951	1.64	8473761	88.11	80	120	
Bi-209 (IS)	209	1	He	4927718	1.43	6042462	81.55	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	066ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:54:06-07:00
Sample Type	ICSB
Dilution	1
Comment	BP CHK B
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	18.578	3.231	3759	3.65	20	92.9	79.5	120.49	
Na	23	1	He	103771.442	0.868	377305656	0.57	101000	102.7	79.5	120.49	
Mg	24	1	He	100380.230	0.770	202510983	0.38	101000	99.4	79.5	120.49	
Al	27	1	He	98764.947	1.853	97473616	1.46	101000	97.8	79.5	120.49	
K	39	1	He	102259.850	1.110	185107353	1.08	101000	101.2	79.5	120.49	
Ca	44	1	He	96826.254	1.817	9165312	1.38	101000	95.9	79.5	120.49	
V	51	1	He	19.769	0.257	313461	0.21	20	98.8	79.5	120.49	
Cr	52	1	He	20.129	0.541	376800	0.70	20	100.6	79.5	120.49	
Mn	55	1	He	19.653	0.946	239672	0.90	20	98.3	79.5	120.49	
Fe	56	1	He	94978.632	0.339	1574338462	0.45	101000	94.0	79.5	120.49	
Co	59	1	He	18.548	0.798	523873	0.62	20	92.7	79.5	120.49	
Ni	60	1	He	18.764	0.237	135566	0.21	20	93.8	79.5	120.49	
Cu	65	1	He	17.955	1.825	181664	1.26	20	89.8	79.5	120.49	
Zn	66	1	He	18.872	1.601	68224	1.52	20	94.4	79.5	120.49	
As	75	1	He	19.871	0.829	43890	0.78	20	99.4	79.5	120.49	
Se	78	1	He	18.621	1.808	3852	1.34	20	93.1	79.5	120.49	
Sr	88	1	He	20.420	0.370	308043	0.29	20	102.1	79.5	120.49	
Mo	95	1	He	2164.632	1.082	17870198	1.24	2020	107.2	79.5	120.49	
Ag	107	1	He	19.122	0.871	477996	1.03	20	95.6	79.5	120.49	
Cd	111	1	He	19.830	1.089	84622	1.25	20	99.1	79.5	120.49	
Sn	118	1	He	20.509	0.805	205106	0.85	20	102.5	79.5	120.49	
Sb	123	1	He	20.931	0.404	211116	0.59	20	104.7	79.5	120.49	
Ba	137	1	He	21.013	0.944	93357	0.81	20	105.1	79.5	120.49	
Ce	140	1	He	20.394	0.345	1176899	0.54	20	102.0	79.5	120.49	
Tl	205	1	He	18.334	1.156	979248	0.46	20	91.7	79.5	120.49	
Pb	208	1	He	20.424	1.448	1329687	0.31	20	102.1	79.5	120.49	
U	238	1	He	19.584	1.667	1393689	1.01	20	97.9	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	637648	0.43	683823	93.25	80	120	
Ge (IS)	72	1	He	354364	0.64	390615	90.72	80	120	
In-115 (IS)	115	1	He	3065679	0.19	3613234	84.85	80	120	
Tb-159 (IS)	159	1	He	7418404	0.72	8473761	87.55	80	120	
Bi-209 (IS)	209	1	He	4845351	1.23	6042462	80.19	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	067SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:56:34-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.045	-0.045	-54.72	6	91.64	100	
Na	23	1	He	-71.055	-71.055	-17.63	332260	14.76	75000	
Mg	24	1	He	25.179	25.179	50.57	93190	29.00	125000	
Al	27	1	He	42.346	42.346	29.54	43282	30.00	4000	
K	39	1	He	35.108	35.108	34.68	237138	10.24	100000	
Ca	44	1	He	7.107	7.107	190.13	5007	26.92	250000	
V	51	1	He	0.004	0.004	225.35	2350	6.73	4000	
Cr	52	1	He	0.007	0.007	123.67	2736	6.90	4000	
Mn	55	1	He	0.064	0.064	14.78	1338	9.43	4000	
Fe	56	1	He	50.065	50.065	23.24	863868	23.63	40000	
Co	59	1	He	0.006	0.006	42.08	484	15.91	4000	
Ni	60	1	He	0.034	0.034	23.21	1136	5.22	4000	
[Cu]	63	1	He	-0.937	-0.937	-1.16	13878	1.99	4000	
Cu	65	1	He	-0.880	-0.880	-2.22	6492	3.59	4000	
Zn	66	1	He	0.456	0.456	13.10	5366	4.30	4000	
As	75	1	He	0.003	0.003	15.16	112	1.55	4000	
Se	78	1	He	0.124	0.124	37.02	200	5.07	4000	
Sr	88	1	He	-0.721	-0.721	-0.79	708	14.30	4000	
Mo	95	1	He	1.979	1.979	4.78	18683	5.88	4000	
Ag	107	1	He	0.018	0.018	53.86	832	33.19	100	
Cd	111	1	He	0.011	0.011	54.73	78	38.65	3500	
Sn	118	1	He	-0.039	-0.039	-15.64	664	11.38	4000	
Sb	123	1	He	-0.009	-0.009	-35.49	470	6.84	4000	
Ba	137	1	He	0.022	0.022	11.13	238	6.32	4000	
Ce	140	1	He	0.009	0.009	20.59	972	14.06	4000	
Tl	205	1	He	0.022	0.022	3.72	1661	1.34	3500	
Pb	208	1	He	0.008	0.008	45.00	1530	18.10	4000	
U	238	1	He	0.002	0.002	89.61	1092	15.98	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	653268	0.72	683823	95.53	80	120	
Ge (IS)	72	1	He	372997	0.51	390615	95.49	80	120	
In-115 (IS)	115	1	He	3412280	1.21	3613234	94.44	80	120	
Tb-159 (IS)	159	1	He	7860211	1.69	8473761	92.76	80	120	
Bi-209 (IS)	209	1	He	5570925	0.08	6042462	92.20	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	068SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T17:59:09-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.035	-0.035	-69.37	8	65.47	100	
Na	23	1	He	-99.466	-99.466	-2.31	230633	3.59	75000	
Mg	24	1	He	0.758	0.758	187.41	43399	6.71	125000	
Al	27	1	He	19.046	19.046	10.12	20033	9.73	4000	
K	39	1	He	9.545	9.545	25.00	193244	2.14	100000	
Ca	44	1	He	-15.424	-15.424	-15.88	2870	8.25	250000	
V	51	1	He	-0.008	-0.008	-82.26	2190	5.38	4000	
Cr	52	1	He	0.001	0.001	618.54	2667	4.75	4000	
Mn	55	1	He	0.047	0.047	4.71	1153	2.47	4000	
Fe	56	1	He	22.655	22.655	4.94	404948	4.59	40000	
Co	59	1	He	0.001	0.001	48.13	349	4.71	4000	
Ni	60	1	He	0.027	0.027	44.15	1103	8.13	4000	
[Cu]	63	1	He	-1.029	-1.029	-1.26	12291	1.94	4000	
Cu	65	1	He	-0.964	-0.964	-1.86	5798	2.83	4000	
Zn	66	1	He	0.473	0.473	15.51	5518	4.45	4000	
As	75	1	He	-0.001	-0.001	-1342.11	105	16.88	4000	
Se	78	1	He	0.036	0.036	85.55	184	4.00	4000	
Sr	88	1	He	-0.725	-0.725	-0.31	656	4.83	4000	
Mo	95	1	He	0.575	0.575	8.17	5879	8.80	4000	
Ag	107	1	He	0.000	0.000	2546.35	348	24.10	100	
Cd	111	1	He	0.003	0.003	67.75	40	25.00	3500	
Sn	118	1	He	-0.042	-0.042	-7.79	643	7.01	4000	
Sb	123	1	He	-0.022	-0.022	-1.88	326	0.59	4000	
Ba	137	1	He	0.021	0.021	42.22	233	20.00	4000	
Ce	140	1	He	0.004	0.004	42.28	634	16.06	4000	
Tl	205	1	He	0.005	0.005	19.05	732	6.60	3500	
Pb	208	1	He	0.003	0.003	23.46	1140	4.12	4000	
U	238	1	He	-0.006	-0.006	-3.25	463	3.14	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	665604	0.19	683823	97.34	80	120	
Ge (IS)	72	1	He	379158	0.51	390615	97.07	80	120	
In-115 (IS)	115	1	He	3469193	1.33	3613234	96.01	80	120	
Tb-159 (IS)	159	1	He	7880582	0.91	8473761	93.00	80	120	
Bi-209 (IS)	209	1	He	5610857	0.41	6042462	92.86	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	069_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:01:44-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	48.603	1.076	10448	1.73	50	97.2	89.5	110.49	
Na	23	1	He	1207.899	0.178	5290059	1.43	1250	96.6	89.5	110.49	
Mg	24	1	He	1300.767	1.399	2836575	0.13	1250	104.1	89.5	110.49	
Al	27	1	He	64.671	0.506	68400	1.77	50	129.3	89.5	110.49	>+\-10%
K	39	1	He	1317.384	1.734	2715810	0.76	1250	105.4	89.5	110.49	
Ca	44	1	He	2536.443	0.422	260066	0.94	2500	101.5	89.5	110.49	
V	51	1	He	49.869	1.494	838397	0.61	50	99.7	89.5	110.49	
Cr	52	1	He	49.525	0.841	983317	0.69	50	99.1	89.5	110.49	
Mn	55	1	He	50.446	0.246	654305	1.11	50	100.9	89.5	110.49	
Fe	56	1	He	520.319	1.046	9197634	0.68	500	104.1	89.5	110.49	
Co	59	1	He	50.857	2.623	1528981	1.90	50	101.7	89.5	110.49	
Ni	60	1	He	49.843	1.777	381923	0.49	50	99.7	89.5	110.49	
Cu	65	1	He	49.015	1.400	501341	0.34	50	98.0	89.5	110.49	
Zn	66	1	He	51.289	0.447	195957	1.01	50	102.6	89.5	110.49	
As	75	1	He	49.620	0.331	119589	0.82	50	99.2	89.5	110.49	
Se	78	1	He	48.851	2.910	10748	2.00	50	97.7	89.5	110.49	
Sr	88	1	He	48.011	1.417	809314	0.77	50	96.0	89.5	110.49	
Mo	95	1	He	50.431	0.908	475590	0.70	50	100.9	89.5	110.49	
Ag	107	1	He	49.725	0.502	1417911	0.51	50	99.5	89.5	110.49	
Cd	111	1	He	49.641	0.978	241694	0.09	50	99.3	89.5	110.49	
Sn	118	1	He	50.177	1.291	571003	0.64	50	100.4	89.5	110.49	
Sb	123	1	He	49.916	1.037	573703	0.64	50	99.8	89.5	110.49	
Ba	137	1	He	50.189	1.481	254259	0.62	50	100.4	89.5	110.49	
Ce	140	1	He	50.984	0.269	3357011	1.15	50	102.0	89.5	110.49	
Tl	205	1	He	49.450	1.548	2846012	0.87	50	98.9	89.5	110.49	
Pb	208	1	He	49.806	0.511	3852163	0.35	50	99.6	89.5	110.49	
U	238	1	He	50.378	1.790	3863743	2.81	50	100.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	679086	1.29	683823	99.31	80	120	
Ge (IS)	72	1	He	387202	1.07	390615	99.13	80	120	
In-115 (IS)	115	1	He	3498527	1.01	3613234	96.83	80	120	
Tb-159 (IS)	159	1	He	7996336	1.18	8473761	94.37	80	120	
Bi-209 (IS)	209	1	He	5757794	0.60	6042462	95.29	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	070_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:04:11-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.040	-104.8	7	132.3	0.5	
Na	23	1	He	-111.554	-0.8	185968	1.2	110	
Mg	24	1	He	-6.807	-6.3	27642	2.8	110	
Al	27	1	He	11.250	1.6	12078	1.7	10	CCB Main CR1 Failed
K	39	1	He	-0.009	-9485.9	176293	0.8	110	
Ca	44	1	He	-27.404	-1.2	1698	2.4	110	
V	51	1	He	-0.007	-43.8	2234	2.7	2	
Cr	52	1	He	-0.001	-797.2	2648	3.8	2	
Mn	55	1	He	0.048	13.9	1171	6.7	1	
Fe	56	1	He	13.125	0.3	241572	0.3	20	
Co	59	1	He	0.012	60.6	684	31.9	1	
Ni	60	1	He	0.034	33.5	1165	7.9	2	
Cu	65	1	He	-1.043	-0.8	5067	1.5	1	
Zn	66	1	He	0.028	303.6	3918	8.1	20	
As	75	1	He	0.018	42.0	149	12.3	1	
Se	78	1	He	0.124	54.8	205	7.1	2	
Sr	88	1	He	-0.714	-0.6	833	7.7	2	
Mo	95	1	He	0.328	13.4	3587	12.5	2	
Ag	107	1	He	0.030	43.0	1188	29.4	1	
Cd	111	1	He	0.009	79.5	70	50.4	1	
Sn	118	1	He	0.064	9.0	1839	4.1	2	
Sb	123	1	He	0.197	4.3	2832	4.5	1	
Ba	137	1	He	0.024	23.9	251	11.1	1	
Ce	140	1	He	0.010	33.2	1019	19.8	1	
Tl	205	1	He	0.017	19.6	1407	13.5	1	
Pb	208	1	He	0.016	37.1	2122	21.0	1	
U	238	1	He	0.021	8.1	2510	4.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	669719	0.56	683823	97.94	80	120	
Ge (IS)	72	1	He	382351	0.43	390615	97.88	80	120	
In-115 (IS)	115	1	He	3487452	1.08	3613234	96.52	80	120	
Tb-159 (IS)	159	1	He	8009136	0.98	8473761	94.52	80	120	
Bi-209 (IS)	209	1	He	5665612	0.29	6042462	93.76	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-325847/1-a@20
Data File Name	071_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:27:51-07:00
Sample Type	MB
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.034	-70.5	8	65.5	0.5	
Na	23	1	He	-99.774	-3.3	227449	5.0	110	
Mg	24	1	He	7.622	52.4	57342	14.4	110	
Al	27	1	He	26.302	13.0	27268	12.7	10	OUT OF RANGE
K	39	1	He	7.440	27.3	187624	1.7	110	
Ca	44	1	He	-6.777	-53.0	3692	9.3	110	
V	51	1	He	-0.016	-33.7	2047	4.3	2	
Cr	52	1	He	0.054	13.9	3659	4.4	2	
Mn	55	1	He	0.113	3.9	1973	3.4	1	
Fe	56	1	He	29.036	11.9	510867	11.5	20	OUT OF RANGE
Co	59	1	He	0.005	38.1	467	12.4	1	
Ni	60	1	He	0.003	71.9	921	1.4	2	
Cu	65	1	He	-1.094	-2.2	4495	5.9	1	
Zn	66	1	He	-0.002	-1109.9	3718	0.5	20	
As	75	1	He	0.004	64.4	114	6.1	1	
Se	78	1	He	0.004	1911.4	175	7.6	2	
Sr	88	1	He	-0.671	-0.5	1527	2.4	2	
Mo	95	1	He	0.598	8.3	6050	6.8	2	
Ag	107	1	He	-0.003	-12.6	267	3.3	1	
Cd	111	1	He	0.003	167.5	38	58.7	1	
Sn	118	1	He	2.319	1.4	27065	1.0	2	OUT OF RANGE
Sb	123	1	He	0.029	43.3	897	15.5	1	
Ba	137	1	He	0.050	15.4	378	10.7	1	
Ce	140	1	He	0.009	18.9	957	10.8	1	
Tl	205	1	He	0.002	72.8	548	11.3	1	
Pb	208	1	He	0.012	3.0	1845	3.1	1	
U	238	1	He	-0.004	-18.8	664	8.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	659829	0.64	683823	96.49	80	120	
Ge (IS)	72	1	He	373382	1.26	390615	95.59	80	120	
In-115 (IS)	115	1	He	3448597	0.83	3613234	95.44	80	120	
Tb-159 (IS)	159	1	He	8033181	1.58	8473761	94.80	80	120	
Bi-209 (IS)	209	1	He	5678359	1.60	6042462	93.97	80	120	

Sample Report

Sample Table

Sample Name	lcs 440-325847/2-a@20
Data File Name	072SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:30:25-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3102
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	105.163	105.163	0.94	21971	0.78	100	>LDR
Na	23	1	He	1002.707	1002.707	0.95	4373685	0.61	75000	
Mg	24	1	He	535.772	535.772	1.34	1160974	1.55	125000	
Al	27	1	He	113.885	113.885	1.75	116833	0.70	4000	
K	39	1	He	1108.755	1108.755	1.57	2251082	1.62	100000	
Ca	44	1	He	757.520	757.520	0.37	78614	1.65	250000	
V	51	1	He	108.148	108.148	1.48	1766124	2.18	4000	
Cr	52	1	He	107.237	107.237	2.18	2068004	2.07	4000	
Mn	55	1	He	110.705	110.705	3.57	1395734	2.67	4000	
Fe	56	1	He	118.055	118.055	1.51	2039822	0.87	40000	
Co	59	1	He	107.432	107.432	1.33	3141772	1.31	4000	
Ni	60	1	He	106.511	106.511	1.24	792899	0.62	4000	
[Cu]	63	1	He	105.142	105.142	1.60	2141799	0.29	4000	
Cu	65	1	He	105.019	105.019	1.61	1027640	0.61	4000	
Zn	66	1	He	104.341	104.341	0.37	380461	0.79	4000	
As	75	1	He	105.371	105.371	0.20	244707	0.81	4000	
Se	78	1	He	100.459	100.459	0.80	21127	1.28	4000	
Sr	88	1	He	109.194	109.194	0.93	1802559	1.30	4000	
Mo	95	1	He	107.487	107.487	1.02	1000792	0.13	4000	
Ag	107	1	He	47.172	47.172	0.82	1328846	0.98	100	
Cd	111	1	He	104.322	104.322	0.39	501784	0.86	3500	
Sn	118	1	He	109.403	109.403	0.74	1228675	0.83	4000	
Sb	123	1	He	109.092	109.092	0.92	1237979	0.31	4000	
Ba	137	1	He	106.109	106.109	1.21	530934	1.19	4000	
Ce	140	1	He	-0.001	-0.001	-71.73	334	8.06	4000	
Tl	205	1	He	104.102	104.102	1.96	5960680	1.31	3500	
Pb	208	1	He	107.644	107.644	1.75	8063479	0.46	4000	
U	238	1	He	-0.010	-0.010	-6.81	187	27.72	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	660557	1.30	683823	96.60	80	120	
Ge (IS)	72	1	He	373271	0.72	390615	95.56	80	120	
In-115 (IS)	115	1	He	3456229	1.16	3613234	95.65	80	120	
Tb-159 (IS)	159	1	He	7955813	0.69	8473761	93.89	80	120	
Bi-209 (IS)	209	1	He	5578035	1.31	6042462	92.31	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-a@20
Data File Name	073SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:32:47-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3103
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.097	1.097	13.63	254	13.12	100	
Na	23	1	He	2843.184	2843.184	0.13	11771575	1.03	75000	
Mg	24	1	He	7725.613	7725.613	1.39	16865112	0.81	125000	
Al	27	1	He	22325.551	22325.551	0.76	23788555	1.36	4000	>LDR
K	39	1	He	5148.250	5148.250	1.34	10232118	0.66	100000	
Ca	44	1	He	9839.079	9839.079	0.91	1009521	0.15	250000	
V	51	1	He	89.665	89.665	1.67	1526343	1.92	4000	
Cr	52	1	He	18.078	18.078	0.31	365606	1.01	4000	
Mn	55	1	He	534.450	534.450	0.68	7021345	0.71	4000	
Fe	56	1	He	32703.389	32703.389	1.38	585173826	0.50	40000	
Co	59	1	He	10.945	10.945	1.13	333853	0.68	4000	
Ni	60	1	He	13.604	13.604	1.28	106355	0.32	4000	
[Cu]	63	1	He	121.657	121.657	1.67	2577406	1.28	4000	
Cu	65	1	He	121.909	121.909	0.69	1240748	0.45	4000	
Zn	66	1	He	75.026	75.026	0.69	274120	0.67	4000	
As	75	1	He	35.577	35.577	1.64	82536	0.99	4000	
Se	78	1	He	1.325	1.325	7.17	450	5.15	4000	
Sr	88	1	He	177.118	177.118	0.64	2793854	0.84	4000	
Mo	95	1	He	3.953	3.953	2.60	35726	1.97	4000	
Ag	107	1	He	0.133	0.133	4.48	3929	4.73	100	
Cd	111	1	He	0.275	0.275	9.72	1290	9.86	3500	
Sn	118	1	He	2.543	2.543	0.48	28402	1.08	4000	
Sb	123	1	He	0.641	0.641	1.27	7521	1.06	4000	
Ba	137	1	He	196.519	196.519	1.26	941980	0.64	4000	
Ce	140	1	He	57.654	57.654	2.25	3592653	1.65	4000	
Tl	205	1	He	0.383	0.383	0.20	22118	0.79	3500	
Pb	208	1	He	10.465	10.465	1.32	776712	0.21	4000	
U	238	1	He	6.185	6.185	1.03	466766	0.38	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	688388	1.05	683823	100.67	80	120	
Ge (IS)	72	1	He	372606	0.91	390615	95.39	80	120	
In-115 (IS)	115	1	He	3311345	0.63	3613234	91.64	80	120	
Tb-159 (IS)	159	1	He	7856216	0.71	8473761	92.71	80	120	
Bi-209 (IS)	209	1	He	5520570	1.11	6042462	91.36	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-b ms@20
Data File Name	074SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:35:12-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3104
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	93.900	93.900	2.73	20750	2.79	100	>LDR
Na	23	1	He	3903.582	3903.582	1.43	16161969	0.72	75000	
Mg	24	1	He	8496.338	8496.338	1.51	18817492	0.81	125000	
Al	27	1	He	25674.899	25674.899	0.89	27760335	0.26	4000	>LDR
K	39	1	He	6529.795	6529.795	0.40	13121373	0.75	100000	
Ca	44	1	He	12375.819	12375.819	1.01	1287410	0.66	250000	
V	51	1	He	188.235	188.235	0.79	3248822	0.23	4000	
Cr	52	1	He	112.778	112.778	0.68	2299980	0.78	4000	
Mn	55	1	He	637.873	637.873	0.70	8504254	1.26	4000	
Fe	56	1	He	35349.168	35349.168	1.26	641883512	0.57	40000	
Co	59	1	He	106.382	106.382	1.14	3290164	1.03	4000	
Ni	60	1	He	106.581	106.581	1.05	839106	0.44	4000	
[Cu]	63	1	He	220.992	220.992	2.06	4722641	1.38	4000	
Cu	65	1	He	228.680	228.680	0.18	2347995	0.77	4000	
Zn	66	1	He	174.450	174.450	0.88	632303	0.30	4000	
As	75	1	He	137.871	137.871	0.90	319493	0.22	4000	
Se	78	1	He	96.147	96.147	1.56	20185	0.62	4000	
Sr	88	1	He	275.282	275.282	1.11	4329168	0.82	4000	
Mo	95	1	He	109.756	109.756	0.70	977693	0.35	4000	
Ag	107	1	He	53.600	53.600	0.71	1444486	0.45	100	
Cd	111	1	He	102.029	102.029	0.68	469493	0.29	3500	
Sn	118	1	He	109.351	109.351	0.84	1174907	0.66	4000	
Sb	123	1	He	94.509	94.509	0.37	1026155	0.31	4000	
Ba	137	1	He	289.993	289.993	0.80	1387979	0.52	4000	
Ce	140	1	He	67.014	67.014	0.90	4170029	0.60	4000	
Tl	205	1	He	99.038	99.038	0.46	5635840	1.04	3500	
Pb	208	1	He	113.983	113.983	0.88	8420422	1.11	4000	
U	238	1	He	7.078	7.078	0.91	537426	0.82	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	698561	0.71	683823	102.16	80	120	
Ge (IS)	72	1	He	372528	1.03	390615	95.37	80	120	
In-115 (IS)	115	1	He	3306478	0.44	3613234	91.51	80	120	
Tb-159 (IS)	159	1	He	7906300	1.22	8473761	93.30	80	120	
Bi-209 (IS)	209	1	He	5500333	1.09	6042462	91.03	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-c msd@20
Data File Name	075SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:37:30-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3105
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	96.766	96.766	2.03	21213	2.00	100	>LDR
Na	23	1	He	3885.837	3885.837	0.41	15964399	0.46	75000	
Mg	24	1	He	9210.039	9210.039	0.23	20233699	0.29	125000	
Al	27	1	He	26570.834	26570.834	0.75	28501670	0.78	4000	>LDR
K	39	1	He	6610.344	6610.344	1.27	13175423	1.31	100000	
Ca	44	1	He	11675.719	11675.719	1.35	1205219	1.32	250000	
V	51	1	He	225.953	225.953	0.65	3868441	0.62	4000	
Cr	52	1	He	116.508	116.508	1.44	2357097	1.42	4000	
Mn	55	1	He	695.110	695.110	1.32	9193401	1.33	4000	
Fe	56	1	He	37732.037	37732.037	1.18	679742622	1.22	40000	>LDR
Co	59	1	He	108.074	108.074	0.96	3315995	1.01	4000	
Ni	60	1	He	108.667	108.667	0.26	848745	0.26	4000	
[Cu]	63	1	He	217.849	217.849	0.36	4619357	0.38	4000	
Cu	65	1	He	224.689	224.689	0.15	2288935	0.13	4000	
Zn	66	1	He	177.330	177.330	0.62	641224	0.99	4000	
As	75	1	He	182.719	182.719	0.63	422417	0.35	4000	
Se	78	1	He	95.418	95.418	0.17	19989	0.54	4000	
Sr	88	1	He	281.566	281.566	2.24	4418911	1.33	4000	
Mo	95	1	He	108.975	108.975	0.96	968876	0.22	4000	
Ag	107	1	He	53.899	53.899	0.90	1449776	0.51	100	
Cd	111	1	He	102.229	102.229	0.59	469530	0.70	3500	
Sn	118	1	He	107.932	107.932	1.73	1157410	1.02	4000	
Sb	123	1	He	97.311	97.311	1.97	1054458	1.04	4000	
Ba	137	1	He	322.732	322.732	1.78	1541619	0.81	4000	
Ce	140	1	He	67.852	67.852	1.82	4213830	0.84	4000	
Tl	205	1	He	98.481	98.481	1.15	5642627	0.67	3500	
Pb	208	1	He	115.146	115.146	1.07	8452291	0.72	4000	
U	238	1	He	7.361	7.361	0.79	562771	1.13	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	693004	0.06	683823	101.34	80	120	
Ge (IS)	72	1	He	371658	0.37	390615	95.15	80	120	
In-115 (IS)	115	1	He	3300288	0.98	3613234	91.34	80	120	
Tb-159 (IS)	159	1	He	7960814	0.79	8473761	93.95	80	120	
Bi-209 (IS)	209	1	He	5465858	1.65	6042462	90.46	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-1-a@20
Data File Name	076SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:39:49-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3106
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	93.403	93.403	3.10	20218	2.87	100	>LDR
Na	23	1	He	5149.943	5149.943	0.10	20689221	0.51	75000	
Mg	24	1	He	10078.807	10078.807	0.96	21859913	0.53	125000	
Al	27	1	He	22223.008	22223.008	0.23	23538882	0.40	4000	>LDR
K	39	1	He	7544.924	7544.924	1.37	14823456	0.94	100000	
Ca	44	1	He	14921.396	14921.396	1.42	1519620	1.00	250000	
V	51	1	He	180.615	180.615	0.89	3053997	1.29	4000	
Cr	52	1	He	109.138	109.138	0.69	2180430	0.47	4000	
Mn	55	1	He	629.459	629.459	1.20	8220471	0.81	4000	
Fe	56	1	He	33780.348	33780.348	1.29	600899141	0.91	40000	
Co	59	1	He	103.846	103.846	0.58	3146251	0.32	4000	
Ni	60	1	He	102.307	102.307	0.11	789104	0.32	4000	
[Cu]	63	1	He	206.242	206.242	0.68	4320163	0.57	4000	
Cu	65	1	He	213.546	213.546	0.66	2148917	0.85	4000	
Zn	66	1	He	165.521	165.521	0.53	597911	0.31	4000	
As	75	1	He	131.055	131.055	1.20	302574	0.76	4000	
Se	78	1	He	91.382	91.382	0.42	19124	0.81	4000	
Sr	88	1	He	275.233	275.233	0.90	4351072	0.52	4000	
Mo	95	1	He	101.902	101.902	0.72	912518	0.44	4000	
Ag	107	1	He	98.064	98.064	1.25	2656305	0.87	100	>LDR
Cd	111	1	He	95.430	95.430	0.17	441435	0.31	3500	
Sn	118	1	He	101.962	101.962	0.46	1101331	0.29	4000	
Sb	123	1	He	100.680	100.680	0.31	1098848	0.29	4000	
Ba	137	1	He	294.201	294.201	0.34	1415513	0.36	4000	
Ce	140	1	He	153.452	153.452	0.31	9598390	0.34	4000	
Tl	205	1	He	91.554	91.554	1.67	5272608	1.43	3500	
Pb	208	1	He	107.073	107.073	0.64	7873720	1.31	4000	
U	238	1	He	99.103	99.103	0.55	7603822	0.59	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684312	0.43	683823	100.07	80	120	
Ge (IS)	72	1	He	371134	0.44	390615	95.01	80	120	
In-115 (IS)	115	1	He	3323791	0.38	3613234	91.99	80	120	
Tb-159 (IS)	159	1	He	8001422	0.25	8473761	94.43	80	120	
Bi-209 (IS)	209	1	He	5474815	0.78	6042462	90.61	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-2-a PDS@20
Data File Name	077SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:42:06-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.005	1.005	22.56	237	21.27	100	
Na	23	1	He	4327.826	4327.826	1.66	17765543	1.67	75000	
Mg	24	1	He	8706.295	8706.295	0.62	19190973	0.42	125000	
Al	27	1	He	24333.967	24333.967	0.92	26186808	1.09	4000	>LDR
K	39	1	He	6253.631	6253.631	1.90	12514287	1.75	100000	
Ca	44	1	He	13327.198	13327.198	0.58	1379491	0.68	250000	
V	51	1	He	76.199	76.199	1.55	1310418	1.69	4000	
Cr	52	1	He	18.665	18.665	0.12	381160	0.15	4000	
Mn	55	1	He	578.460	578.460	0.86	7675316	0.67	4000	
Fe	56	1	He	28966.399	28966.399	0.87	523511784	0.73	40000	
Co	59	1	He	10.006	10.006	1.55	308299	1.34	4000	
Ni	60	1	He	13.207	13.207	1.15	104316	1.05	4000	
[Cu]	63	1	He	46.006	46.006	0.96	1005935	0.74	4000	
Cu	65	1	He	46.805	46.805	0.20	490892	0.35	4000	
Zn	66	1	He	68.537	68.537	1.25	251408	0.77	4000	
As	75	1	He	23.314	23.314	1.03	54272	0.16	4000	
Se	78	1	He	1.462	1.462	9.88	479	6.32	4000	
Sr	88	1	He	163.252	163.252	0.98	2598754	0.78	4000	
Mo	95	1	He	4.184	4.184	1.21	38126	1.14	4000	
Ag	107	1	He	0.174	0.174	6.60	5066	6.36	100	
Cd	111	1	He	0.230	0.230	15.70	1094	15.23	3500	
Sn	118	1	He	2.280	2.280	2.28	25793	2.02	4000	
Sb	123	1	He	0.744	0.744	2.30	8716	1.97	4000	
Ba	137	1	He	187.253	187.253	0.49	905530	0.36	4000	
Ce	140	1	He	59.247	59.247	0.97	3724806	1.02	4000	
Tl	205	1	He	0.335	0.335	2.43	19694	1.50	3500	
Pb	208	1	He	10.946	10.946	0.19	808699	0.53	4000	
U	238	1	He	3.331	3.331	1.06	256131	1.49	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	695241	0.21	683823	101.67	80	120	
Ge (IS)	72	1	He	373630	1.13	390615	95.65	80	120	
In-115 (IS)	115	1	He	3340544	0.20	3613234	92.45	80	120	
Tb-159 (IS)	159	1	He	7989922	1.10	8473761	94.29	80	120	
Bi-209 (IS)	209	1	He	5495402	0.65	6042462	90.95	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	078SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:44:31-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.009	0.009	349.28	17	39.99	100	
Na	23	1	He	-125.535	-125.535	-0.47	128933	1.37	75000	
Mg	24	1	He	-11.620	-11.620	-7.31	16954	10.00	125000	
Al	27	1	He	14.887	14.887	16.85	15398	16.06	4000	
K	39	1	He	-8.478	-8.478	-7.92	155697	0.42	100000	
Ca	44	1	He	-24.014	-24.014	-8.00	1977	8.91	250000	
V	51	1	He	0.049	0.049	6.02	3071	1.73	4000	
Cr	52	1	He	0.027	0.027	37.87	3106	6.18	4000	
Mn	55	1	He	0.380	0.380	20.61	5257	18.22	4000	
Fe	56	1	He	22.245	22.245	13.15	388992	12.44	40000	
Co	59	1	He	0.032	0.032	15.16	1229	10.77	4000	
Ni	60	1	He	0.066	0.066	19.12	1370	7.13	4000	
[Cu]	63	1	He	-1.142	-1.142	-0.99	9783	2.49	4000	
Cu	65	1	He	-1.069	-1.069	-2.88	4677	6.68	4000	
Zn	66	1	He	0.570	0.570	17.91	5715	5.79	4000	
As	75	1	He	0.038	0.038	7.80	190	3.03	4000	
Se	78	1	He	0.060	0.060	78.81	184	5.16	4000	
Sr	88	1	He	-0.617	-0.617	-3.22	2372	13.51	4000	
Mo	95	1	He	0.039	0.039	57.01	852	23.78	4000	
Ag	107	1	He	0.018	0.018	16.25	836	9.81	100	
Cd	111	1	He	0.017	0.017	34.40	104	26.58	3500	
Sn	118	1	He	0.047	0.047	12.45	1612	3.73	4000	
Sb	123	1	He	0.001	0.001	538.84	581	15.20	4000	
Ba	137	1	He	0.132	0.132	14.78	779	12.36	4000	
Ce	140	1	He	0.039	0.039	12.99	2881	11.43	4000	
Tl	205	1	He	0.033	0.033	8.12	2367	7.30	3500	
Pb	208	1	He	0.035	0.035	8.25	3632	6.49	4000	
U	238	1	He	0.008	0.008	3.18	1535	1.74	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650875	0.70	683823	95.18	80	120	
Ge (IS)	72	1	He	369199	0.88	390615	94.52	80	120	
In-115 (IS)	115	1	He	3402229	0.31	3613234	94.16	80	120	
Tb-159 (IS)	159	1	He	7972540	0.85	8473761	94.09	80	120	
Bi-209 (IS)	209	1	He	5686495	0.43	6042462	94.11	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	079SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:47:04-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.043	0.043	166.44	23	62.27	100	
Na	23	1	He	-126.354	-126.354	-0.07	124589	0.44	75000	
Mg	24	1	He	-14.331	-14.331	-1.38	11256	3.37	125000	
Al	27	1	He	7.831	7.831	5.60	8206	5.11	4000	
K	39	1	He	-8.759	-8.759	-10.71	153566	1.34	100000	
Ca	44	1	He	-28.092	-28.092	-5.93	1567	9.97	250000	
V	51	1	He	0.032	0.032	30.43	2761	5.43	4000	
Cr	52	1	He	0.016	0.016	41.16	2854	4.09	4000	
Mn	55	1	He	0.198	0.198	10.13	2970	8.11	4000	
Fe	56	1	He	12.489	12.489	4.81	221658	4.33	40000	
Co	59	1	He	0.028	0.028	5.86	1110	4.17	4000	
Ni	60	1	He	0.057	0.057	8.21	1291	2.59	4000	
[Cu]	63	1	He	-1.173	-1.173	-0.77	9078	2.16	4000	
Cu	65	1	He	-1.091	-1.091	-2.14	4419	4.82	4000	
Zn	66	1	He	0.451	0.451	16.82	5286	5.64	4000	
As	75	1	He	0.030	0.030	24.29	173	10.20	4000	
Se	78	1	He	0.024	0.024	307.03	177	8.65	4000	
Sr	88	1	He	-0.660	-0.660	-0.14	1686	0.30	4000	
Mo	95	1	He	0.024	0.024	71.64	713	22.91	4000	
Ag	107	1	He	0.011	0.011	14.33	641	6.03	100	
Cd	111	1	He	0.023	0.023	42.18	131	34.70	3500	
Sn	118	1	He	0.007	0.007	102.08	1166	7.55	4000	
Sb	123	1	He	-0.009	-0.009	-18.99	467	2.86	4000	
Ba	137	1	He	0.083	0.083	16.07	532	11.42	4000	
Ce	140	1	He	0.021	0.021	15.87	1709	11.37	4000	
Tl	205	1	He	0.026	0.026	4.20	1928	3.87	3500	
Pb	208	1	He	0.024	0.024	6.00	2779	4.84	4000	
U	238	1	He	0.000	0.000	-878.27	916	11.78	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	644078	0.22	683823	94.19	80	120	
Ge (IS)	72	1	He	368573	0.54	390615	94.36	80	120	
In-115 (IS)	115	1	He	3392653	1.11	3613234	93.90	80	120	
Tb-159 (IS)	159	1	He	7958096	0.79	8473761	93.91	80	120	
Bi-209 (IS)	209	1	He	5654573	1.10	6042462	93.58	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	080_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:49:38-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.801	1.424	10451	1.99	50	99.6	89.5	110.49	
Na	23	1	He	1171.983	1.957	5028008	1.35	1250	93.8	89.5	110.49	
Mg	24	1	He	1266.588	1.162	2697437	0.43	1250	101.3	89.5	110.49	
Al	27	1	He	55.228	2.801	57071	2.13	50	110.5	89.5	110.49	
K	39	1	He	1287.947	1.527	2595839	0.61	1250	103.0	89.5	110.49	
Ca	44	1	He	2508.273	1.044	251088	0.19	2500	100.3	89.5	110.49	
V	51	1	He	49.500	0.410	812440	0.57	50	99.0	89.5	110.49	
Cr	52	1	He	48.953	0.353	948867	0.88	50	97.9	89.5	110.49	
Mn	55	1	He	50.131	0.495	634712	0.39	50	100.3	89.5	110.49	
Fe	56	1	He	510.582	0.663	8811083	0.78	500	102.1	89.5	110.49	
Co	59	1	He	49.853	1.088	1463386	1.84	50	99.7	89.5	110.49	
Ni	60	1	He	49.990	1.585	373941	0.82	50	100.0	89.5	110.49	
Cu	65	1	He	48.721	0.677	486586	0.92	50	97.4	89.5	110.49	
Zn	66	1	He	51.731	0.699	191318	0.40	50	103.5	89.5	110.49	
As	75	1	He	49.607	0.317	115753	0.64	50	99.2	89.5	110.49	
Se	78	1	He	48.483	1.529	10330	1.51	50	97.0	89.5	110.49	
Sr	88	1	He	47.695	1.278	788496	0.22	50	95.4	89.5	110.49	
Mo	95	1	He	50.525	1.711	467216	0.71	50	101.1	89.5	110.49	
Ag	107	1	He	49.976	1.269	1397399	0.20	50	100.0	89.5	110.49	
Cd	111	1	He	49.998	0.617	238730	0.87	50	100.0	89.5	110.49	
Sn	118	1	He	50.154	1.231	559697	0.67	50	100.3	89.5	110.49	
Sb	123	1	He	50.223	0.638	566075	0.93	50	100.4	89.5	110.49	
Ba	137	1	He	50.216	1.762	249463	0.61	50	100.4	89.5	110.49	
Ce	140	1	He	51.168	1.969	3303342	0.77	50	102.3	89.5	110.49	
Tl	205	1	He	49.245	0.569	2874328	0.56	50	98.5	89.5	110.49	
Pb	208	1	He	49.540	0.737	3839335	0.39	50	99.1	89.5	110.49	
U	238	1	He	49.320	1.128	3835460	1.46	50	98.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	662895	0.85	683823	96.94	80	120	
Ge (IS)	72	1	He	374876	0.91	390615	95.97	80	120	
In-115 (IS)	115	1	He	3430916	1.46	3613234	94.95	80	120	
Tb-159 (IS)	159	1	He	8108954	1.13	8473761	95.69	80	120	
Bi-209 (IS)	209	1	He	5769593	1.06	6042462	95.48	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	081_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:52:04-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.079	63.4	31	32.7	0.5	
Na	23	1	He	-128.422	-0.1	119015	0.5	110	
Mg	24	1	He	-15.961	-1.5	8073	6.4	110	
Al	27	1	He	3.818	3.5	4279	3.7	10	
K	39	1	He	-11.790	-9.1	150565	0.8	110	
Ca	44	1	He	-34.235	-0.4	997	0.9	110	
V	51	1	He	0.008	74.8	2414	4.6	2	
Cr	52	1	He	0.012	50.0	2832	4.2	2	
Mn	55	1	He	0.124	11.2	2100	8.8	1	
Fe	56	1	He	6.251	1.2	119240	1.1	20	
Co	59	1	He	0.026	11.4	1072	8.8	1	
Ni	60	1	He	0.043	12.5	1206	4.0	2	
Cu	65	1	He	-1.144	-2.0	3987	5.6	1	
Zn	66	1	He	0.082	72.8	4034	5.2	20	
As	75	1	He	0.029	43.1	171	16.8	1	
Se	78	1	He	0.007	643.6	176	5.1	2	
Sr	88	1	He	-0.694	-0.9	1153	9.3	2	
Mo	95	1	He	0.059	5.8	1052	3.4	2	
Ag	107	1	He	0.031	45.8	1220	32.9	1	
Cd	111	1	He	0.014	61.4	90	44.9	1	
Sn	118	1	He	0.118	11.3	2420	6.2	2	
Sb	123	1	He	0.225	12.2	3117	10.4	1	
Ba	137	1	He	0.065	19.7	450	14.3	1	
Ce	140	1	He	0.017	31.3	1486	23.6	1	
Tl	205	1	He	0.034	15.0	2408	11.7	1	
Pb	208	1	He	0.030	25.0	3274	17.8	1	
U	238	1	He	0.026	10.7	2899	6.7	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655167	0.81	683823	95.81	80	120	
Ge (IS)	72	1	He	374674	0.21	390615	95.92	80	120	
In-115 (IS)	115	1	He	3445594	0.61	3613234	95.36	80	120	
Tb-159 (IS)	159	1	He	7925225	0.59	8473761	93.53	80	120	
Bi-209 (IS)	209	1	He	5711591	0.21	6042462	94.52	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-2-a@20
Data File Name	082SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:54:38-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3108
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.200	0.200	61.06	57	44.41	100	
Na	23	1	He	831.122	831.122	1.68	3733491	0.97	75000	
Mg	24	1	He	1838.717	1838.717	1.40	3888868	1.71	125000	
Al	27	1	He	5124.164	5124.164	0.28	5246552	0.80	4000	>LDR
K	39	1	He	1334.829	1334.829	1.57	2678337	1.69	100000	
Ca	44	1	He	2732.565	2732.565	0.62	272561	0.39	250000	
V	51	1	He	16.044	16.044	0.25	264317	0.85	4000	
Cr	52	1	He	4.408	4.408	0.97	87651	0.14	4000	
Mn	55	1	He	127.764	127.764	1.07	1613200	0.30	4000	
Fe	56	1	He	6194.627	6194.627	0.72	106521269	0.24	40000	
Co	59	1	He	2.191	2.191	1.74	64474	0.88	4000	
Ni	60	1	He	2.865	2.865	1.69	22238	2.35	4000	
[Cu]	63	1	He	9.086	9.086	0.53	215385	0.42	4000	
Cu	65	1	He	9.245	9.245	0.15	104344	0.82	4000	
Zn	66	1	He	14.189	14.189	0.59	55070	0.60	4000	
As	75	1	He	4.733	4.733	1.06	11114	0.69	4000	
Se	78	1	He	0.150	0.150	45.37	206	6.90	4000	
Sr	88	1	He	30.590	30.590	0.45	511332	0.52	4000	
Mo	95	1	He	1.135	1.135	2.39	11010	2.56	4000	
Ag	107	1	He	0.023	0.023	12.42	981	7.82	100	
Cd	111	1	He	0.049	0.049	8.52	258	7.90	3500	
Sn	118	1	He	0.511	0.511	4.86	6809	4.07	4000	
Sb	123	1	He	0.190	0.190	8.57	2719	6.71	4000	
Ba	137	1	He	37.368	37.368	0.38	186092	0.18	4000	
Ce	140	1	He	11.518	11.518	0.50	745569	0.49	4000	
Tl	205	1	He	0.062	0.062	2.24	4011	3.40	3500	
Pb	208	1	He	2.193	2.193	0.31	169228	0.34	4000	
U	238	1	He	0.666	0.666	1.39	52007	0.50	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661450	0.87	683823	96.73	80	120	
Ge (IS)	72	1	He	374073	1.15	390615	95.77	80	120	
In-115 (IS)	115	1	He	3438231	0.28	3613234	95.16	80	120	
Tb-159 (IS)	159	1	He	8001286	1.77	8473761	94.42	80	120	
Bi-209 (IS)	209	1	He	5714421	0.28	6042462	94.57	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-3-a SD@100
Data File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:57:07-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3109
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.899	0.899	17.44	217	15.61	100	
Na	23	1	He	1457.052	1457.052	1.09	6505864	0.92	75000	
Mg	24	1	He	8221.215	8221.215	0.89	18418369	1.01	125000	
Al	27	1	He	24816.536	24816.536	1.32	27139483	1.54	4000	>LDR
K	39	1	He	5798.231	5798.231	1.64	11805359	1.95	100000	
Ca	44	1	He	10674.628	10674.628	1.03	1123800	1.38	250000	
V	51	1	He	94.983	94.983	2.82	1659189	2.46	4000	
Cr	52	1	He	22.331	22.331	1.05	462876	1.34	4000	
Mn	55	1	He	606.982	606.982	1.20	8184136	0.61	4000	
Fe	56	1	He	35241.203	35241.203	1.62	647215192	1.06	40000	
Co	59	1	He	10.976	10.976	0.74	343621	0.64	4000	
Ni	60	1	He	15.291	15.291	1.30	122584	1.13	4000	
[Cu]	63	1	He	46.289	46.289	0.99	1028345	1.19	4000	
Cu	65	1	He	46.750	46.750	1.23	498271	0.96	4000	
Zn	66	1	He	72.474	72.474	0.59	269529	0.86	4000	
As	75	1	He	16.107	16.107	0.61	38078	0.99	4000	
Se	78	1	He	1.195	1.195	7.86	430	4.73	4000	
Sr	88	1	He	167.898	167.898	1.23	2681226	0.23	4000	
Mo	95	1	He	2.198	2.198	1.60	20327	1.52	4000	
Ag	107	1	He	0.125	0.125	3.13	3762	4.10	100	
Cd	111	1	He	0.217	0.217	7.74	1034	7.76	3500	
Sn	118	1	He	2.341	2.341	1.24	26552	2.17	4000	
Sb	123	1	He	0.850	0.850	2.62	9901	1.70	4000	
Ba	137	1	He	208.996	208.996	2.31	1013913	1.00	4000	
Ce	140	1	He	63.231	63.231	2.40	3988028	1.29	4000	
Tl	205	1	He	0.316	0.316	1.49	18831	0.83	3500	
Pb	208	1	He	11.203	11.203	1.23	844972	0.88	4000	
U	238	1	He	4.628	4.628	1.46	359564	0.25	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	706524	0.61	683823	103.32	80	120	
Ge (IS)	72	1	He	379072	0.38	390615	97.04	80	120	
In-115 (IS)	115	1	He	3351929	1.29	3613234	92.77	80	120	
Tb-159 (IS)	159	1	He	8082637	1.21	8473761	95.38	80	120	
Bi-209 (IS)	209	1	He	5610555	1.25	6042462	92.85	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-4-a@20
Data File Name	084SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T18:59:33-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3110
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.824	0.824	18.65	201	17.41	100	
Na	23	1	He	1743.974	1743.974	0.48	7698175	0.70	75000	
Mg	24	1	He	7727.019	7727.019	0.21	17399773	0.16	125000	
Al	27	1	He	24289.956	24289.956	0.69	26694780	0.38	4000	>LDR
K	39	1	He	4164.103	4164.103	0.91	8572575	0.60	100000	
Ca	44	1	He	9042.592	9042.592	0.65	957405	0.68	250000	
V	51	1	He	109.460	109.460	1.17	1921386	1.52	4000	
Cr	52	1	He	26.807	26.807	0.53	557831	0.26	4000	
Mn	55	1	He	583.090	583.090	1.03	7901410	1.09	4000	
Fe	56	1	He	39315.407	39315.407	1.37	725644113	1.05	40000	>LDR
Co	59	1	He	11.972	11.972	1.23	376652	0.94	4000	
Ni	60	1	He	16.288	16.288	0.41	131163	0.56	4000	
[Cu]	63	1	He	42.581	42.581	0.53	953488	0.73	4000	
Cu	65	1	He	43.057	43.057	0.25	462481	0.12	4000	
Zn	66	1	He	73.940	73.940	0.36	275184	0.38	4000	
As	75	1	He	13.245	13.245	0.12	31363	0.18	4000	
Se	78	1	He	1.332	1.332	4.98	459	3.13	4000	
Sr	88	1	He	157.585	157.585	2.03	2570727	0.87	4000	
Mo	95	1	He	2.141	2.141	4.67	20224	3.30	4000	
Ag	107	1	He	0.109	0.109	4.88	3390	5.22	100	
Cd	111	1	He	0.161	0.161	4.29	792	4.09	3500	
Sn	118	1	He	2.128	2.128	1.22	24751	1.33	4000	
Sb	123	1	He	0.785	0.785	4.41	9388	3.86	4000	
Ba	137	1	He	205.891	205.891	0.82	1020254	0.52	4000	
Ce	140	1	He	69.959	69.959	0.18	4507209	1.44	4000	
Tl	205	1	He	0.296	0.296	3.32	17670	2.57	3500	
Pb	208	1	He	11.112	11.112	1.05	834222	0.22	4000	
U	238	1	He	5.350	5.350	0.61	415006	0.14	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710030	0.35	683823	103.83	80	120	
Ge (IS)	72	1	He	379462	0.30	390615	97.14	80	120	
In-115 (IS)	115	1	He	3423311	1.31	3613234	94.74	80	120	
Tb-159 (IS)	159	1	He	8071669	0.68	8473761	95.25	80	120	
Bi-209 (IS)	209	1	He	5584192	1.01	6042462	92.42	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-5-a@20
Data File Name	085SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:01:59-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3111
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.828	0.828	29.40	200	27.44	100	
Na	23	1	He	3416.733	3416.733	1.19	14320151	1.35	75000	
Mg	24	1	He	8189.588	8189.588	1.06	18259998	1.16	125000	
Al	27	1	He	25128.879	25128.879	0.84	27348643	0.43	4000	>LDR
K	39	1	He	4815.380	4815.380	0.37	9788499	0.74	100000	
Ca	44	1	He	10993.634	10993.634	0.24	1151694	0.65	250000	
V	51	1	He	88.987	88.987	0.66	1547274	0.54	4000	
Cr	52	1	He	21.667	21.667	0.92	447050	1.15	4000	
Mn	55	1	He	740.721	740.721	1.01	9940210	1.43	4000	
Fe	56	1	He	33023.134	33023.134	1.17	603612172	1.17	40000	
Co	59	1	He	11.750	11.750	0.40	366098	0.81	4000	
Ni	60	1	He	15.885	15.885	0.86	126704	1.15	4000	
[Cu]	63	1	He	40.090	40.090	0.47	891037	0.24	4000	
Cu	65	1	He	40.504	40.504	0.61	431794	1.00	4000	
Zn	66	1	He	70.597	70.597	0.88	261810	1.75	4000	
As	75	1	He	18.850	18.850	0.11	44400	1.00	4000	
Se	78	1	He	1.853	1.853	5.38	567	4.23	4000	
Sr	88	1	He	177.932	177.932	1.45	2837991	0.60	4000	
Mo	95	1	He	3.950	3.950	3.52	36095	2.47	4000	
Ag	107	1	He	0.110	0.110	7.99	3341	6.59	100	
Cd	111	1	He	0.159	0.159	11.02	766	9.63	3500	
Sn	118	1	He	2.037	2.037	3.80	23213	2.60	4000	
Sb	123	1	He	0.855	0.855	2.33	9956	1.38	4000	
Ba	137	1	He	239.395	239.395	1.08	1160376	0.17	4000	
Ce	140	1	He	137.354	137.354	1.68	8654884	0.94	4000	
Tl	205	1	He	0.305	0.305	0.52	18354	1.93	3500	
Pb	208	1	He	11.220	11.220	1.36	834771	0.24	4000	
U	238	1	He	5.638	5.638	1.99	441061	1.07	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	703143	0.42	683823	102.83	80	120	
Ge (IS)	72	1	He	377858	1.10	390615	96.73	80	120	
In-115 (IS)	115	1	He	3348651	1.03	3613234	92.68	80	120	
Tb-159 (IS)	159	1	He	8143187	1.43	8473761	96.10	80	120	
Bi-209 (IS)	209	1	He	5534718	1.41	6042462	91.60	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-6-a@20
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:04:24-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3112
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.982	0.982	4.30	237	5.08	100	
Na	23	1	He	4694.059	4694.059	1.40	19639398	1.86	75000	
Mg	24	1	He	8720.807	8720.807	1.22	19645580	0.39	125000	
Al	27	1	He	27566.662	27566.662	1.91	30319163	2.02	4000	>LDR
K	39	1	He	4878.148	4878.148	1.33	10017664	0.64	100000	
Ca	44	1	He	11001.527	11001.527	0.99	1164636	0.61	250000	
V	51	1	He	100.218	100.218	0.99	1760720	1.62	4000	
Cr	52	1	He	24.563	24.563	0.61	511747	0.80	4000	
Mn	55	1	He	1066.105	1066.105	0.65	14457705	1.47	4000	
Fe	56	1	He	35593.421	35593.421	0.68	657490907	1.47	40000	
Co	59	1	He	13.907	13.907	0.62	437808	0.72	4000	
Ni	60	1	He	17.632	17.632	0.57	142020	1.42	4000	
[Cu]	63	1	He	42.116	42.116	0.68	944161	0.71	4000	
Cu	65	1	He	43.108	43.108	0.40	463367	1.13	4000	
Zn	66	1	He	74.400	74.400	0.13	273368	0.95	4000	
As	75	1	He	28.573	28.573	0.55	66677	0.84	4000	
Se	78	1	He	1.379	1.379	6.24	463	4.62	4000	
Sr	88	1	He	179.194	179.194	0.35	2858783	0.72	4000	
Mo	95	1	He	7.068	7.068	2.24	64221	1.54	4000	
Ag	107	1	He	0.131	0.131	3.43	3917	2.98	100	
Cd	111	1	He	0.151	0.151	6.29	728	6.63	3500	
Sn	118	1	He	2.199	2.199	1.52	24988	0.63	4000	
Sb	123	1	He	0.701	0.701	1.98	8258	1.78	4000	
Ba	137	1	He	316.658	316.658	1.26	1535118	0.40	4000	
Ce	140	1	He	67.935	67.935	0.48	4282006	0.74	4000	
Tl	205	1	He	0.336	0.336	1.36	19712	1.42	3500	
Pb	208	1	He	11.936	11.936	1.06	892355	0.39	4000	
U	238	1	He	6.167	6.167	1.01	472576	0.99	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	710587	1.17	683823	103.91	80	120	
Ge (IS)	72	1	He	374661	1.00	390615	95.92	80	120	
In-115 (IS)	115	1	He	3349250	0.86	3613234	92.69	80	120	
Tb-159 (IS)	159	1	He	7976671	0.74	8473761	94.13	80	120	
Bi-209 (IS)	209	1	He	5561818	1.16	6042462	92.05	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-7-a@20
Data File Name	087SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:06:49-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3201
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.123	1.123	7.98	268	6.39	100	
Na	23	1	He	2596.496	2596.496	1.26	11131793	0.74	75000	
Mg	24	1	He	9470.657	9470.657	1.02	21292534	1.00	125000	
Al	27	1	He	27439.756	27439.756	1.43	30122495	1.05	4000	>LDR
K	39	1	He	4761.168	4761.168	0.53	9764323	0.57	100000	
Ca	44	1	He	13521.219	13521.219	0.99	1427646	0.22	250000	
V	51	1	He	107.563	107.563	0.96	1885944	0.25	4000	
Cr	52	1	He	25.900	25.900	1.03	538444	0.31	4000	
Mn	55	1	He	1700.794	1700.794	1.72	23018873	0.76	4000	
Fe	56	1	He	40207.322	40207.322	0.85	741290726	0.25	40000	>LDR
Co	59	1	He	17.940	17.940	1.23	563605	0.45	4000	
Ni	60	1	He	19.477	19.477	1.51	156472	0.78	4000	
[Cu]	63	1	He	54.096	54.096	0.82	1200435	0.30	4000	
Cu	65	1	He	55.026	55.026	1.13	585876	0.03	4000	
Zn	66	1	He	84.346	84.346	1.13	311037	0.81	4000	
As	75	1	He	20.750	20.750	0.76	48706	0.07	4000	
Se	78	1	He	1.430	1.430	6.90	476	3.62	4000	
Sr	88	1	He	202.459	202.459	0.82	3242429	0.92	4000	
Mo	95	1	He	4.496	4.496	1.00	41216	1.04	4000	
Ag	107	1	He	0.111	0.111	4.32	3389	4.02	100	
Cd	111	1	He	0.190	0.190	1.32	911	1.12	3500	
Sn	118	1	He	2.133	2.133	1.75	24374	1.83	4000	
Sb	123	1	He	0.872	0.872	3.82	10189	3.79	4000	
Ba	137	1	He	306.048	306.048	0.51	1490239	0.69	4000	
Ce	140	1	He	78.496	78.496	0.28	4969159	0.17	4000	
Tl	205	1	He	0.386	0.386	2.66	22783	2.40	3500	
Pb	208	1	He	12.433	12.433	0.62	929544	0.37	4000	
U	238	1	He	5.613	5.613	0.72	433576	0.31	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	709272	1.09	683823	103.72	80	120	
Ge (IS)	72	1	He	376640	0.76	390615	96.42	80	120	
In-115 (IS)	115	1	He	3363777	0.18	3613234	93.10	80	120	
Tb-159 (IS)	159	1	He	8039057	1.03	8473761	94.87	80	120	
Bi-209 (IS)	209	1	He	5561739	0.47	6042462	92.04	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:09:15-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.050	-0.050	-50.52	4	114.60	100	
Na	23	1	He	-129.274	-129.274	-0.25	113671	1.28	75000	
Mg	24	1	He	-11.549	-11.549	-9.24	16897	13.06	125000	
Al	27	1	He	16.950	16.950	17.51	17270	17.33	4000	
K	39	1	He	-8.331	-8.331	-3.23	154057	0.04	100000	
Ca	44	1	He	-23.289	-23.289	-6.74	2022	7.53	250000	
V	51	1	He	0.039	0.039	29.76	2865	6.61	4000	
Cr	52	1	He	0.008	0.008	62.42	2712	3.58	4000	
Mn	55	1	He	0.829	0.829	20.85	10704	20.03	4000	
Fe	56	1	He	27.720	27.720	13.14	475886	13.02	40000	
Co	59	1	He	0.015	0.015	16.92	742	10.21	4000	
Ni	60	1	He	0.059	0.059	20.55	1302	7.03	4000	
[Cu]	63	1	He	-1.204	-1.204	-1.54	8455	4.35	4000	
Cu	65	1	He	-1.132	-1.132	-1.57	4026	4.43	4000	
Zn	66	1	He	0.477	0.477	16.14	5368	5.11	4000	
As	75	1	He	0.009	0.009	68.97	123	11.48	4000	
Se	78	1	He	0.037	0.037	79.36	179	3.35	4000	
Sr	88	1	He	-0.640	-0.640	-2.34	1983	11.79	4000	
Mo	95	1	He	-0.020	-0.020	-26.76	311	15.20	4000	
Ag	107	1	He	-0.003	-0.003	-50.38	243	19.32	100	
Cd	111	1	He	0.003	0.003	205.29	37	72.15	3500	
Sn	118	1	He	-0.045	-0.045	-13.39	591	11.30	4000	
Sb	123	1	He	-0.025	-0.025	-11.24	287	10.66	4000	
Ba	137	1	He	0.179	0.179	13.93	998	11.86	4000	
Ce	140	1	He	0.045	0.045	18.35	3223	15.89	4000	
Tl	205	1	He	0.002	0.002	72.18	566	14.34	3500	
Pb	208	1	He	0.009	0.009	10.17	1604	4.72	4000	
U	238	1	He	-0.005	-0.005	-8.21	570	5.94	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	642884	0.29	683823	94.01	80	120	
Ge (IS)	72	1	He	367840	0.06	390615	94.17	80	120	
In-115 (IS)	115	1	He	3365847	0.54	3613234	93.15	80	120	
Tb-159 (IS)	159	1	He	7926841	0.84	8473761	93.55	80	120	
Bi-209 (IS)	209	1	He	5652708	0.95	6042462	93.55	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:11:49-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.028	-0.028	-267.99	9	173.21	100	
Na	23	1	He	-130.086	-130.086	-0.14	111403	0.51	75000	
Mg	24	1	He	-14.317	-14.317	-1.93	11337	4.97	125000	
Al	27	1	He	9.939	9.939	4.49	10355	4.17	4000	
K	39	1	He	-10.171	-10.171	-7.88	151665	0.83	100000	
Ca	44	1	He	-28.677	-28.677	-5.52	1518	9.92	250000	
V	51	1	He	0.006	0.006	70.88	2358	2.79	4000	
Cr	52	1	He	0.013	0.013	15.29	2817	1.51	4000	
Mn	55	1	He	0.410	0.410	10.98	5598	9.85	4000	
Fe	56	1	He	15.481	15.481	3.54	272991	3.30	40000	
Co	59	1	He	0.010	0.010	4.00	583	1.71	4000	
Ni	60	1	He	0.042	0.042	52.87	1187	13.80	4000	
[Cu]	63	1	He	-1.223	-1.223	-0.87	8136	2.40	4000	
Cu	65	1	He	-1.162	-1.162	-0.58	3767	1.71	4000	
Zn	66	1	He	0.483	0.483	17.61	5475	5.89	4000	
As	75	1	He	0.004	0.004	79.86	114	5.99	4000	
Se	78	1	He	-0.017	-0.017	-668.08	171	14.52	4000	
Sr	88	1	He	-0.679	-0.679	-0.29	1372	3.51	4000	
Mo	95	1	He	-0.024	-0.024	-17.66	272	14.30	4000	
Ag	107	1	He	-0.005	-0.005	-12.91	210	8.84	100	
Cd	111	1	He	0.000	0.000	-2433.48	23	65.46	3500	
Sn	118	1	He	-0.043	-0.043	-16.72	612	13.36	4000	
Sb	123	1	He	-0.024	-0.024	-9.34	293	9.71	4000	
Ba	137	1	He	0.089	0.089	8.20	562	6.28	4000	
Ce	140	1	He	0.023	0.023	14.10	1836	10.06	4000	
Tl	205	1	He	0.002	0.002	58.65	541	9.75	3500	
Pb	208	1	He	0.006	0.006	25.83	1408	8.89	4000	
U	238	1	He	-0.006	-0.006	-14.20	433	16.06	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	646989	0.19	683823	94.61	80	120	
Ge (IS)	72	1	He	373828	0.86	390615	95.70	80	120	
In-115 (IS)	115	1	He	3387198	1.24	3613234	93.74	80	120	
Tb-159 (IS)	159	1	He	7939652	0.49	8473761	93.70	80	120	
Bi-209 (IS)	209	1	He	5668497	0.15	6042462	93.81	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	090_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:14:23-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	50.117	1.794	10414	2.00	50	100.2	89.5	110.49	
Na	23	1	He	1182.802	0.814	5019777	1.17	1250	94.6	89.5	110.49	
Mg	24	1	He	1287.277	0.561	2714225	0.70	1250	103.0	89.5	110.49	
Al	27	1	He	57.216	2.375	58537	1.97	50	114.4	89.5	110.49	>+\-10%
K	39	1	He	1305.661	1.833	2603705	1.84	1250	104.5	89.5	110.49	
Ca	44	1	He	2528.074	0.063	250580	0.48	2500	101.1	89.5	110.49	
V	51	1	He	49.838	0.322	810008	0.49	50	99.7	89.5	110.49	
Cr	52	1	He	49.463	0.665	949353	0.52	50	98.9	89.5	110.49	
Mn	55	1	He	50.728	1.104	636022	1.44	50	101.5	89.5	110.49	
Fe	56	1	He	519.461	1.011	8876514	0.71	500	103.9	89.5	110.49	
Co	59	1	He	50.135	2.707	1457242	2.80	50	100.3	89.5	110.49	
Ni	60	1	He	50.518	0.769	374213	0.47	50	101.0	89.5	110.49	
Cu	65	1	He	49.071	1.767	485171	1.26	50	98.1	89.5	110.49	
Zn	66	1	He	51.651	0.513	190377	0.23	50	103.3	89.5	110.49	
As	75	1	He	49.921	0.781	116088	0.95	50	99.8	89.5	110.49	
Se	78	1	He	49.412	0.290	10489	0.34	50	98.8	89.5	110.49	
Sr	88	1	He	47.397	1.068	786886	0.47	50	94.8	89.5	110.49	
Mo	95	1	He	50.264	0.585	466749	0.53	50	100.5	89.5	110.49	
Ag	107	1	He	49.705	0.504	1395593	0.83	50	99.4	89.5	110.49	
Cd	111	1	He	49.799	1.061	238744	0.24	50	99.6	89.5	110.49	
Sn	118	1	He	49.870	1.331	558813	0.87	50	99.7	89.5	110.49	
Sb	123	1	He	49.867	1.882	564313	1.04	50	99.7	89.5	110.49	
Ba	137	1	He	50.330	0.880	251074	0.82	50	100.7	89.5	110.49	
Ce	140	1	He	50.872	1.028	3297953	0.47	50	101.7	89.5	110.49	
Tl	205	1	He	49.371	1.278	2871270	1.29	50	98.7	89.5	110.49	
Pb	208	1	He	50.048	1.659	3839324	1.10	50	100.1	89.5	110.49	
U	238	1	He	49.805	2.861	3858094	1.08	50	99.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656423	0.46	683823	95.99	80	120	
Ge (IS)	72	1	He	373592	0.31	390615	95.64	80	120	
In-115 (IS)	115	1	He	3444816	0.89	3613234	95.34	80	120	
Tb-159 (IS)	159	1	He	8080219	1.88	8473761	95.36	80	120	
Bi-209 (IS)	209	1	He	5711186	0.93	6042462	94.52	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	091_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:16:49-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.012	-198.4	12	41.7	0.5	
Na	23	1	He	-131.344	-0.6	106355	0.5	110	
Mg	24	1	He	-15.892	-1.7	8077	4.5	110	
Al	27	1	He	5.091	7.1	5478	5.1	10	
K	39	1	He	-10.888	-18.3	149785	0.8	110	
Ca	44	1	He	-32.697	-0.7	1128	1.6	110	
V	51	1	He	0.005	167.5	2330	4.4	2	
Cr	52	1	He	0.001	817.4	2587	8.3	2	
Mn	55	1	He	0.207	10.0	3079	8.1	1	
Fe	56	1	He	8.486	3.6	154751	1.7	20	
Co	59	1	He	0.017	38.9	779	21.9	1	
Ni	60	1	He	0.038	43.7	1150	8.8	2	
Cu	65	1	He	-1.170	-2.6	3677	5.6	1	
Zn	66	1	He	0.052	25.7	3853	1.3	20	
As	75	1	He	0.022	34.9	154	10.5	1	
Se	78	1	He	0.065	168.0	185	12.3	2	
Sr	88	1	He	-0.697	-1.7	1095	15.6	2	
Mo	95	1	He	0.047	27.7	924	14.7	2	
Ag	107	1	He	0.027	46.7	1091	30.7	1	
Cd	111	1	He	0.011	82.7	78	55.9	1	
Sn	118	1	He	0.091	6.8	2102	4.9	2	
Sb	123	1	He	0.221	15.8	3041	14.6	1	
Ba	137	1	He	0.060	28.7	420	18.6	1	
Ce	140	1	He	0.021	33.6	1719	25.0	1	
Tl	205	1	He	0.021	11.1	1650	8.2	1	
Pb	208	1	He	0.022	31.4	2605	20.1	1	
U	238	1	He	0.024	0.9	2737	0.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	644797	2.49	683823	94.29	80	120	
Ge (IS)	72	1	He	367759	1.09	390615	94.15	80	120	
In-115 (IS)	115	1	He	3407049	1.81	3613234	94.29	80	120	
Tb-159 (IS)	159	1	He	7947387	0.13	8473761	93.79	80	120	
Bi-209 (IS)	209	1	He	5615034	1.12	6042462	92.93	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-8-a@20
Data File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:19:23-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3202
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	1.167	1.167	3.89	287	4.19	100	
Na	23	1	He	3697.590	3697.590	1.06	16078734	1.52	75000	
Mg	24	1	He	12134.137	12134.137	2.16	28144237	2.46	125000	
Al	27	1	He	35198.434	35198.434	0.76	39880593	0.90	4000	>LDR
K	39	1	He	5227.391	5227.391	0.79	11045237	0.12	100000	
Ca	44	1	He	13644.415	13644.415	0.98	1486902	1.29	250000	
V	51	1	He	113.455	113.455	0.84	2053087	1.49	4000	
Cr	52	1	He	31.879	31.879	0.68	683343	0.05	4000	
Mn	55	1	He	1233.706	1233.706	0.94	17233899	0.38	4000	
Fe	56	1	He	43274.738	43274.738	1.32	823418030	0.70	40000	>LDR
Co	59	1	He	14.837	14.837	0.81	481145	0.22	4000	
Ni	60	1	He	22.004	22.004	0.56	182323	0.35	4000	
[Cu]	63	1	He	54.056	54.056	0.74	1238101	1.19	4000	
Cu	65	1	He	54.649	54.649	1.14	600668	1.23	4000	
Zn	66	1	He	94.870	94.870	0.28	351971	0.34	4000	
As	75	1	He	19.685	19.685	0.94	46556	1.23	4000	
Se	78	1	He	1.498	1.498	4.94	494	3.07	4000	
Sr	88	1	He	207.978	207.978	1.89	3319790	1.45	4000	
Mo	95	1	He	3.717	3.717	0.48	34047	0.94	4000	
Ag	107	1	He	0.158	0.158	4.00	4656	3.22	100	
Cd	111	1	He	0.190	0.190	10.23	912	9.90	3500	
Sn	118	1	He	2.445	2.445	1.43	27697	1.81	4000	
Sb	123	1	He	1.141	1.141	2.81	13117	2.58	4000	
Ba	137	1	He	261.663	261.663	1.12	1270072	0.73	4000	
Ce	140	1	He	78.446	78.446	1.86	4950508	2.09	4000	
Tl	205	1	He	0.420	0.420	1.05	24723	1.66	3500	
Pb	208	1	He	15.003	15.003	1.44	1113378	0.36	4000	
U	238	1	He	6.661	6.661	1.54	513134	0.65	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	732005	0.66	683823	107.05	80	120	
Ge (IS)	72	1	He	379422	0.31	390615	97.13	80	120	
In-115 (IS)	115	1	He	3353190	0.50	3613234	92.80	80	120	
Tb-159 (IS)	159	1	He	8020579	1.52	8473761	94.65	80	120	
Bi-209 (IS)	209	1	He	5522043	1.08	6042462	91.39	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-9-a@20
Data File Name	093SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:21:48-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3203
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.790	0.790	13.87	191	12.85	100	
Na	23	1	He	948.042	948.042	1.06	4429326	1.26	75000	
Mg	24	1	He	7804.442	7804.442	1.51	17371747	1.17	125000	
Al	27	1	He	23169.904	23169.904	0.25	25172357	0.37	4000	>LDR
K	39	1	He	5163.543	5163.543	1.12	10463918	0.86	100000	
Ca	44	1	He	9533.656	9533.656	0.22	997581	0.44	250000	
V	51	1	He	90.733	90.733	0.95	1574759	0.62	4000	
Cr	52	1	He	23.870	23.870	0.27	491321	0.14	4000	
Mn	55	1	He	542.149	542.149	0.66	7262386	0.52	4000	
Fe	56	1	He	34377.508	34377.508	1.02	627240348	0.72	40000	
Co	59	1	He	10.712	10.712	1.03	333172	0.95	4000	
Ni	60	1	He	15.435	15.435	1.83	122916	1.53	4000	
[Cu]	63	1	He	84.477	84.477	1.85	1835664	2.01	4000	
Cu	65	1	He	84.222	84.222	0.42	878980	0.39	4000	
Zn	66	1	He	104.609	104.609	0.97	386311	0.37	4000	
As	75	1	He	11.133	11.133	0.68	26280	0.53	4000	
Se	78	1	He	1.200	1.200	7.09	430	4.71	4000	
Sr	88	1	He	150.857	150.857	0.44	2420943	0.51	4000	
Mo	95	1	He	1.522	1.522	1.19	14285	0.95	4000	
Ag	107	1	He	0.095	0.095	3.18	2953	3.11	100	
Cd	111	1	He	0.608	0.608	1.48	2871	1.16	3500	
Sn	118	1	He	2.755	2.755	1.25	31193	1.31	4000	
Sb	123	1	He	0.839	0.839	1.39	9824	1.10	4000	
Ba	137	1	He	174.020	174.020	0.58	848042	0.43	4000	
Ce	140	1	He	62.029	62.029	1.29	3929833	1.41	4000	
Tl	205	1	He	0.290	0.290	1.39	17261	1.18	3500	
Pb	208	1	He	12.096	12.096	0.66	907554	0.54	4000	
U	238	1	He	6.221	6.221	0.52	481486	0.93	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	701892	0.36	683823	102.64	80	120	
Ge (IS)	72	1	He	378068	0.90	390615	96.79	80	120	
In-115 (IS)	115	1	He	3366351	0.39	3613234	93.17	80	120	
Tb-159 (IS)	159	1	He	8056705	0.41	8473761	95.08	80	120	
Bi-209 (IS)	209	1	He	5581204	0.31	6042462	92.37	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-10-a@20
Data File Name	094SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:24:13-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3204
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.757	0.757	24.45	183	22.34	100	
Na	23	1	He	2381.344	2381.344	1.47	10124921	0.73	75000	
Mg	24	1	He	7562.870	7562.870	0.66	16783512	0.36	125000	
Al	27	1	He	21205.648	21205.648	0.86	22966297	0.12	4000	>LDR
K	39	1	He	5322.884	5322.884	1.30	10747335	0.49	100000	
Ca	44	1	He	11336.446	11336.446	0.70	1181654	0.53	250000	
V	51	1	He	85.738	85.738	0.41	1483649	1.03	4000	
Cr	52	1	He	20.574	20.574	1.07	422534	0.09	4000	
Mn	55	1	He	522.517	522.517	0.81	6977791	0.90	4000	
Fe	56	1	He	30046.351	30046.351	0.94	546510058	0.05	40000	
Co	59	1	He	9.638	9.638	0.86	298884	0.21	4000	
Ni	60	1	He	12.920	12.920	0.29	102729	0.98	4000	
[Cu]	63	1	He	40.965	40.965	1.06	905249	0.21	4000	
Cu	65	1	He	41.787	41.787	1.04	442782	0.86	4000	
Zn	66	1	He	66.071	66.071	1.12	243663	0.43	4000	
As	75	1	He	20.585	20.585	1.86	48160	1.28	4000	
Se	78	1	He	1.037	1.037	12.03	392	5.98	4000	
Sr	88	1	He	161.200	161.200	1.37	2617088	1.48	4000	
Mo	95	1	He	2.295	2.295	1.10	21550	0.21	4000	
Ag	107	1	He	0.097	0.097	5.77	3040	4.09	100	
Cd	111	1	He	0.170	0.170	4.39	828	3.28	3500	
Sn	118	1	He	2.090	2.090	1.07	24213	1.73	4000	
Sb	123	1	He	0.675	0.675	2.49	8116	2.09	4000	
Ba	137	1	He	165.730	165.730	1.74	817258	0.73	4000	
Ce	140	1	He	53.800	53.800	0.07	3449442	0.98	4000	
Tl	205	1	He	0.239	0.239	2.35	14250	1.81	3500	
Pb	208	1	He	10.354	10.354	1.03	777601	0.27	4000	
U	238	1	He	4.130	4.130	0.38	318032	0.44	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	699734	0.97	683823	102.33	80	120	
Ge (IS)	72	1	He	375416	0.73	390615	96.11	80	120	
In-115 (IS)	115	1	He	3406779	1.05	3613234	94.29	80	120	
Tb-159 (IS)	159	1	He	8007435	0.50	8473761	94.50	80	120	
Bi-209 (IS)	209	1	He	5586298	1.28	6042462	92.45	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-11-a@20
Data File Name	095SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:26:39-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3205
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.964	0.964	14.22	232	12.04	100	
Na	23	1	He	1089.824	1089.824	2.69	5051965	0.90	75000	
Mg	24	1	He	8476.977	8476.977	2.96	19076730	1.60	125000	
Al	27	1	He	26041.178	26041.178	0.29	28616670	1.62	4000	>LDR
K	39	1	He	5189.538	5189.538	2.19	10634490	1.03	100000	
Ca	44	1	He	10041.536	10041.536	1.53	1062370	0.24	250000	
V	51	1	He	93.438	93.438	2.08	1639980	0.97	4000	
Cr	52	1	He	27.145	27.145	2.34	564665	1.58	4000	
Mn	55	1	He	573.879	573.879	1.16	7774829	0.57	4000	
Fe	56	1	He	36035.738	36035.738	2.80	664866445	1.27	40000	>LDR
Co	59	1	He	11.998	11.998	1.49	377371	0.77	4000	
Ni	60	1	He	16.198	16.198	2.67	130397	1.22	4000	
[Cu]	63	1	He	117.074	117.074	2.30	2558926	0.74	4000	
Cu	65	1	He	116.657	116.657	1.92	1225052	1.15	4000	
Zn	66	1	He	107.533	107.533	1.53	397671	1.08	4000	
As	75	1	He	10.703	10.703	1.28	25312	0.88	4000	
Se	78	1	He	1.359	1.359	13.58	464	7.98	4000	
Sr	88	1	He	166.854	166.854	2.01	2685467	0.45	4000	
Mo	95	1	He	1.514	1.514	3.75	14260	1.96	4000	
Ag	107	1	He	0.126	0.126	6.32	3796	4.37	100	
Cd	111	1	He	0.321	0.321	7.43	1530	6.45	3500	
Sn	118	1	He	2.325	2.325	4.25	26579	3.33	4000	
Sb	123	1	He	0.694	0.694	7.59	8249	5.40	4000	
Ba	137	1	He	219.295	219.295	1.47	1072378	0.92	4000	
Ce	140	1	He	69.282	69.282	2.72	4404124	1.71	4000	
Tl	205	1	He	0.304	0.304	1.10	18081	0.62	3500	
Pb	208	1	He	12.886	12.886	1.25	963567	0.82	4000	
U	238	1	He	6.751	6.751	2.50	521924	1.63	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	709953	1.60	683823	103.82	80	120	
Ge (IS)	72	1	He	378701	0.44	390615	96.95	80	120	
In-115 (IS)	115	1	He	3378608	1.87	3613234	93.51	80	120	
Tb-159 (IS)	159	1	He	8050500	1.68	8473761	95.01	80	120	
Bi-209 (IS)	209	1	He	5563007	1.17	6042462	92.07	80	120	

Sample Report

Sample Table

Sample Name	440-145123-a-12-a@20
Data File Name	096SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:29:04-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3206
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.893	0.893	7.91	213	6.81	100	
Na	23	1	He	2390.603	2390.603	2.53	10167754	1.97	75000	
Mg	24	1	He	8313.977	8313.977	0.63	18457021	0.20	125000	
Al	27	1	He	25796.625	25796.625	1.05	27956313	1.30	4000	>LDR
K	39	1	He	6362.577	6362.577	1.59	12818225	0.99	100000	
Ca	44	1	He	10282.843	10282.843	0.83	1072888	0.25	250000	
V	51	1	He	80.609	80.609	0.71	1395887	1.28	4000	
Cr	52	1	He	22.507	22.507	0.92	462259	0.45	4000	
Mn	55	1	He	571.245	571.245	0.22	7633040	0.49	4000	
Fe	56	1	He	32602.191	32602.191	1.41	593343781	0.83	40000	
Co	59	1	He	13.199	13.199	1.22	409423	0.81	4000	
Ni	60	1	He	15.915	15.915	1.42	126392	0.87	4000	
[Cu]	63	1	He	132.204	132.204	1.17	2845744	0.70	4000	
Cu	65	1	He	134.530	134.530	0.59	1390963	0.17	4000	
Zn	66	1	He	74.713	74.713	0.80	276148	0.38	4000	
As	75	1	He	9.205	9.205	0.48	21681	0.20	4000	
Se	78	1	He	1.401	1.401	8.95	471	5.99	4000	
Sr	88	1	He	147.713	147.713	1.25	2377949	0.83	4000	
Mo	95	1	He	2.472	2.472	1.44	22971	1.14	4000	
Ag	107	1	He	0.107	0.107	8.64	3269	7.21	100	
Cd	111	1	He	0.227	0.227	6.31	1092	5.97	3500	
Sn	118	1	He	2.345	2.345	0.65	26787	0.14	4000	
Sb	123	1	He	0.738	0.738	1.22	8735	1.08	4000	
Ba	137	1	He	167.796	167.796	1.75	820181	1.17	4000	
Ce	140	1	He	59.090	59.090	0.13	3755097	0.46	4000	
Tl	205	1	He	0.266	0.266	0.23	15952	0.42	3500	
Pb	208	1	He	13.486	13.486	0.99	1018371	0.14	4000	
U	238	1	He	3.837	3.837	0.91	298815	0.42	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	700139	0.59	683823	102.39	80	120	
Ge (IS)	72	1	He	376911	0.42	390615	96.49	80	120	
In-115 (IS)	115	1	He	3376701	0.58	3613234	93.45	80	120	
Tb-159 (IS)	159	1	He	8097420	0.58	8473761	95.56	80	120	
Bi-209 (IS)	209	1	He	5618293	1.13	6042462	92.98	80	120	

Sample Report

Sample Table

Sample Name	440-144969-a-1-a@20
Data File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:31:29-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3207
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.428	0.428	23.22	110	19.87	100	
Na	23	1	He	279.725	279.725	0.70	1744214	0.41	75000	
Mg	24	1	He	9939.869	9939.869	0.51	21933602	0.43	125000	
Al	27	1	He	21436.040	21436.040	1.07	23099352	1.18	4000	>LDR
K	39	1	He	5929.049	5929.049	1.09	11890575	1.18	100000	
Ca	44	1	He	13049.223	13049.223	2.04	1352653	2.14	250000	
V	51	1	He	84.611	84.611	0.60	1456758	0.64	4000	
Cr	52	1	He	43.714	43.714	0.47	890162	0.58	4000	
Mn	55	1	He	592.523	592.523	0.43	7872611	0.50	4000	
Fe	56	1	He	36307.621	36307.621	0.61	657078783	0.65	40000	>LDR
Co	59	1	He	12.542	12.542	0.26	386862	0.37	4000	
Ni	60	1	He	23.402	23.402	1.07	184359	1.10	4000	
[Cu]	63	1	He	38.358	38.358	0.28	845607	0.24	4000	
Cu	65	1	He	39.109	39.109	0.81	413338	0.75	4000	
Zn	66	1	He	115.847	115.847	0.97	420469	0.61	4000	
As	75	1	He	16.437	16.437	1.44	38121	1.47	4000	
Se	78	1	He	1.223	1.223	4.02	427	1.89	4000	
Sr	88	1	He	60.143	60.143	0.73	974566	0.72	4000	
Mo	95	1	He	1.423	1.423	3.40	13420	3.32	4000	
Ag	107	1	He	0.237	0.237	1.83	6841	1.14	100	
Cd	111	1	He	0.714	0.714	6.88	3376	5.57	3500	
Sn	118	1	He	3.439	3.439	1.77	38746	0.48	4000	
Sb	123	1	He	1.997	1.997	1.65	22667	0.59	4000	
Ba	137	1	He	287.744	287.744	1.05	1405111	0.63	4000	
Ce	140	1	He	49.429	49.429	1.00	3138247	0.89	4000	
Tl	205	1	He	0.226	0.226	2.22	13317	2.21	3500	
Pb	208	1	He	66.569	66.569	0.71	4984812	0.35	4000	
U	238	1	He	1.218	1.218	1.75	93245	1.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	696180	0.11	683823	101.81	80	120	
Ge (IS)	72	1	He	371923	0.50	390615	95.21	80	120	
In-115 (IS)	115	1	He	3373681	1.38	3613234	93.37	80	120	
Tb-159 (IS)	159	1	He	7906594	0.77	8473761	93.31	80	120	
Bi-209 (IS)	209	1	He	5575018	0.98	6042462	92.26	80	120	

Sample Report

Sample Table

Sample Name	440-145041-a-1-b@20
Data File Name	098SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:33:54-07:00
Sample Type	Sample
Dilution	1
Comment	BP CAM SOIL 440-325847 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	3208
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.670	0.670	15.23	164	13.19	100	
Na	23	1	He	1099.692	1099.692	0.94	5035335	1.83	75000	
Mg	24	1	He	9139.479	9139.479	1.15	20334463	0.65	125000	
Al	27	1	He	23930.859	23930.859	1.05	25996830	0.79	4000	>LDR
K	39	1	He	5033.987	5033.987	1.76	10204883	1.13	100000	
Ca	44	1	He	13972.010	13972.010	2.02	1459607	1.16	250000	
V	51	1	He	68.978	68.978	0.48	1197734	0.80	4000	
Cr	52	1	He	50.323	50.323	0.41	1032681	0.90	4000	
Mn	55	1	He	512.637	512.637	0.77	6866547	0.26	4000	
Fe	56	1	He	32756.147	32756.147	0.73	597656527	1.40	40000	
Co	59	1	He	12.144	12.144	0.78	377667	1.30	4000	
Ni	60	1	He	31.335	31.335	0.82	248539	0.36	4000	
[Cu]	63	1	He	43.485	43.485	0.25	961776	0.81	4000	
Cu	65	1	He	44.194	44.194	0.59	468798	0.50	4000	
Zn	66	1	He	177.258	177.258	1.28	649205	0.69	4000	
As	75	1	He	10.247	10.247	2.22	24094	1.83	4000	
Se	78	1	He	0.996	0.996	8.92	385	3.12	4000	
Sr	88	1	He	102.205	102.205	1.89	1652699	1.45	4000	
Mo	95	1	He	2.054	2.054	5.15	19205	4.58	4000	
Ag	107	1	He	0.362	0.362	2.65	10318	3.02	100	
Cd	111	1	He	1.000	1.000	4.31	4734	3.93	3500	
Sn	118	1	He	4.314	4.314	1.00	48485	0.64	4000	
Sb	123	1	He	2.430	2.430	1.20	27552	0.80	4000	
Ba	137	1	He	716.770	716.770	2.31	3511018	2.28	4000	
Ce	140	1	He	45.663	45.663	2.66	2908355	2.81	4000	
Tl	205	1	He	0.199	0.199	1.96	11947	3.18	3500	
Pb	208	1	He	53.097	53.097	0.73	4013498	0.58	4000	
U	238	1	He	1.151	1.151	1.87	89341	0.11	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	701867	1.03	683823	102.64	80	120	
Ge (IS)	72	1	He	376499	1.88	390615	96.39	80	120	
In-115 (IS)	115	1	He	3384100	0.46	3613234	93.66	80	120	
Tb-159 (IS)	159	1	He	8010950	1.83	8473761	94.54	80	120	
Bi-209 (IS)	209	1	He	5627189	0.71	6042462	93.13	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	099SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:36:18-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.039	-0.039	-42.25	7	50.03	100	
Na	23	1	He	-132.601	-132.601	-0.12	101345	0.56	75000	
Mg	24	1	He	-11.277	-11.277	-8.88	17419	11.47	125000	
Al	27	1	He	16.644	16.644	15.19	16933	14.63	4000	
K	39	1	He	-10.325	-10.325	-2.59	150204	0.18	100000	
Ca	44	1	He	-23.874	-23.874	-5.41	1963	6.17	250000	
V	51	1	He	0.021	0.021	23.13	2579	2.85	4000	
Cr	52	1	He	0.018	0.018	61.64	2895	6.99	4000	
Mn	55	1	He	0.416	0.416	12.78	5626	11.33	4000	
Fe	56	1	He	25.984	25.984	11.25	446067	10.73	40000	
Co	59	1	He	0.010	0.010	9.70	600	4.84	4000	
Ni	60	1	He	0.055	0.055	23.62	1271	7.60	4000	
[Cu]	63	1	He	-1.227	-1.227	-0.98	7985	2.63	4000	
Cu	65	1	He	-1.159	-1.159	-2.39	3764	7.09	4000	
Zn	66	1	He	0.503	0.503	8.17	5472	2.60	4000	
As	75	1	He	0.001	0.001	447.10	105	6.36	4000	
Se	78	1	He	-0.058	-0.058	-60.21	160	4.72	4000	
Sr	88	1	He	-0.678	-0.678	-0.51	1389	4.03	4000	
Mo	95	1	He	-0.023	-0.023	-5.59	287	5.07	4000	
Ag	107	1	He	-0.002	-0.002	-85.75	292	11.98	100	
Cd	111	1	He	0.001	0.001	316.87	29	53.30	3500	
Sn	118	1	He	-0.046	-0.046	-10.29	582	10.25	4000	
Sb	123	1	He	-0.027	-0.027	-7.13	259	7.09	4000	
Ba	137	1	He	0.326	0.326	18.97	1731	17.34	4000	
Ce	140	1	He	0.028	0.028	7.13	2171	6.69	4000	
Tl	205	1	He	-0.001	-0.001	-206.65	421	14.65	3500	
Pb	208	1	He	0.040	0.040	17.97	3994	13.71	4000	
U	238	1	He	-0.008	-0.008	-8.28	350	14.03	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	641946	0.34	683823	93.88	80	120	
Ge (IS)	72	1	He	368841	0.38	390615	94.43	80	120	
In-115 (IS)	115	1	He	3398324	1.33	3613234	94.05	80	120	
Tb-159 (IS)	159	1	He	8003422	0.48	8473761	94.45	80	120	
Bi-209 (IS)	209	1	He	5725980	0.16	6042462	94.76	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	100SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:38:52-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.039	-0.039	-71.09	7	86.65	100	
Na	23	1	He	-132.360	-132.360	-0.25	103841	1.12	75000	
Mg	24	1	He	-13.841	-13.841	-1.14	12407	2.56	125000	
Al	27	1	He	10.203	10.203	5.34	10703	5.11	4000	
K	39	1	He	-11.166	-11.166	-1.87	151024	0.21	100000	
Ca	44	1	He	-27.951	-27.951	-7.36	1600	12.43	250000	
V	51	1	He	0.012	0.012	43.82	2476	3.56	4000	
Cr	52	1	He	0.009	0.009	26.51	2764	1.69	4000	
Mn	55	1	He	0.284	0.284	4.44	4076	3.87	4000	
Fe	56	1	He	15.835	15.835	2.38	281145	2.24	40000	
Co	59	1	He	0.008	0.008	23.21	546	10.18	4000	
Ni	60	1	He	0.028	0.028	32.24	1094	6.05	4000	
[Cu]	63	1	He	-1.251	-1.251	-0.63	7644	2.00	4000	
Cu	65	1	He	-1.183	-1.183	-1.01	3597	3.22	4000	
Zn	66	1	He	0.463	0.463	7.74	5410	2.02	4000	
As	75	1	He	0.003	0.003	210.61	111	11.50	4000	
Se	78	1	He	0.086	0.086	87.08	192	7.79	4000	
Sr	88	1	He	-0.703	-0.703	-0.53	1010	6.37	4000	
Mo	95	1	He	-0.025	-0.025	-16.31	268	14.16	4000	
Ag	107	1	He	-0.005	-0.005	-29.44	200	21.67	100	
Cd	111	1	He	0.000	0.000	1115.85	26	39.85	3500	
Sn	118	1	He	-0.053	-0.053	-6.03	520	6.11	4000	
Sb	123	1	He	-0.029	-0.029	-7.34	249	9.50	4000	
Ba	137	1	He	0.121	0.121	10.84	740	9.31	4000	
Ce	140	1	He	0.019	0.019	14.07	1611	11.65	4000	
Tl	205	1	He	-0.002	-0.002	-37.30	354	10.36	3500	
Pb	208	1	He	0.017	0.017	14.14	2221	7.55	4000	
U	238	1	He	-0.008	-0.008	-4.44	309	8.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	652104	0.11	683823	95.36	80	120	
Ge (IS)	72	1	He	374340	0.51	390615	95.83	80	120	
In-115 (IS)	115	1	He	3481400	0.84	3613234	96.35	80	120	
Tb-159 (IS)	159	1	He	8064950	0.37	8473761	95.18	80	120	
Bi-209 (IS)	209	1	He	5750714	0.58	6042462	95.17	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	101_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:41:26-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.029	2.030	10272	1.73	50	98.1	89.5	110.49	
Na	23	1	He	1175.936	1.479	5035090	0.93	1250	94.1	89.5	110.49	
Mg	24	1	He	1267.190	0.692	2694597	0.83	1250	101.4	89.5	110.49	
Al	27	1	He	57.776	1.488	59600	1.74	50	115.6	89.5	110.49	>+\-10%
K	39	1	He	1287.327	0.881	2590836	1.27	1250	103.0	89.5	110.49	
Ca	44	1	He	2502.193	0.597	250106	0.59	2500	100.1	89.5	110.49	
V	51	1	He	49.605	0.464	812901	0.91	50	99.2	89.5	110.49	
Cr	52	1	He	49.203	0.253	952200	0.31	50	98.4	89.5	110.49	
Mn	55	1	He	50.464	0.193	637933	0.51	50	100.9	89.5	110.49	
Fe	56	1	He	515.588	0.707	8883596	1.13	500	103.1	89.5	110.49	
Co	59	1	He	49.962	2.172	1464257	2.46	50	99.9	89.5	110.49	
Ni	60	1	He	49.858	0.908	372392	0.98	50	99.7	89.5	110.49	
Cu	65	1	He	48.783	0.601	486427	0.86	50	97.6	89.5	110.49	
Zn	66	1	He	51.294	1.336	190123	1.04	50	102.6	89.5	110.49	
As	75	1	He	49.647	1.515	116083	1.30	50	99.3	89.5	110.49	
Se	78	1	He	48.978	0.473	10455	0.49	50	98.0	89.5	110.49	
Sr	88	1	He	46.807	0.838	785338	1.24	50	93.6	89.5	110.49	
Mo	95	1	He	49.554	1.242	464913	0.73	50	99.1	89.5	110.49	
Ag	107	1	He	49.229	0.803	1396593	1.46	50	98.5	89.5	110.49	
Cd	111	1	He	48.823	0.616	236503	1.09	50	97.6	89.5	110.49	
Sn	118	1	He	49.552	0.970	561022	0.74	50	99.1	89.5	110.49	
Sb	123	1	He	49.495	1.497	565917	0.90	50	99.0	89.5	110.49	
Ba	137	1	He	49.716	1.350	250564	0.28	50	99.4	89.5	110.49	
Ce	140	1	He	50.337	0.335	3297447	1.64	50	100.7	89.5	110.49	
Tl	205	1	He	48.871	1.210	2852066	0.73	50	97.7	89.5	110.49	
Pb	208	1	He	49.741	0.598	3852119	0.60	50	99.5	89.5	110.49	
U	238	1	He	49.894	0.366	3879671	1.17	50	99.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	661846	0.44	683823	96.79	80	120	
Ge (IS)	72	1	He	375645	0.61	390615	96.17	80	120	
In-115 (IS)	115	1	He	3480679	1.60	3613234	96.33	80	120	
Tb-159 (IS)	159	1	He	8108264	1.53	8473761	95.69	80	120	
Bi-209 (IS)	209	1	He	5765344	1.11	6042462	95.41	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	102_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:43:53-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.055	-50.7	3	173.2	0.5	
Na	23	1	He	-134.079	-0.2	96737	0.6	110	
Mg	24	1	He	-15.851	-0.9	8200	3.3	110	
Al	27	1	He	5.518	5.7	5930	5.1	10	
K	39	1	He	-11.501	-1.1	149290	0.4	110	
Ca	44	1	He	-34.146	-1.9	993	6.7	110	
V	51	1	He	0.004	551.2	2321	13.6	2	
Cr	52	1	He	0.010	39.3	2764	2.4	2	
Mn	55	1	He	0.187	14.7	2845	11.8	1	
Fe	56	1	He	8.862	4.6	161728	4.1	20	
Co	59	1	He	0.015	14.4	730	8.1	1	
Ni	60	1	He	0.026	35.6	1069	6.1	2	
Cu	65	1	He	-1.204	-2.2	3374	7.6	1	
Zn	66	1	He	0.091	30.5	4000	3.1	20	
As	75	1	He	0.013	27.2	133	6.6	1	
Se	78	1	He	0.042	222.1	180	11.0	2	
Sr	88	1	He	-0.706	-1.3	939	17.3	2	
Mo	95	1	He	0.028	23.9	742	6.7	2	
Ag	107	1	He	0.021	41.6	923	28.5	1	
Cd	111	1	He	0.011	24.7	74	17.0	1	
Sn	118	1	He	0.081	20.5	1970	8.4	2	
Sb	123	1	He	0.198	16.6	2742	11.7	1	
Ba	137	1	He	0.047	18.3	356	13.7	1	
Ce	140	1	He	0.018	13.7	1486	11.2	1	
Tl	205	1	He	0.017	20.5	1442	14.1	1	
Pb	208	1	He	0.023	19.3	2696	13.1	1	
U	238	1	He	0.018	7.5	2338	4.3	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647267	0.34	683823	94.65	80	120	
Ge (IS)	72	1	He	368461	0.59	390615	94.33	80	120	
In-115 (IS)	115	1	He	3370556	2.18	3613234	93.28	80	120	
Tb-159 (IS)	159	1	He	8003055	0.13	8473761	94.45	80	120	
Bi-209 (IS)	209	1	He	5656546	0.44	6042462	93.61	80	120	

Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3321398
Data File Name	103_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:46:27-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL BP CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	0.976	23.345	216	21.89	1	97.6	50	150	
Na	23	1	He	73.654	1.664	866558	0.13	200	36.8	50	150	>+/-50%
Mg	24	1	He	189.216	0.769	430207	0.21	200	94.6	50	150	
Al	27	1	He	25.219	2.784	25794	2.25	20	126.1	50	150	
K	39	1	He	192.527	0.420	526463	0.40	200	96.3	50	150	
Ca	44	1	He	942.866	1.698	95303	1.48	1000	94.3	50	150	
V	51	1	He	2.009	0.286	34534	0.57	2	100.4	50	150	
Cr	52	1	He	1.956	1.251	39691	1.19	2	97.8	50	150	
Mn	55	1	He	2.196	1.059	27806	1.38	2	109.8	50	150	
Fe	56	1	He	46.123	1.316	792595	0.85	40	115.3	50	150	
Co	59	1	He	1.988	1.580	57563	1.88	2	99.4	50	150	
Ni	60	1	He	2.122	1.400	16424	1.08	2	106.1	50	150	
Cu	65	1	He	0.815	8.075	22563	2.23	2	40.8	50	150	>+/-50%
Zn	66	1	He	20.650	1.058	78819	0.93	20	103.3	50	150	
As	75	1	He	2.134	1.329	5092	1.12	2	106.7	50	150	
Se	78	1	He	1.925	14.139	579	10.04	2	96.2	50	150	
Sr	88	1	He	1.225	2.302	32590	0.17	2	61.2	50	150	
Mo	95	1	He	1.996	0.836	19072	1.08	2	99.8	50	150	
Ag	107	1	He	1.929	1.776	54627	0.31	2	96.4	50	150	
Cd	111	1	He	1.966	2.823	9473	1.40	2	98.3	50	150	
Sn	118	1	He	20.220	1.876	227837	0.58	20	101.1	50	150	
Sb	123	1	He	1.959	0.515	22784	1.86	2	97.9	50	150	
Ba	137	1	He	2.057	1.846	10414	0.87	2	102.9	50	150	
Ce	140	1	He	1.961	1.996	127822	0.84	2	98.0	50	150	
Tl	205	1	He	1.903	1.046	112221	1.22	2	95.1	50	150	
Pb	208	1	He	2.083	0.995	163539	0.60	2	104.1	50	150	
U	238	1	He	1.905	0.733	150011	1.35	2	95.2	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650502	0.55	683823	95.13	80	120	
Ge (IS)	72	1	He	375822	0.24	390615	96.21	80	120	
In-115 (IS)	115	1	He	3454429	1.45	3613234	95.60	80	120	
Tb-159 (IS)	159	1	He	8160643	0.74	8473761	96.30	80	120	
Bi-209 (IS)	209	1	He	5812367	0.94	6042462	96.19	80	120	

Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3321399
Data File Name	104ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:49:02-07:00
Sample Type	ICSA
Dilution	1
Comment	BP CHK A
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	He	-0.061	-15.676	2	86.60	-1	1	
Na	23	1	He	101451.067	1.587	369854696	0.80	100000	100000	
Mg	24	1	He	98913.951	1.425	200081765	0.66	100000	100000	
Al	27	1	He	98673.363	0.444	97652798	1.18	100000	100000	
K	39	1	He	100782.565	1.516	182923788	1.39	100000	100000	
Ca	44	1	He	94683.096	0.357	8987322	1.06	100000	100000	
V	51	1	He	0.031	47.554	2730	9.35	-4	4	
Cr	52	1	He	1.276	1.149	26331	0.41	-4	4	
Mn	55	1	He	0.445	8.509	5959	8.38	-2	2	
Co	59	1	He	0.040	11.061	1430	9.03	-2	2	
Ni	60	1	He	0.452	6.332	4121	5.23	-4	4	
Cu	65	1	He	-0.356	-2.327	11245	0.46	-4	4	
Zn	66	1	He	1.229	6.587	7896	4.43	-40	40	
As	75	1	He	0.094	11.367	311	8.03	-2	2	
Se	78	1	He	0.084	195.100	185	17.02	-4	4	
Sr	88	1	He	-0.057	-9.556	10544	0.84	-2	2	
Mo	95	1	He	2102.354	0.891	17785377	0.48	2000	2000	
Ag	107	1	He	0.029	1.627	1048	2.23	-2	2	
Cd	111	1	He	0.765	6.106	3366	5.34	-2	2	
Sn	118	1	He	0.042	24.560	1437	7.98	-20	20	
Sb	123	1	He	0.093	10.754	1482	6.83	-4	4	
Ba	137	1	He	0.133	4.365	720	4.04	-2	2	
Ce	140	1	He	0.028	17.340	2001	15.34	-2	2	
Tl	205	1	He	0.006	21.069	731	8.73	-2	2	
Pb	208	1	He	0.229	4.291	16221	3.68	-2	2	
U	238	1	He	-0.002	-209.004	764	32.44	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	639372	0.83	683823	93.50	80	120	
Ge (IS)	72	1	He	361032	0.97	390615	92.43	80	120	
In-115 (IS)	115	1	He	3141747	1.17	3613234	86.95	80	120	
Tb-159 (IS)	159	1	He	7557253	0.26	8473761	89.18	80	120	
Bi-209 (IS)	209	1	He	5012380	0.38	6042462	82.95	80	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3321400
Data File Name	105ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:51:30-07:00
Sample Type	ICSB
Dilution	1
Comment	BP CHK B
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	19.021	2.253	3873	1.68	20	95.1	79.5	120.49	
Na	23	1	He	102585.613	1.452	375378687	1.15	101000	101.6	79.5	120.49	
Mg	24	1	He	99147.207	0.978	201299708	0.48	101000	98.2	79.5	120.49	
Al	27	1	He	98693.397	0.464	98029496	0.53	101000	97.7	79.5	120.49	
K	39	1	He	101956.787	0.987	185738357	0.98	101000	100.9	79.5	120.49	
Ca	44	1	He	97428.315	0.952	9281387	0.45	101000	96.5	79.5	120.49	
V	51	1	He	19.849	1.611	316709	1.06	20	99.2	79.5	120.49	
Cr	52	1	He	20.323	0.788	382829	0.35	20	101.6	79.5	120.49	
Mn	55	1	He	19.922	1.095	244493	0.65	20	99.6	79.5	120.49	
Fe	56	1	He	96661.305	1.266	1612405163	0.78	101000	95.7	79.5	120.49	
Co	59	1	He	18.712	1.049	531884	0.48	20	93.6	79.5	120.49	
Ni	60	1	He	18.953	1.354	137792	1.04	20	94.8	79.5	120.49	
Cu	65	1	He	17.786	0.906	181245	0.37	20	88.9	79.5	120.49	
Zn	66	1	He	18.603	0.631	68672	0.98	20	93.0	79.5	120.49	
As	75	1	He	19.803	0.470	44631	0.55	20	99.0	79.5	120.49	
Se	78	1	He	18.810	0.888	3969	0.34	20	94.1	79.5	120.49	
Sr	88	1	He	20.137	0.636	310627	0.46	20	100.7	79.5	120.49	
Mo	95	1	He	2148.001	0.168	18124077	0.10	2020	106.3	79.5	120.49	
Ag	107	1	He	19.195	0.403	490420	0.49	20	96.0	79.5	120.49	
Cd	111	1	He	19.790	0.629	86316	0.45	20	99.0	79.5	120.49	
Sn	118	1	He	20.569	0.376	210246	0.44	20	102.8	79.5	120.49	
Sb	123	1	He	20.843	0.275	214869	0.14	20	104.2	79.5	120.49	
Ba	137	1	He	20.853	1.057	94690	1.06	20	104.3	79.5	120.49	
Ce	140	1	He	20.458	0.431	1206629	0.30	20	102.3	79.5	120.49	
Tl	205	1	He	18.275	0.746	1005148	0.39	20	91.4	79.5	120.49	
Pb	208	1	He	20.279	0.546	1374210	0.61	20	101.4	79.5	120.49	
U	238	1	He	19.549	0.083	1432717	0.82	20	97.7	79.5	120.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	641724	0.56	683823	93.84	80	120	
Ge (IS)	72	1	He	361583	0.67	390615	92.57	80	120	
In-115 (IS)	115	1	He	3133345	0.18	3613234	86.72	80	120	
Tb-159 (IS)	159	1	He	7638966	0.77	8473761	90.15	80	120	
Bi-209 (IS)	209	1	He	5042877	0.11	6042462	83.46	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	106SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:53:58-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.034	-0.034	-118.34	8	107.84	100	
Na	23	1	He	-87.045	-87.045	-9.20	275408	11.89	75000	
Mg	24	1	He	19.296	19.296	40.41	81795	20.90	125000	
Al	27	1	He	37.025	37.025	20.64	38262	21.44	4000	
K	39	1	He	25.587	25.587	29.32	221619	7.30	100000	
Ca	44	1	He	1.530	1.530	436.84	4508	15.54	250000	
V	51	1	He	-0.003	-0.003	-80.69	2251	2.52	4000	
Cr	52	1	He	0.006	0.006	118.20	2732	4.70	4000	
Mn	55	1	He	0.079	0.079	12.30	1538	7.97	4000	
Fe	56	1	He	44.940	44.940	15.74	784236	16.49	40000	
Co	59	1	He	0.005	0.005	23.69	472	8.36	4000	
Ni	60	1	He	0.042	0.042	35.62	1210	10.06	4000	
[Cu]	63	1	He	-1.127	-1.127	-2.42	10224	6.30	4000	
Cu	65	1	He	-1.052	-1.052	-1.70	4901	4.49	4000	
Zn	66	1	He	0.447	0.447	4.60	5423	0.44	4000	
As	75	1	He	0.007	0.007	103.79	124	15.39	4000	
Se	78	1	He	0.078	0.078	117.35	193	10.60	4000	
Sr	88	1	He	-0.732	-0.732	-0.49	544	11.85	4000	
Mo	95	1	He	1.925	1.925	4.10	18601	3.88	4000	
Ag	107	1	He	0.019	0.019	28.86	882	19.14	100	
Cd	111	1	He	0.007	0.007	29.60	59	18.19	3500	
Sn	118	1	He	-0.037	-0.037	-24.69	697	14.02	4000	
Sb	123	1	He	-0.009	-0.009	-27.28	474	4.57	4000	
Ba	137	1	He	0.027	0.027	55.25	269	29.29	4000	
Ce	140	1	He	0.008	0.008	34.98	933	22.45	4000	
Tl	205	1	He	0.019	0.019	6.94	1583	5.91	3500	
Pb	208	1	He	0.011	0.011	19.24	1816	9.43	4000	
U	238	1	He	0.001	0.001	96.42	1048	9.46	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	659639	0.97	683823	96.46	80	120	
Ge (IS)	72	1	He	379384	1.43	390615	97.12	80	120	
In-115 (IS)	115	1	He	3490123	1.56	3613234	96.59	80	120	
Tb-159 (IS)	159	1	He	8161914	0.99	8473761	96.32	80	120	
Bi-209 (IS)	209	1	He	5793554	0.86	6042462	95.88	80	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	107SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:56:32-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	2107
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.041	-0.041	-37.45	7	50.03	100	
Na	23	1	He	-110.979	-110.979	-1.99	192260	4.42	75000	
Mg	24	1	He	-0.789	-0.789	-174.09	41269	7.10	125000	
Al	27	1	He	17.821	17.821	6.45	19300	6.25	4000	
K	39	1	He	3.450	3.450	37.11	186841	1.35	100000	
Ca	44	1	He	-16.833	-16.833	-2.54	2808	1.72	250000	
V	51	1	He	-0.003	-0.003	-157.15	2338	3.94	4000	
Cr	52	1	He	-0.003	-0.003	-229.14	2664	4.38	4000	
Mn	55	1	He	0.054	0.054	16.19	1277	8.63	4000	
Fe	56	1	He	21.150	21.150	3.48	389564	3.32	40000	
Co	59	1	He	0.002	0.002	20.64	377	3.19	4000	
Ni	60	1	He	0.016	0.016	61.92	1054	6.82	4000	
[Cu]	63	1	He	-1.197	-1.197	-1.33	9142	3.23	4000	
Cu	65	1	He	-1.144	-1.144	-1.44	4161	4.17	4000	
Zn	66	1	He	0.444	0.444	19.63	5564	5.51	4000	
As	75	1	He	-0.003	-0.003	-57.14	101	4.54	4000	
Se	78	1	He	0.082	0.082	121.06	200	11.04	4000	
Sr	88	1	He	-0.726	-0.726	-0.40	646	8.07	4000	
Mo	95	1	He	0.576	0.576	5.49	6039	5.85	4000	
Ag	107	1	He	0.001	0.001	88.45	397	9.69	100	
Cd	111	1	He	0.003	0.003	98.36	41	38.32	3500	
Sn	118	1	He	-0.048	-0.048	-21.03	589	19.98	4000	
Sb	123	1	He	-0.021	-0.021	-6.61	348	3.99	4000	
Ba	137	1	He	0.039	0.039	4.52	334	3.05	4000	
Ce	140	1	He	0.003	0.003	20.91	607	8.64	4000	
Tl	205	1	He	0.005	0.005	6.10	793	2.62	3500	
Pb	208	1	He	0.006	0.006	28.52	1429	8.79	4000	
U	238	1	He	-0.006	-0.006	-27.29	499	25.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	684279	0.49	683823	100.07	80	120	
Ge (IS)	72	1	He	390088	0.45	390615	99.87	80	120	
In-115 (IS)	115	1	He	3558325	0.95	3613234	98.48	80	120	
Tb-159 (IS)	159	1	He	8276414	0.49	8473761	97.67	80	120	
Bi-209 (IS)	209	1	He	5811842	0.74	6042462	96.18	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	108_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T19:59:07-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	49.118	3.551	10671	2.60	50	98.2	89.5	110.49	
Na	23	1	He	1194.841	1.659	5296247	1.69	1250	95.6	89.5	110.49	
Mg	24	1	He	1266.933	0.542	2794170	1.04	1250	101.4	89.5	110.49	
Al	27	1	He	64.144	2.292	68575	2.04	50	128.3	89.5	110.49	>+\-10%
K	39	1	He	1303.066	1.622	2717471	0.81	1250	104.2	89.5	110.49	
Ca	44	1	He	2533.983	0.424	262638	0.87	2500	101.4	89.5	110.49	
V	51	1	He	50.003	1.169	849789	0.38	50	100.0	89.5	110.49	
Cr	52	1	He	49.580	1.085	995055	0.04	50	99.2	89.5	110.49	
Mn	55	1	He	50.384	1.437	660523	0.37	50	100.8	89.5	110.49	
Fe	56	1	He	521.654	2.163	9320854	1.55	500	104.3	89.5	110.49	
Co	59	1	He	51.190	1.030	1555836	0.05	50	102.4	89.5	110.49	
Ni	60	1	He	50.046	1.105	387658	0.09	50	100.1	89.5	110.49	
Cu	65	1	He	48.758	1.453	504204	0.43	50	97.5	89.5	110.49	
Zn	66	1	He	51.007	1.165	197725	0.71	50	102.0	89.5	110.49	
As	75	1	He	49.372	0.262	120722	0.47	50	98.7	89.5	110.49	
Se	78	1	He	49.379	0.838	11022	1.16	50	98.8	89.5	110.49	
Sr	88	1	He	47.498	1.339	818857	0.21	50	95.0	89.5	110.49	
Mo	95	1	He	50.620	0.971	488131	0.40	50	101.2	89.5	110.49	
Ag	107	1	He	49.875	1.506	1454156	0.20	50	99.8	89.5	110.49	
Cd	111	1	He	49.645	2.230	247147	1.18	50	99.3	89.5	110.49	
Sn	118	1	He	49.971	1.119	581511	0.91	50	99.9	89.5	110.49	
Sb	123	1	He	49.747	1.593	584633	0.86	50	99.5	89.5	110.49	
Ba	137	1	He	49.803	1.606	257991	0.67	50	99.6	89.5	110.49	
Ce	140	1	He	51.104	0.970	3440598	0.71	50	102.2	89.5	110.49	
Tl	205	1	He	49.153	2.138	2926437	2.45	50	98.3	89.5	110.49	
Pb	208	1	He	49.755	0.742	3915390	0.22	50	99.5	89.5	110.49	
U	238	1	He	49.641	0.995	3937680	1.57	50	99.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	686449	1.08	683823	100.38	80	120	
Ge (IS)	72	1	He	392819	0.46	390615	100.56	80	120	
In-115 (IS)	115	1	He	3577536	1.33	3613234	99.01	80	120	
Tb-159 (IS)	159	1	He	8270881	0.59	8473761	97.61	80	120	
Bi-209 (IS)	209	1	He	5858340	0.58	6042462	96.95	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:01:33-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.030	-62.7	9	43.3	0.5	
Na	23	1	He	-119.323	-0.6	156158	1.5	110	
Mg	24	1	He	-5.991	-13.8	29330	5.4	110	
Al	27	1	He	12.382	1.4	13236	2.2	10	CCB Main CR1 Failed
K	39	1	He	-2.227	-27.1	171873	1.3	110	
Ca	44	1	He	-25.476	-3.2	1887	4.0	110	
V	51	1	He	0.001	1547.1	2350	7.0	2	
Cr	52	1	He	0.002	131.5	2691	2.1	2	
Mn	55	1	He	0.050	16.7	1193	8.1	1	
Fe	56	1	He	14.280	2.6	261321	1.9	20	
Co	59	1	He	0.011	54.5	651	27.6	1	
Ni	60	1	He	0.029	45.5	1129	9.3	2	
Cu	65	1	He	-1.180	-1.0	3717	3.2	1	
Zn	66	1	He	0.096	36.5	4179	3.6	20	
As	75	1	He	0.009	109.1	128	17.0	1	
Se	78	1	He	0.095	54.3	199	6.5	2	
Sr	88	1	He	-0.721	-1.3	720	20.5	2	
Mo	95	1	He	0.348	6.3	3805	6.1	2	
Ag	107	1	He	0.028	42.4	1159	28.2	1	
Cd	111	1	He	0.009	60.7	68	36.9	1	
Sn	118	1	He	0.060	23.4	1815	9.9	2	
Sb	123	1	He	0.223	5.5	3153	5.8	1	
Ba	137	1	He	0.049	6.8	381	5.8	1	
Ce	140	1	He	0.011	53.3	1089	33.2	1	
Tl	205	1	He	0.019	30.0	1552	18.9	1	
Pb	208	1	He	0.019	33.4	2442	20.0	1	
U	238	1	He	0.017	16.6	2312	8.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	668888	0.93	683823	97.82	80	120	
Ge (IS)	72	1	He	383299	1.00	390615	98.13	80	120	
In-115 (IS)	115	1	He	3512218	1.41	3613234	97.20	80	120	
Tb-159 (IS)	159	1	He	8172278	2.22	8473761	96.44	80	120	
Bi-209 (IS)	209	1	He	5770806	1.05	6042462	95.50	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	110_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:04:09-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.061	-29.2	2	173.2	0.5	
Na	23	1	He	-122.303	-0.2	147081	0.8	110	
Mg	24	1	He	-8.312	-2.4	24808	1.8	110	
Al	27	1	He	10.278	1.5	11230	1.7	10	CCB Main CR1 Failed
K	39	1	He	-3.460	-13.2	172186	0.7	110	
Ca	44	1	He	-27.613	-2.4	1701	4.3	110	
V	51	1	He	-0.017	-47.7	2089	6.9	2	
Cr	52	1	He	-0.009	-15.5	2530	1.3	2	
Mn	55	1	He	0.036	19.0	1029	8.9	1	
Fe	56	1	He	11.575	1.5	217679	1.6	20	
Co	59	1	He	0.006	46.4	490	16.0	1	
Ni	60	1	He	0.014	91.3	1029	9.4	2	
Cu	65	1	He	-1.219	-1.2	3390	4.4	1	
Zn	66	1	He	0.058	47.7	4076	2.7	20	
As	75	1	He	-0.005	-192.0	96	25.3	1	
Se	78	1	He	-0.017	-1190.3	177	24.0	2	
Sr	88	1	He	-0.722	-0.2	708	3.3	2	
Mo	95	1	He	0.216	4.2	2577	3.9	2	
Ag	107	1	He	0.003	54.0	440	9.9	1	
Cd	111	1	He	0.001	507.1	32	113.5	1	
Sn	118	1	He	-0.025	-15.2	848	4.7	2	
Sb	123	1	He	0.045	21.4	1112	10.9	1	
Ba	137	1	He	0.033	12.9	303	6.7	1	
Ce	140	1	He	0.002	55.9	509	14.7	1	
Tl	205	1	He	0.003	28.7	659	6.9	1	
Pb	208	1	He	0.005	24.1	1363	7.1	1	
U	238	1	He	-0.004	-26.8	686	11.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	679356	0.34	683823	99.35	80	120	
Ge (IS)	72	1	He	386920	0.17	390615	99.05	80	120	
In-115 (IS)	115	1	He	3549919	0.86	3613234	98.25	80	120	
Tb-159 (IS)	159	1	He	8239592	1.57	8473761	97.24	80	120	
Bi-209 (IS)	209	1	He	5828754	0.54	6042462	96.46	80	120	

Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326257/1-a
Data File Name	111_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:06:43-07:00
Sample Type	MB
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	-0.051	-46.9	4	114.6	0.5	
Na	23	1	He	-118.892	-0.6	159368	1.3	110	
Mg	24	1	He	-8.575	-2.4	24106	1.4	110	
Al	27	1	He	8.456	5.9	9260	5.3	10	
K	39	1	He	-5.371	-13.1	167554	0.3	110	
Ca	44	1	He	97.129	4.2	14195	2.7	110	
V	51	1	He	0.017	47.3	2642	4.9	2	
Cr	52	1	He	0.057	7.5	3804	2.5	2	
Mn	55	1	He	0.094	8.2	1768	5.1	1	
Fe	56	1	He	9.141	3.5	173689	2.9	20	
Co	59	1	He	0.002	68.2	376	10.4	1	
Ni	60	1	He	-0.020	-61.6	763	12.8	2	
Cu	65	1	He	-1.164	-1.1	3914	3.6	1	
Zn	66	1	He	0.312	18.5	4964	3.9	20	
As	75	1	He	0.001	780.1	110	24.2	1	
Se	78	1	He	0.050	219.5	189	12.6	2	
Sr	88	1	He	-0.631	-0.6	2248	3.1	2	
Mo	95	1	He	0.409	3.1	4424	2.9	2	
Ag	107	1	He	0.000	-647.3	344	15.1	1	
Cd	111	1	He	-0.001	-277.5	20	72.7	1	
Sn	118	1	He	-0.027	-31.4	832	11.9	2	
Sb	123	1	He	0.008	19.5	688	2.0	1	
Ba	137	1	He	0.069	12.9	486	10.0	1	
Ce	140	1	He	0.000	65.4	416	4.6	1	
Tl	205	1	He	-0.001	-7.4	400	1.7	1	
Pb	208	1	He	0.009	6.0	1678	3.1	1	
U	238	1	He	-0.008	-4.9	356	8.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	675550	0.50	683823	98.79	80	120	
Ge (IS)	72	1	He	382088	0.43	390615	97.82	80	120	
In-115 (IS)	115	1	He	3550879	0.80	3613234	98.27	80	120	
Tb-159 (IS)	159	1	He	8218045	0.50	8473761	96.98	80	120	
Bi-209 (IS)	209	1	He	5849770	1.11	6042462	96.81	80	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326257/2-a
Data File Name	112_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:09:17-07:00
Sample Type	LCS
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	He	78.317	78.317	2.401	17133	2.41	80	97.9	85	115	
Na	23	1	He	1947.360	1947.360	1.282	8297568	1.35	2000	97.4	85	115	
Mg	24	1	He	1951.925	1951.925	0.457	4312851	0.24	2000	97.6	85	115	
Al	27	1	He	85.336	85.336	1.033	91760	0.86	80	106.7	85	115	
K	39	1	He	2029.412	2029.412	0.701	4162041	0.72	2000	101.5	85	115	
Ca	44	1	He	3930.669	3930.669	0.665	407869	0.90	4000	98.3	85	115	
V	51	1	He	79.920	79.920	0.409	1366785	0.52	80	99.9	85	115	
Cr	52	1	He	79.122	79.122	1.391	1598041	1.42	80	98.9	85	115	
Mn	55	1	He	79.298	79.298	0.585	1046946	0.40	80	99.1	85	115	
Fe	56	1	He	808.341	808.341	0.434	14542917	0.37	800	101.0	85	115	
Co	59	1	He	79.892	79.892	0.978	2445871	0.91	80	99.9	85	115	
Ni	60	1	He	78.671	78.671	0.710	613357	0.90	80	98.3	85	115	
Cu	65	1	He	77.483	77.483	0.418	797896	0.62	80	96.9	85	115	
Zn	66	1	He	79.235	79.235	1.402	304842	1.41	80	99.0	85	115	
As	75	1	He	79.263	79.263	0.796	193643	0.27	80	99.1	85	115	
Se	78	1	He	77.123	77.123	2.366	17101	1.36	80	96.4	85	115	
Sr	88	1	He	76.205	76.205	1.461	1320742	0.10	80	95.3	85	115	
Mo	95	1	He	78.384	78.384	1.442	764122	0.12	80	98.0	85	115	
Ag	107	1	He	80.362	80.362	1.487	2369499	0.85	80	100.5	85	115	
Cd	111	1	He	78.363	78.363	0.832	394576	0.74	80	98.0	85	115	
Sn	118	1	He	78.027	78.027	1.427	917618	0.51	80	97.5	85	115	
Sb	123	1	He	80.095	80.095	1.461	951623	0.47	80	100.1	85	115	
Ba	137	1	He	78.583	78.583	1.310	411635	0.52	80	98.2	85	115	
Ce	140	1	He	79.524	79.524	0.909	5414571	0.65	80	99.4	85	115	
Tl	205	1	He	75.723	75.723	0.236	4638748	0.22	80	94.7	85	115	
Pb	208	1	He	78.337	78.337	0.844	6294244	0.13	80	97.9	85	115	
U	238	1	He	77.150	77.150	2.639	6296166	2.27	80	96.4	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	691459	0.24	683823	101.12	80	120	
Ge (IS)	72	1	He	392640	1.00	390615	100.52	80	120	
In-115 (IS)	115	1	He	3618234	1.47	3613234	100.14	80	120	
Tb-159 (IS)	159	1	He	8510820	0.38	8473761	100.44	80	120	
Bi-209 (IS)	209	1	He	5982233	0.94	6042462	99.00	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-c
Data File Name	113SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:11:40-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4507
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.004	0.004	1023.92	16	53.90	100	
Na	23	1	He	154865.385	154865.385	1.23	573794253	1.21	75000	>LDR
Mg	24	1	He	4324.650	4324.650	0.48	8934394	0.58	125000	
Al	27	1	He	14.207	14.207	24.19	14694	23.31	4000	
K	39	1	He	2581.568	2581.568	0.83	4931245	0.98	100000	
Ca	44	1	He	34155.720	34155.720	1.11	3299234	1.33	250000	
V	51	1	He	0.080	0.080	15.34	3554	5.73	4000	
Cr	52	1	He	0.277	0.277	4.48	7842	3.01	4000	
Mn	55	1	He	141.184	141.184	0.53	1752125	0.75	4000	
Fe	56	1	He	244.631	244.631	1.86	4146694	1.65	40000	
Co	59	1	He	0.124	0.124	8.29	3864	7.86	4000	
Ni	60	1	He	3.299	3.299	1.25	25025	1.08	4000	
[Cu]	63	1	He	-0.988	-0.988	-0.66	12802	0.79	4000	
Cu	65	1	He	-0.900	-0.900	-4.14	6268	5.44	4000	
Zn	66	1	He	1.047	1.047	3.00	7357	1.61	4000	
As	75	1	He	3.546	3.546	2.95	8174	2.62	4000	
Se	78	1	He	0.177	0.177	25.34	207	4.12	4000	
Sr	88	1	He	1824.319	1824.319	1.92	28385407	0.35	4000	
Mo	95	1	He	34.799	34.799	1.13	307774	0.78	4000	
Ag	107	1	He	0.051	0.051	26.19	1702	22.14	100	
Cd	111	1	He	0.044	0.044	13.88	222	11.36	3500	
Sn	118	1	He	0.158	0.158	3.70	2729	2.17	4000	
Sb	123	1	He	0.062	0.062	7.15	1216	4.85	4000	
Ba	137	1	He	6.368	6.368	2.07	30345	0.34	4000	
Ce	140	1	He	0.047	0.047	12.17	3254	12.40	4000	
Tl	205	1	He	0.069	0.069	6.12	4422	5.10	3500	
Pb	208	1	He	0.070	0.070	7.48	5894	5.77	4000	
U	238	1	He	1.390	1.390	0.68	107123	0.22	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	650102	0.23	683823	95.07	80	120	
Ge (IS)	72	1	He	366014	0.47	390615	93.70	80	120	
In-115 (IS)	115	1	He	3279817	1.90	3613234	90.77	80	120	
Tb-159 (IS)	159	1	He	7966262	0.53	8473761	94.01	80	120	
Bi-209 (IS)	209	1	He	5354585	0.66	6042462	88.62	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-d ms
Data File Name	114SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:14:07-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4508
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	74.579	74.579	2.38	15504	1.40	100	
Na	23	1	He	162120.926	162120.926	1.30	607111638	0.80	75000	>LDR
Mg	24	1	He	6407.914	6407.914	1.12	13360802	0.58	125000	
Al	27	1	He	87.837	87.837	2.42	89756	2.93	4000	
K	39	1	He	4678.528	4678.528	1.48	8892326	1.02	100000	
Ca	44	1	He	39234.830	39234.830	0.76	3830112	1.09	250000	
V	51	1	He	80.347	80.347	0.78	1305843	0.91	4000	
Cr	52	1	He	77.593	77.593	1.10	1489325	0.55	4000	
Mn	55	1	He	220.734	220.734	0.97	2768510	0.34	4000	
Fe	56	1	He	1012.554	1012.554	0.44	17309208	0.73	40000	
Co	59	1	He	76.708	76.708	0.68	2231816	0.85	4000	
Ni	60	1	He	76.397	76.397	1.35	566034	0.40	4000	
[Cu]	63	1	He	73.743	73.743	1.54	1504445	2.21	4000	
Cu	65	1	He	73.535	73.535	0.73	720388	0.35	4000	
Zn	66	1	He	76.434	76.434	1.01	274249	0.25	4000	
As	75	1	He	83.674	83.674	0.61	190557	0.15	4000	
Se	78	1	He	73.552	73.552	0.57	15213	0.20	4000	
Sr	88	1	He	1957.555	1957.555	1.28	30923179	1.14	4000	
Mo	95	1	He	115.376	115.376	0.28	1034814	0.23	4000	
Ag	107	1	He	78.179	78.179	2.33	2121284	2.42	100	
Cd	111	1	He	75.167	75.167	0.10	348275	0.29	3500	
Sn	118	1	He	78.927	78.927	0.40	854160	0.43	4000	
Sb	123	1	He	80.160	80.160	0.24	876426	0.28	4000	
Ba	137	1	He	85.297	85.297	1.00	411158	1.15	4000	
Ce	140	1	He	78.637	78.637	1.27	4926829	1.08	4000	
Tl	205	1	He	71.442	71.442	0.51	4086513	1.13	3500	
Pb	208	1	He	79.081	79.081	0.82	5602029	0.42	4000	
U	238	1	He	77.624	77.624	1.95	5914631	0.95	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	657138	0.96	683823	96.10	80	120	
Ge (IS)	72	1	He	366016	0.75	390615	93.70	80	120	
In-115 (IS)	115	1	He	3329199	0.22	3613234	92.14	80	120	
Tb-159 (IS)	159	1	He	7946896	1.11	8473761	93.78	80	120	
Bi-209 (IS)	209	1	He	5274149	0.64	6042462	87.28	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-e msd
Data File Name	115SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:16:27-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4509
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	76.703	76.703	1.28	15922	2.03	100	
Na	23	1	He	159059.865	159059.865	0.05	594728456	1.05	75000	>LDR
Mg	24	1	He	6337.985	6337.985	1.22	13194105	1.10	125000	
Al	27	1	He	87.814	87.814	1.62	89589	2.50	4000	
K	39	1	He	4623.263	4623.263	0.32	8775423	0.80	100000	
Ca	44	1	He	38642.329	38642.329	1.49	3765927	0.95	250000	
V	51	1	He	79.244	79.244	3.08	1285617	2.06	4000	
Cr	52	1	He	77.633	77.633	1.85	1487856	2.54	4000	
Mn	55	1	He	220.869	220.869	1.77	2765519	0.81	4000	
Fe	56	1	He	1005.374	1005.374	0.77	17157950	0.27	40000	
Co	59	1	He	76.675	76.675	0.65	2227289	1.37	4000	
Ni	60	1	He	77.161	77.161	0.91	570768	0.33	4000	
[Cu]	63	1	He	74.383	74.383	2.07	1514680	2.37	4000	
Cu	65	1	He	74.074	74.074	0.35	724393	0.82	4000	
Zn	66	1	He	77.138	77.138	0.72	276600	0.90	4000	
As	75	1	He	84.194	84.194	0.91	191641	1.08	4000	
Se	78	1	He	72.676	72.676	1.08	15026	1.66	4000	
Sr	88	1	He	1934.505	1934.505	0.95	30236041	0.81	4000	
Mo	95	1	He	116.737	116.737	0.80	1035927	0.60	4000	
Ag	107	1	He	79.340	79.340	1.35	2129840	0.22	100	
Cd	111	1	He	76.113	76.113	1.13	348912	0.39	3500	
Sn	118	1	He	80.601	80.601	0.84	863005	0.54	4000	
Sb	123	1	He	81.986	81.986	0.63	886907	0.83	4000	
Ba	137	1	He	87.504	87.504	1.01	417314	0.39	4000	
Ce	140	1	He	80.973	80.973	1.37	5019303	0.54	4000	
Tl	205	1	He	73.047	73.047	0.96	4167903	1.05	3500	
Pb	208	1	He	79.943	79.943	0.46	5668227	0.23	4000	
U	238	1	He	78.329	78.329	0.82	5954288	0.85	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	656066	1.03	683823	95.94	80	120	
Ge (IS)	72	1	He	365820	0.92	390615	93.65	80	120	
In-115 (IS)	115	1	He	3294185	1.39	3613234	91.17	80	120	
Tb-159 (IS)	159	1	He	7927044	0.13	8473761	93.55	80	120	
Bi-209 (IS)	209	1	He	5278839	0.52	6042462	87.36	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-2-f pds
Data File Name	116SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:18:47-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4510
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	76.081	76.081	1.63	15579	2.11	100	
Na	23	1	He	155121.920	155121.920	0.72	572130733	0.91	75000	>LDR
Mg	24	1	He	6222.698	6222.698	0.95	12778994	0.76	125000	
Al	27	1	He	85.717	85.717	2.23	86252	1.25	4000	
K	39	1	He	4491.340	4491.340	1.43	8413961	1.33	100000	
Ca	44	1	He	38100.224	38100.224	2.03	3662654	1.39	250000	
V	51	1	He	76.732	76.732	0.88	1228303	1.45	4000	
Cr	52	1	He	75.692	75.692	0.55	1430930	1.05	4000	
Mn	55	1	He	215.475	215.475	1.65	2661705	2.01	4000	
Fe	56	1	He	1004.230	1004.230	2.07	16904393	1.14	40000	
Co	59	1	He	74.840	74.840	0.47	2144458	1.09	4000	
Ni	60	1	He	75.270	75.270	1.47	549282	1.82	4000	
[Cu]	63	1	He	71.152	71.152	0.87	1430550	0.97	4000	
Cu	65	1	He	72.055	72.055	1.42	695460	1.31	4000	
Zn	66	1	He	75.851	75.851	1.30	268526	0.66	4000	
As	75	1	He	82.490	82.490	1.24	185351	1.79	4000	
Se	78	1	He	71.462	71.462	1.09	14588	1.97	4000	
Sr	88	1	He	1854.906	1854.906	0.77	29150940	1.31	4000	
Mo	95	1	He	111.799	111.799	0.86	997509	0.67	4000	
Ag	107	1	He	76.998	76.998	0.65	2078382	1.28	100	
Cd	111	1	He	73.153	73.153	0.37	337192	1.25	3500	
Sn	118	1	He	77.645	77.645	0.56	835997	1.78	4000	
Sb	123	1	He	78.369	78.369	0.23	852454	1.55	4000	
Ba	137	1	He	83.058	83.058	0.68	398330	2.08	4000	
Ce	140	1	He	76.411	76.411	2.09	4761890	0.76	4000	
Tl	205	1	He	71.285	71.285	1.00	4016565	1.30	3500	
Pb	208	1	He	76.688	76.688	0.13	5413675	1.04	4000	
U	238	1	He	76.462	76.462	0.60	5740296	1.94	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	647190	1.56	683823	94.64	80	120	
Ge (IS)	72	1	He	361112	1.23	390615	92.45	80	120	
In-115 (IS)	115	1	He	3312061	1.42	3613234	91.66	80	120	
Tb-159 (IS)	159	1	He	7828752	1.83	8473761	92.39	80	120	
Bi-209 (IS)	209	1	He	5255723	1.17	6042462	86.98	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-3-c
Data File Name	117SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:21:08-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass
VialNumber	4511
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	0.034	0.034	105.47	22	34.66	100	
Na	23	1	He	158432.358	158432.358	1.01	597846767	1.71	75000	>LDR
Mg	24	1	He	5594.261	5594.261	0.26	11758216	0.91	125000	
Al	27	1	He	9.602	9.602	0.69	10252	0.79	4000	
K	39	1	He	2715.456	2715.456	0.85	5273712	1.50	100000	
Ca	44	1	He	23296.662	23296.662	0.90	2293074	0.59	250000	
V	51	1	He	0.134	0.134	11.92	4508	5.35	4000	
Cr	52	1	He	0.397	0.397	2.28	10290	1.46	4000	
Mn	55	1	He	96.437	96.437	0.43	1219051	1.09	4000	
Fe	56	1	He	206.376	206.376	1.07	3564835	1.29	40000	
Co	59	1	He	0.077	0.077	14.09	2576	11.64	4000	
Ni	60	1	He	0.557	0.557	3.78	5050	2.57	4000	
[Cu]	63	1	He	-0.737	-0.737	-2.69	18088	2.91	4000	
Cu	65	1	He	-0.651	-0.651	-4.17	8798	3.37	4000	
Zn	66	1	He	3.563	3.563	1.09	16505	1.71	4000	
As	75	1	He	13.208	13.208	1.44	30610	0.96	4000	
Se	78	1	He	0.141	0.141	108.94	202	15.60	4000	
Sr	88	1	He	345.817	345.817	0.79	5526302	1.27	4000	
Mo	95	1	He	58.924	58.924	1.12	533853	0.33	4000	
Ag	107	1	He	0.058	0.058	35.27	1922	27.73	100	
Cd	111	1	He	0.054	0.054	25.09	278	21.65	3500	
Sn	118	1	He	0.208	0.208	7.53	3351	5.69	4000	
Sb	123	1	He	0.039	0.039	9.85	990	3.25	4000	
Ba	137	1	He	2.449	2.449	4.16	12044	4.35	4000	
Ce	140	1	He	0.053	0.053	17.98	3697	14.80	4000	
Tl	205	1	He	0.048	0.048	10.10	3176	7.52	3500	
Pb	208	1	He	0.074	0.074	17.31	6249	14.06	4000	
U	238	1	He	7.169	7.169	1.28	548594	0.32	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	662085	0.71	683823	96.82	80	120	
Ge (IS)	72	1	He	371408	0.89	390615	95.08	80	120	
In-115 (IS)	115	1	He	3361809	1.32	3613234	93.04	80	120	
Tb-159 (IS)	159	1	He	7968844	1.12	8473761	94.04	80	120	
Bi-209 (IS)	209	1	He	5393895	1.04	6042462	89.27	80	120	

Sample Report

Sample Table

Sample Name	440-144935-h-3-c sd@5
Data File Name	118SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:23:37-07:00
Sample Type	Sample
Dilution	1
Comment	SBTL 6020LL 440-326257 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass
VialNumber	4512
Instrument	ICPMS05

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	He	-0.004	-0.004	-983.10	14	53.28	100	
Na	23	1	He	32633.431	32633.431	2.18	125593008	1.80	75000	
Mg	24	1	He	1171.091	1171.091	1.40	2534216	0.96	125000	
Al	27	1	He	3.090	3.090	9.55	3635	8.08	4000	
K	39	1	He	538.494	538.494	1.63	1204515	1.29	100000	
Ca	44	1	He	4656.082	4656.082	0.70	469209	0.50	250000	
V	51	1	He	0.010	0.010	93.96	2524	6.14	4000	
Cr	52	1	He	0.071	0.071	11.51	4075	3.77	4000	
Mn	55	1	He	20.106	20.106	1.41	258657	0.98	4000	
Fe	56	1	He	42.995	42.995	1.56	764961	1.19	40000	
Co	59	1	He	0.027	0.027	19.17	1132	13.77	4000	
Ni	60	1	He	0.171	0.171	5.51	2210	3.43	4000	
[Cu]	63	1	He	-0.888	-0.888	-2.60	15295	3.17	4000	
Cu	65	1	He	-0.847	-0.847	-4.03	7014	4.51	4000	
Zn	66	1	He	1.134	1.134	6.35	8052	2.77	4000	
As	75	1	He	2.619	2.619	2.48	6371	2.97	4000	
Se	78	1	He	0.023	0.023	405.22	184	10.69	4000	
Sr	88	1	He	66.511	66.511	0.96	1125250	0.80	4000	
Mo	95	1	He	11.691	11.691	0.34	111531	0.04	4000	
Ag	107	1	He	0.013	0.013	24.88	726	12.77	100	
Cd	111	1	He	0.013	0.013	22.90	91	16.90	3500	
Sn	118	1	He	0.114	0.114	16.88	2431	8.72	4000	
Sb	123	1	He	-0.002	-0.002	-167.70	559	7.51	4000	
Ba	137	1	He	0.535	0.535	2.94	2860	2.46	4000	
Ce	140	1	He	0.013	0.013	10.31	1272	6.91	4000	
Tl	205	1	He	0.015	0.015	15.22	1378	10.20	3500	
Pb	208	1	He	0.028	0.028	11.48	3120	7.76	4000	
U	238	1	He	1.432	1.432	2.13	114505	0.79	4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	672707	0.43	683823	98.37	80	120	
Ge (IS)	72	1	He	384477	0.56	390615	98.43	80	120	
In-115 (IS)	115	1	He	3526392	0.35	3613234	97.60	80	120	
Tb-159 (IS)	159	1	He	8268372	1.32	8473761	97.58	80	120	
Bi-209 (IS)	209	1	He	5785316	0.90	6042462	95.74	80	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3321395
Data File Name	119_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:26:10-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	He	47.743	1.945	10192	1.81	50	95.5	89.5	110.49	
Na	23	1	He	1224.374	2.309	5316079	1.81	1250	97.9	89.5	110.49	
Mg	24	1	He	1272.675	1.860	2757104	1.73	1250	101.8	89.5	110.49	
Al	27	1	He	51.891	1.446	54578	1.14	50	103.8	89.5	110.49	
K	39	1	He	1280.076	2.364	2625681	1.91	1250	102.4	89.5	110.49	
Ca	44	1	He	2509.155	0.649	255526	0.83	2500	100.4	89.5	110.49	
V	51	1	He	49.411	0.458	825000	0.73	50	98.8	89.5	110.49	
Cr	52	1	He	48.930	0.654	964794	0.42	50	97.9	89.5	110.49	
Mn	55	1	He	50.144	0.705	645838	0.45	50	100.3	89.5	110.49	
Fe	56	1	He	501.816	1.115	8809469	0.82	500	100.4	89.5	110.49	
Co	59	1	He	50.217	1.097	1499420	0.89	50	100.4	89.5	110.49	
Ni	60	1	He	49.367	1.049	375690	0.90	50	98.7	89.5	110.49	
Cu	65	1	He	48.476	0.575	492570	0.28	50	97.0	89.5	110.49	
Zn	66	1	He	50.849	0.370	192959	0.86	50	101.7	89.5	110.49	
As	75	1	He	48.931	0.218	117109	0.59	50	97.9	89.5	110.49	
Se	78	1	He	48.795	2.546	10661	1.73	50	97.6	89.5	110.49	
Sr	88	1	He	47.751	1.504	801276	0.30	50	95.5	89.5	110.49	
Mo	95	1	He	49.867	0.955	468113	0.71	50	99.7	89.5	110.49	
Ag	107	1	He	49.699	1.165	1410589	0.49	50	99.4	89.5	110.49	
Cd	111	1	He	49.518	1.494	239989	1.15	50	99.0	89.5	110.49	
Sn	118	1	He	49.993	2.103	566250	0.59	50	100.0	89.5	110.49	
Sb	123	1	He	49.954	1.769	571454	0.53	50	99.9	89.5	110.49	
Ba	137	1	He	50.465	0.887	254501	1.14	50	100.9	89.5	110.49	
Ce	140	1	He	51.265	0.553	3359948	1.10	50	102.5	89.5	110.49	
Tl	205	1	He	49.525	1.178	2902791	0.56	50	99.0	89.5	110.49	
Pb	208	1	He	49.327	1.239	3875558	1.15	50	98.7	89.5	110.49	
U	238	1	He	49.644	1.264	3876741	0.38	50	99.3	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	674335	0.29	683823	98.61	80	120	
Ge (IS)	72	1	He	384504	0.81	390615	98.44	80	120	
In-115 (IS)	115	1	He	3482634	1.64	3613234	96.39	80	120	
Tb-159 (IS)	159	1	He	8143232	0.88	8473761	96.10	80	120	
Bi-209 (IS)	209	1	He	5848967	0.46	6042462	96.80	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	120_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:28:37-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.004	1778.7	16	89.2	0.5	
Na	23	1	He	-87.951	-2.8	269974	3.4	110	
Mg	24	1	He	-13.817	-3.1	12516	7.0	110	
Al	27	1	He	2.983	2.3	3433	2.9	10	
K	39	1	He	-5.827	-23.1	161649	1.2	110	
Ca	44	1	He	-29.161	-3.8	1490	7.3	110	
V	51	1	He	-0.002	-392.7	2262	5.7	2	
Cr	52	1	He	-0.002	-258.6	2564	3.7	2	
Mn	55	1	He	0.074	9.0	1469	5.7	1	
Fe	56	1	He	3.757	2.7	76780	2.2	20	
Co	59	1	He	0.022	10.6	947	6.9	1	
Ni	60	1	He	0.030	36.9	1112	7.8	2	
Cu	65	1	He	-1.147	-2.3	3958	6.9	1	
Zn	66	1	He	0.070	45.6	3999	2.2	20	
As	75	1	He	0.026	26.3	167	10.4	1	
Se	78	1	He	0.152	76.8	207	11.1	2	
Sr	88	1	He	-0.539	-3.4	3734	8.6	2	
Mo	95	1	He	0.125	7.4	1683	5.4	2	
Ag	107	1	He	0.034	44.1	1325	33.5	1	
Cd	111	1	He	0.013	38.5	87	27.7	1	
Sn	118	1	He	0.141	17.2	2722	10.3	2	
Sb	123	1	He	0.218	7.6	3079	6.0	1	
Ba	137	1	He	0.048	10.2	373	7.8	1	
Ce	140	1	He	0.015	28.3	1358	21.6	1	
Tl	205	1	He	0.025	12.1	1907	9.6	1	
Pb	208	1	He	0.024	17.6	2763	11.8	1	
U	238	1	He	0.040	4.2	4043	3.6	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	655179	0.86	683823	95.81	80	120	
Ge (IS)	72	1	He	375456	0.78	390615	96.12	80	120	
In-115 (IS)	115	1	He	3497201	1.24	3613234	96.79	80	120	
Tb-159 (IS)	159	1	He	8118781	0.51	8473761	95.81	80	120	
Bi-209 (IS)	209	1	He	5729221	1.26	6042462	94.82	80	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3321393
Data File Name	121_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160425
Acq Date Time	2016-04-25T20:31:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	He	0.027	403.0	20	109.3	0.5	
Na	23	1	He	-98.782	-0.9	226166	1.1	110	
Mg	24	1	He	-14.625	-0.7	10681	2.3	110	
Al	27	1	He	2.590	4.5	2988	3.3	10	
K	39	1	He	-7.553	-16.0	156091	0.9	110	
Ca	44	1	He	-30.775	-3.3	1313	7.5	110	
V	51	1	He	-0.010	-87.3	2105	5.8	2	
Cr	52	1	He	-0.006	-100.4	2447	4.7	2	
Mn	55	1	He	0.054	21.5	1206	12.5	1	
Fe	56	1	He	3.249	3.4	67119	3.2	20	
Co	59	1	He	0.011	42.3	610	20.6	1	
Ni	60	1	He	0.019	79.9	1014	10.3	2	
Cu	65	1	He	-1.209	-1.1	3313	3.4	1	
Zn	66	1	He	0.078	73.4	3983	4.9	20	
As	75	1	He	0.009	23.2	124	4.4	1	
Se	78	1	He	0.086	88.3	191	7.5	2	
Sr	88	1	He	-0.600	-1.4	2666	5.7	2	
Mo	95	1	He	0.053	13.8	986	6.6	2	
Ag	107	1	He	0.010	38.0	632	18.0	1	
Cd	111	1	He	0.004	33.0	46	15.2	1	
Sn	118	1	He	0.026	52.4	1390	10.6	2	
Sb	123	1	He	0.034	14.0	947	5.2	1	
Ba	137	1	He	0.039	13.1	322	7.8	1	
Ce	140	1	He	0.005	5.9	694	2.5	1	
Tl	205	1	He	0.008	4.9	908	3.5	1	
Pb	208	1	He	0.009	10.5	1658	4.9	1	
U	238	1	He	0.006	28.6	1410	9.1	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	He	645454	0.58	683823	94.39	80	120	
Ge (IS)	72	1	He	371228	0.69	390615	95.04	80	120	
In-115 (IS)	115	1	He	3425024	0.50	3613234	94.79	80	120	
Tb-159 (IS)	159	1	He	8079071	1.03	8473761	95.34	80	120	
Bi-209 (IS)	209	1	He	5737387	1.24	6042462	94.95	80	120	

P/A Factor Tuning Report

===Current Sample===
Sample Name: Blank
Data File: 001SMPL.d
Acquired: 04/25/2016 05:37:58

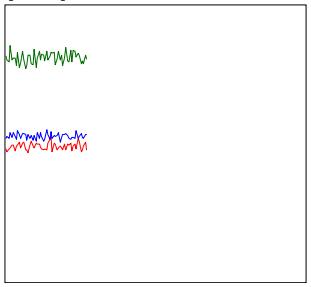
===Detector Parameters and P/A Factors===
Discriminator: 5 mV
AnalogHV: 1749 V
PulseHV: 1073 V

Acquired: 04/25/2016 04:50:05

Mass[u]	Element	P/A Factor
6		0.083539
9		0.098363
24		0.115410
27		0.121387
39		0.123346
45		0.124908
48		0.126448
51		0.128714
52		0.134245
55		0.137423
59		0.144308
60		0.147481
65		0.151150
66		0.150573
72		0.147581
75		0.146878
95		0.146897
96		0.148513
98		0.148618
99		0.151701
100		0.150672
101		0.153009
102		0.151892
104		0.155625
105		0.159429
106		0.160754
108		0.160886
110		0.162162
111		0.163461
114		0.161968
115		0.161792
118		0.161750
121		0.161823
138		0.164095
193		0.178196
205		0.180186
208		0.181152
209		0.181068
232		0.180959
238		0.180452

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	10000	4766	4900.3	2.72
59	10000	6409	6460.8	2.44
89	20000	10697	10545.8	1.96
140	20000	10607	10667.6	2.48
205	10000	8054	8111.2	2.50
156/140	1	0.933 %	0.883 %	12.91
70/140	5	2.367 %	2.376 %	9.54
115	2000	936	938.4	5.03
60	1000	573	609.0	5.19

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.55
RF Power	1600	W	Carrier Gas	0.65	L/min	S/C Temp	2	℃	Plasma Gas	15.0
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas	0.9

Lenses Parameters

Extract 1	0.0	V	Omega Bias	-65	V	Cell Entrance	-32	V	Deflect	14.6	V
Extract 2	-145.0	V	Omega Lens	7.4	V	Cell Exit	-58	V	Plate Bias	-50	V

Cell Parameters

Use Gas	false		H2 Flow	0.0	mL/min	OctP Bias	-8.0	V	Energy Discrimination	5.0	V
He Flow	0.0	mL/min	3rd Gas Flow	0	%	OctP RF	150	V			

Qpole Parameters

Mass Gain	132	Axis Gain	1.0008	QP Bias	-3.0 V
Mass Offset	129	Axis Offset	0.12		

Torch Axis Parameters

Torch H	-0.3	mm	Torch V	0.1	mm

EM Parameters

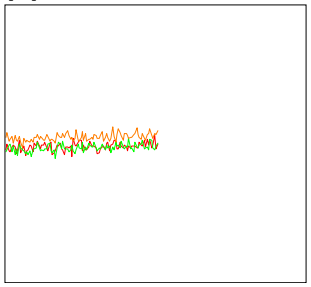
Discriminator	5.0	mV	Analog HV	1749	V	Pulse HV	1073	V

Meters

IF/BK Press	2.53E+2	Pa	Internal Temp	33.4	℃	Reflected Power	8	W
Analyzer Press	1.62E-4	Pa	Inlet Temp	27.0	℃			

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	5000	2492	2445.8	3.02
89	5000	2502	2423.9	2.91
140	10000	5218	5346.1	2.87
205	10000	5461	5239.4	2.61
156/140	1	0.613 %	0.582 %	26.60
70/140	2	1.495 %	1.313 %	14.89
51	100	36	38.5	23.33
56	5000	3224	3262.6	3.31
75	20	5	3.1	74.93
78	50	13	12.5	37.81

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.55
RF Power	1600	W	Carrier Gas	0.65	L/min	S/C Temp	2	°C	Plasma Gas	15.0
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas	0.9

Lenses Parameters

Extract 1	0.0	V	Omega Bias	-65	V	Cell Entrance	-32	V	Deflect	1.2	V
Extract 2	-145.0	V	Omega Lens	7.4	V	Cell Exit	-70	V	Plate Bias	-60	V

Cell Parameters

Use Gas	true		H2 Flow	0.0	mL/min	OctP Bias	-18.0	V	Energy Discrimination	4.0	V
He Flow	4.0	mL/min	3rd Gas Flow	0	%	OctP RF	150	V			

Qpole Parameters

Mass Gain	132	Axis Gain	1.0008	QP Bias	-14.0	V
Mass Offset	129	Axis Offset	0.12			

Torch Axis Parameters

Torch H	-0.3	mm	Torch V	0.1	mm

EM Parameters

Discriminator	5.0	mV	Analog HV	1749	V	Pulse HV	1073	V

Meters

IF/BK Press	2.53E+2	Pa	Internal Temp	32.8	°C	Reflected Power	8	W
Analyzer Press	2.84E-4	Pa	Inlet Temp	27.0	°C			

200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160425-1LL.b
Report Comment
Instrument Name ICPMS05 JP12091608

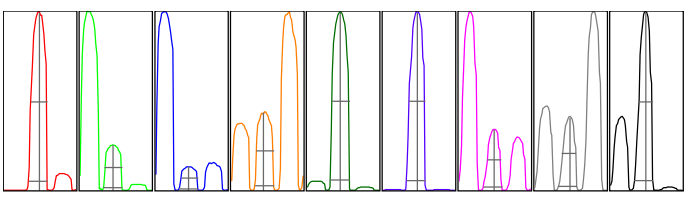
[No Gas]

Mass	Count (Actual)
9	82899
24	391151
25	51703
26	60542
59	475522
115	731139
206	175122
207	151768
208	368509

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.59	5.00	
24	0.33	5.00	
25	0.41	5.00	
26	0.47	5.00	
59	0.59	5.00	
115	0.34	5.00	
206	0.48	5.00	
207	0.57	5.00	
208	0.44	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	83625	82968	83015	82488	82397
24	389955	391353	391781	392884	389780
25	51772	51686	52029	51536	51492
26	60382	60891	60772	60188	60478
59	471755	476033	476187	479380	474253
115	726836	731627	732665	731848	732718
206	173839	175347	175702	175940	174780
207	150515	151427	152085	151984	152832
208	366136	367992	370316	368511	369587

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	13344	9.00	8.9 - 9.1		0.782	0.900	
24	61384	23.90	23.9 - 24.1		0.771	0.900	
25	8103	24.90	24.9 - 25.1		0.782	0.900	
26	9397	25.85	25.9 - 26.1	[F]	0.780	0.900	
59	73473	58.90	58.9 - 59.1		0.789	0.900	
115	121495	114.95	114.9 - 115.1		0.782	0.900	
206	32097	206.00	205.9 - 206.1		0.775	0.900	
207	27967	207.00	206.9 - 207.1		0.761	0.900	
208	68290	208.00	207.9 - 208.1		0.757	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	14.6 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-50 V
Omega Bias	-65 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V

200.8 Tune Check Sample Report

OctP RF	150 V	H2 Flow	0.0 mL/min
Use Gas	false	3rd Gas Flow	0 %

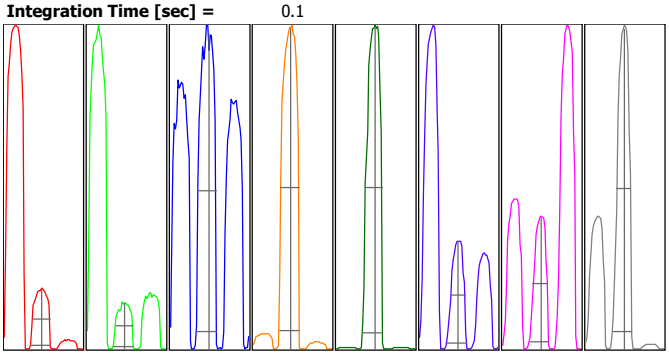
[He]

Mass	Count (Actual)
24	15276
25	2186
26	2726
59	174671
115	212252
206	109536
207	95540
208	231321

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	0.87	5.00	
25	1.97	5.00	
26	1.78	5.00	
59	0.54	5.00	
115	0.85	5.00	
206	1.01	5.00	
207	0.65	5.00	
208	0.61	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	15273	15241	15127	15492	15249
25	2140	2170	2223	2157	2239
26	2683	2765	2712	2789	2683
59	174870	173063	175264	174721	175435
115	210518	211348	210989	214261	214144
206	108120	109491	109071	109846	111150
207	94692	95195	95762	95717	96335
208	228930	231998	231510	231510	232654

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	2483	23.950	23.9 - 24.1		0.751	0.900	
25	360	24.950	24.9 - 25.1		0.768	0.900	
26	432	26.000	25.9 - 26.1		0.761	0.900	
59	27497	58.950	58.9 - 59.1		0.786	0.900	
115	36275	115.000	114.9 - 115.1		0.764	0.900	
206	20531	206.000	205.9 - 206.1		0.763	0.900	
207	18034	207.000	206.9 - 207.1		0.736	0.900	
208	44145	208.000	207.9 - 208.1		0.737	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.0 mL/min	Energy Discrimination	4.0 V
OctP RF	150 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160425-1LL.b
Report Comment
Instrument Name ICPMS05 JP12091608

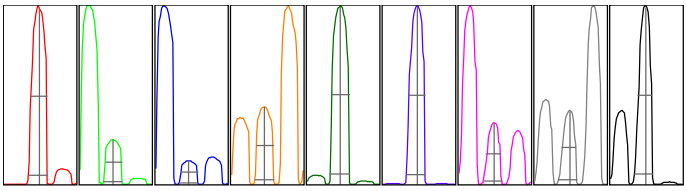
[No Gas]

Mass	Count (Actual)
9	83263
24	388114
25	50983
26	59761
59	480227
115	736222
206	176861
207	153373
208	371041

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.77	5.00	
24	0.86	5.00	
25	0.78	5.00	
26	1.11	5.00	
59	0.98	5.00	
115	0.96	5.00	
206	0.75	5.00	
207	0.76	5.00	
208	0.96	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	82215	83369	83865	83670	83196
24	382541	387546	389876	390714	389891
25	50408	50958	50832	51324	51390
26	58838	59329	60474	60116	60049
59	473380	477536	484894	482620	482705
115	726700	730787	742564	741926	739133
206	175041	176098	178455	177650	177060
207	151689	153262	154974	153474	153466
208	367205	368709	376280	370261	372752

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	13444	9.00	8.9 - 9.1		0.782	0.900	
24	60954	23.90	23.9 - 24.1		0.770	0.900	
25	8002	24.90	24.9 - 25.1		0.782	0.900	
26	9302	25.90	25.9 - 26.1		0.780	0.900	
59	74125	58.90	58.9 - 59.1		0.790	0.900	
115	121695	114.95	114.9 - 115.1		0.782	0.900	
206	32276	206.00	205.9 - 206.1		0.772	0.900	
207	28072	207.00	206.9 - 207.1		0.763	0.900	
208	68290	208.00	207.9 - 208.1		0.760	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	14.6 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-50 V
Omega Bias	-65 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V

200.8 Tune Check Sample Report

OctP RF	150 V	H2 Flow	0.0 mL/min
Use Gas	false	3rd Gas Flow	0 %

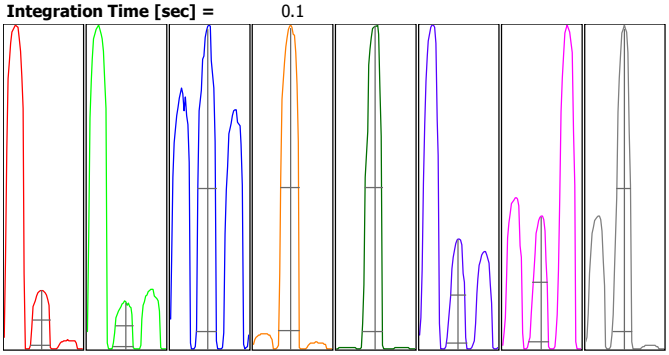
[He]

Mass	Count (Actual)
24	15211
25	2189
26	2757
59	175792
115	213474
206	109018
207	95118
208	229903

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	1.62	5.00	
25	4.50	5.00	
26	1.71	5.00	
59	0.78	5.00	
115	0.94	5.00	
206	0.86	5.00	
207	0.77	5.00	
208	0.71	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	14861	15276	15128	15252	15538
25	2043	2171	2203	2212	2317
26	2721	2826	2782	2739	2715
59	174870	177310	174376	175183	177221
115	212370	212517	211946	213647	216887
206	108806	109327	107636	109087	110232
207	94732	95760	94261	94848	95990
208	229978	230313	227589	229522	232113

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	2456	23.950	23.9 - 24.1		0.748	0.900	
25	355	25.000	24.9 - 25.1		0.777	0.900	
26	452	25.950	25.9 - 26.1		0.756	0.900	
59	27595	58.950	58.9 - 59.1		0.786	0.900	
115	36445	115.000	114.9 - 115.1		0.765	0.900	
206	20377	206.000	205.9 - 206.1		0.758	0.900	
207	17916	207.000	206.9 - 207.1		0.742	0.900	
208	43666	208.000	207.9 - 208.1		0.739	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.65 L/min	S/C Temp	2 ℃
RF Matching	1.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.55 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-145.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-65 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	4.0 mL/min	Energy Discrimination	4.0 V
OctP RF	150 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

METALS BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-144940-2

SDG No.:

Batch Number: 326042 Batch Start Date: 04/22/16 17:22 Batch Analyst: Em, Kimsirey 1

Batch Method: 200.2 Batch End Date: 04/22/16 19:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME HCl 00317	ME HNO3 00327	ME ICPMS CAL 00027
MB 440-326042/1		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	
LCS 440-326042/2		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-3 MS		200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144937-B-3 MSD		200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-144940-C-1	DBMW-5-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-144940-C-2	DBMW-4-20160419-EB	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	

Batch Notes	
Batch Comment	Spike ICPMS:200 uL
Lot # of Nitric Acid	0000129810 HCl 4115100
Pipette ID	100
Digestion Tube/Cup ID	1509104

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zoe Diermier	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate									Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	N									X	
DBMW-5-20160419	4-19-16	0930	G	W	Y	N	X	X	X										
DBMW-4-20160419-EB	4-19-16	1130	G	W	Y	N	X	X	X										
DBMW-4-20160419	4-19-16	1100	G	W	N	N	X		X										
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															
			G	W															

440-144940 Chain of Custody

4/20/16

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: Fed: 6589 2840 6903

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4-19-16 1430	AECOM	[signature]	4/19/16 1430	TA
[signature]	4-19-16 1600	TA	[signature]	4/20/16 9:50	TAI

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: CS 4.3/4.1 3.8/3.6 3.5/3.3 3.9/3.7

4.1 TALAS

IR-78

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-144940-2

Login Number: 144940
List Number: 1
Creator: Garcia, Veronica G

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-145066-1

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/10/2016 3:52 PM

Designee for
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05/10/2016

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-145066-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/21/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 1.1º C, 1.5º C, 1.7º C, 1.9º C and 2.4º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

PERCHLORATE (IC)
Samples MW-11-20160420 (440-145066-2), MW-05-20160420 (440-145066-3), MW-18-20160420 (440-145066-4) and MW-04-20160420 (440-145066-5) were analyzed for perchlorate (IC) in accordance with EPA Method 314.0. The samples were analyzed on 05/03/2016.

Perchlorate failed the recovery criteria low for the MS and MSD of sample MW-04-20160420 (440-145066-5) in batch 440-327943.

Sample MW-04-20160420 (440-145066-5)[100X] required dilution prior to analysis to bring the target analytes within range. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL DISSOLVED SOLIDS
Samples MW-11-20160420 (440-145066-2), MW-05-20160420 (440-145066-3), MW-18-20160420 (440-145066-4) and MW-04-20160420 (440-145066-5) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 04/25/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CHLORATE
Samples MW-11-20160420 (440-145066-2), MW-05-20160420 (440-145066-3), MW-18-20160420 (440-145066-4) and MW-04-20160420 (440-145066-5) were analyzed for chlorate in accordance with EPA Method 300.1B. The samples were analyzed on 04/26/2016 and 04/27/2016.

Chlorate failed the recovery criteria low for the MS and MSD of sample MW-04-20160420 (440-145066-5) in batch 440-326441.

Samples MW-11-20160420 (440-145066-2)[5X], MW-05-20160420 (440-145066-3)[5X], MW-18-20160420 (440-145066-4)[5X] and MW-04-20160420 (440-145066-5)[100X] required dilution prior to analysis due to the nature of the sample matrix or to bring the target analytes within range. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS
Samples MW-11-20160420 (440-145066-2), MW-05-20160420 (440-145066-3), MW-18-20160420 (440-145066-4) and MW-04-20160420 (440-145066-5) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/22/2016 and 04/23/2016.

Due to the relatively high concentration of Chloride in the batch QC source sample, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-325963 could not be evaluated for accuracy and precision; however, the estimated results are reported per client request. The associated laboratory control sample (LCS) met acceptance criteria.

Samples MW-11-20160420 (440-145066-2)[100X], MW-11-20160420 (440-145066-2)[2X], MW-05-20160420 (440-145066-3)[200X], MW-05-20160420 (440-145066-3)[5X], MW-18-20160420 (440-145066-4)[200X], MW-18-20160420 (440-145066-4)[5X], MW-04-20160420 (440-145066-5)[20X] and MW-04-20160420 (440-145066-5)[500X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Client Sample ID: MW-11-20160420 — Lab Sample ID: 440-145066-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	1.0		1.0	0.50	mg/L	2		300.0	Total/NA
Chloride	320		50	25	mg/L	100		300.0	Total/NA
Chlorate	93	J	100	50	ug/L	5		300.1B	Total/NA
Perchlorate	24		4.0	0.95	ug/L	1		314.0	Total/NA
Total Dissolved Solids	2600		20	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-05-20160420 — Lab Sample ID: 440-145066-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	390		100	50	mg/L	200		300.0	Total/NA
Chlorate	130		100	50	ug/L	5		300.1B	Total/NA
Perchlorate	14		4.0	0.95	ug/L	1		314.0	Total/NA
Total Dissolved Solids	3200		50	25	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-18-20160420 — Lab Sample ID: 440-145066-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	670		100	50	mg/L	200		300.0	Total/NA
Perchlorate	3.4	J	4.0	0.95	ug/L	1		314.0	Total/NA
Total Dissolved Solids	3100		50	25	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-04-20160420 — Lab Sample ID: 440-145066-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100		250	130	mg/L	500		300.0	Total/NA
Chlorate	14000		2000	1000	ug/L	100		300.1B	Total/NA
Perchlorate	8700		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	13000		100	50	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-11-20160420 — Lab Sample ID: 440-145066-2

Date Collected: 04/20/16 08:35
Date Received: 04/21/16 10:00
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.0		1.0	0.50	mg/L			04/22/16 23:26	2
Chloride	320		50	25	mg/L			04/22/16 23:40	100

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	93	J	100	50	ug/L			04/27/16 15:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/27/16 15:34*	*5*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	24		4.0	0.95	ug/L			05/03/16 13:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2600		20	10	mg/L			04/25/16 14:47	1

Client Sample ID: MW-05-20160420 — Lab Sample ID: 440-145066-3

Date Collected: 04/20/16 10:15
Date Received: 04/21/16 10:00
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			04/22/16 23:54	5
Chloride	390		100	50	mg/L			04/23/16 00:08	200

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	130		100	50	ug/L			04/27/16 12:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*101*		*90 - 115*		*04/27/16 12:15*	*5*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	14		4.0	0.95	ug/L			05/03/16 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3200		50	25	mg/L			04/25/16 14:47	1

Client Sample ID: MW-18-20160420 — Lab Sample ID: 440-145066-4

Date Collected: 04/20/16 12:10
Date Received: 04/21/16 10:00
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			04/23/16 01:48	5
Chloride	670		100	50	mg/L			04/23/16 02:02	200

Client Sample ID: MW-18-20160420

Lab Sample ID: 440-145066-4

Date Collected: 04/20/16 12:10
Matrix: Water
Date Received: 04/21/16 10:00

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		100	50	ug/L			04/27/16 12:48	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*109*		*90 - 115*		*04/27/16 12:48*	*5*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**3.4**	**J**	4.0	0.95	ug/L			05/03/16 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3100**		50	25	mg/L			04/25/16 14:47	1

Client Sample ID: MW-04-20160420

Lab Sample ID: 440-145066-5

Date Collected: 04/20/16 14:00
Matrix: Water
Date Received: 04/21/16 10:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		10	5.0	mg/L			04/23/16 00:35	20
Chloride	**3100**		250	130	mg/L			04/23/16 00:21	500

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**14000**		2000	1000	ug/L			04/26/16 14:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*105*		*90 - 115*		*04/26/16 14:13*	*100*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**8700**		400	95	ug/L			05/03/16 12:18	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**13000**		100	50	mg/L			04/25/16 14:47	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units	Method
Bromide	0.50	0.25	mg/L	300.0
Chloride	0.50	0.25	mg/L	300.0

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	RL	MDL	Units	Method
Chlorate	20	10	ug/L	300.1B

Method: 314.0 - Perchlorate (IC)

Analyte	RL	MDL	Units	Method
Perchlorate	4.0	0.95	ug/L	314.0

General Chemistry

Analyte	RL	MDL	Units	Method
Total Dissolved Solids	10	5.0	mg/L	SM 2540C

Surrogate Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Method: 300.1B - Disinfection By-Products, (IC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		ɔacetic ac							
Lab Sample ID	**Client Sample ID**	**(90-115)**							
440-145066-2	MW-11-20160420	104							
440-145066-3	MW-05-20160420	101							
440-145066-4	MW-18-20160420	109							
440-145066-5	MW-04-20160420	105							
440-145066-5 MS	MW-04-20160420	105							
440-145066-5 MSD	MW-04-20160420	104							
440-145296-A-3 MS	Matrix Spike	105							
440-145296-A-3 MSD	Matrix Spike Duplicate	107							
LCS 440-326441/2	Lab Control Sample	105							
MB 440-326441/3	Method Blank	108							
MRL 440-326441/1	Lab Control Sample	107							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-325963/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/22/16 13:05	1
Chloride	ND		0.50	0.25	mg/L			04/22/16 13:05	1

Lab Sample ID: LCS 440-325963/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.05		mg/L		101	90 - 110
Chloride	5.00	5.04		mg/L		101	90 - 110

Lab Sample ID: 440-145066-5 MS — **Client Sample ID: MW-04-20160420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325963

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		50.0	48.4		mg/L		97	80 - 120
Chloride	4300	E	50.0	4200	E 4	mg/L		-230	80 - 120

Lab Sample ID: 440-145066-5 MSD — **Client Sample ID: MW-04-20160420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 325963

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND		50.0	44.5		mg/L		89	80 - 120	8	20
Chloride	4300	E	50.0	4190	E 4	mg/L		-253	80 - 120	0	20

Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 440-326441/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/26/16 03:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*108*		*90 - 115*		*04/26/16 03:32*	*1*

Lab Sample ID: LCS 440-326441/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	100	101		ug/L		101	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Lab Sample ID: MRL 440-326441/1
Matrix: Water
Analysis Batch: 326441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	19.5	J	ug/L		97	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*107*		*90 - 115*

Lab Sample ID: 440-145066-5 MS
Matrix: Water
Analysis Batch: 326441

Client Sample ID: MW-04-20160420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	14000		400	14300	4	ug/L		-18	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-145066-5 MSD
Matrix: Water
Analysis Batch: 326441

Client Sample ID: MW-04-20160420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	14000		400	14100	4	ug/L		-82	75 - 125	2	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Lab Sample ID: 440-145296-A-3 MS
Matrix: Water
Analysis Batch: 326441

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	240		200	414		ug/L		89	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-145296-A-3 MSD
Matrix: Water
Analysis Batch: 326441

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	240		200	421		ug/L		92	75 - 125	2	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*107*		*90 - 115*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-327943/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/03/16 10:00	1

Lab Sample ID: LCS 440-327943/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.5		ug/L		98	85 - 115

Lab Sample ID: MRL 440-327943/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.73	J	ug/L		93	75 - 125

Lab Sample ID: 440-145066-5 MS — **Client Sample ID: MW-04-20160420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	8700		25.0	8620	4	ug/L		-280	80 - 120

Lab Sample ID: 440-145066-5 MSD — **Client Sample ID: MW-04-20160420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	8700		25.0	8700	4	ug/L		62	80 - 120	1	20

Lab Sample ID: INF 440-327943/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water
Analysis Batch: 327943

Analyte	Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	22.8		ug/L		91	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-326369/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/25/16 14:47	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 440-326369/2
Matrix: Water
Analysis Batch: 326369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	978		mg/L		98	90 - 110		

Lab Sample ID: 440-145066-5 DU
Matrix: Water
Analysis Batch: 326369

Client Sample ID: MW-04-20160420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	13000			13100		mg/L				3	5

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

HPLC/IC

Analysis Batch: 325963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145066-2	MW-11-20160420	Total/NA	Water	300.0	
440-145066-2	MW-11-20160420	Total/NA	Water	300.0	
440-145066-3	MW-05-20160420	Total/NA	Water	300.0	
440-145066-3	MW-05-20160420	Total/NA	Water	300.0	
440-145066-4	MW-18-20160420	Total/NA	Water	300.0	
440-145066-4	MW-18-20160420	Total/NA	Water	300.0	
440-145066-5	MW-04-20160420	Total/NA	Water	300.0	
440-145066-5	MW-04-20160420	Total/NA	Water	300.0	
440-145066-5 MS	MW-04-20160420	Total/NA	Water	300.0	
440-145066-5 MSD	MW-04-20160420	Total/NA	Water	300.0	
LCS 440-325963/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-325963/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 326441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145066-2	MW-11-20160420	Total/NA	Water	300.1B	
440-145066-3	MW-05-20160420	Total/NA	Water	300.1B	
440-145066-4	MW-18-20160420	Total/NA	Water	300.1B	
440-145066-5	MW-04-20160420	Total/NA	Water	300.1B	
440-145066-5 MS	MW-04-20160420	Total/NA	Water	300.1B	
440-145066-5 MSD	MW-04-20160420	Total/NA	Water	300.1B	
440-145296-A-3 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145296-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
LCS 440-326441/2	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-326441/3	Method Blank	Total/NA	Water	300.1B	
MRL 440-326441/1	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 327943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145066-2	MW-11-20160420	Total/NA	Water	314.0	
440-145066-3	MW-05-20160420	Total/NA	Water	314.0	
440-145066-4	MW-18-20160420	Total/NA	Water	314.0	
440-145066-5	MW-04-20160420	Total/NA	Water	314.0	
440-145066-5 MS	MW-04-20160420	Total/NA	Water	314.0	
440-145066-5 MSD	MW-04-20160420	Total/NA	Water	314.0	
INF 440-327943/4	Lab Control Sample		Water	314.0	
LCS 440-327943/2	Lab Control Sample	Total/NA	Water	314.0	
MB 440-327943/3	Method Blank	Total/NA	Water	314.0	
MRL 440-327943/5	Lab Control Sample	Total/NA	Water	314.0	

General Chemistry

Analysis Batch: 326369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145066-2	MW-11-20160420	Total/NA	Water	SM 2540C	
440-145066-3	MW-05-20160420	Total/NA	Water	SM 2540C	
440-145066-4	MW-18-20160420	Total/NA	Water	SM 2540C	
440-145066-5	MW-04-20160420	Total/NA	Water	SM 2540C	
440-145066-5 DU	MW-04-20160420	Total/NA	Water	SM 2540C	
LCS 440-326369/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 326369 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-326369/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Client Sample ID: MW-11-20160420 — Lab Sample ID: 440-145066-2

Date Collected: 04/20/16 08:35
Date Received: 04/21/16 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	325963	04/22/16 23:26	NTN	TAL IRV
Total/NA	Analysis	300.0		100	325963	04/22/16 23:40	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	326441	04/27/16 15:34	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327943	05/03/16 13:19	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326369	04/25/16 14:47	XL	TAL IRV

Client Sample ID: MW-05-20160420 — Lab Sample ID: 440-145066-3

Date Collected: 04/20/16 10:15
Date Received: 04/21/16 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	325963	04/22/16 23:54	NTN	TAL IRV
Total/NA	Analysis	300.0		200	325963	04/23/16 00:08	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	326441	04/27/16 12:15	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327943	05/03/16 13:36	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326369	04/25/16 14:47	XL	TAL IRV

Client Sample ID: MW-18-20160420 — Lab Sample ID: 440-145066-4

Date Collected: 04/20/16 12:10
Date Received: 04/21/16 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	325963	04/23/16 01:48	NTN	TAL IRV
Total/NA	Analysis	300.0		200	325963	04/23/16 02:02	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	326441	04/27/16 12:48	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327943	05/03/16 13:53	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326369	04/25/16 14:47	XL	TAL IRV

Client Sample ID: MW-04-20160420 — Lab Sample ID: 440-145066-5

Date Collected: 04/20/16 14:00
Date Received: 04/21/16 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500	325963	04/23/16 00:21	NTN	TAL IRV
Total/NA	Analysis	300.0		20	325963	04/23/16 00:35	NTN	TAL IRV
Total/NA	Analysis	300.1B		100	326441	04/26/16 14:13	YZ	TAL IRV
Total/NA	Analysis	314.0		100	327943	05/03/16 12:18	CH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326369	04/25/16 14:47	XL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-145066-2	MW-11-20160420	Water	04/20/16 08:35	04/21/16 10:00
440-145066-3	MW-05-20160420	Water	04/20/16 10:15	04/21/16 10:00
440-145066-4	MW-18-20160420	Water	04/20/16 12:10	04/21/16 10:00
440-145066-5	MW-04-20160420	Water	04/20/16 14:00	04/21/16 10:00

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 308526

Lab Sample ID: ICV 440-308526/8 Client Sample ID:

Date Analyzed: 01/28/16 11:30 Lab File ID: 20160128a0008.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.62	Baseline Smoothing	zakhrabov y	01/28/16 12:06

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326441

Lab Sample ID: 440-145066-5 MSD Client Sample ID: MW-04-20160420 MSD

Date Analyzed: 04/26/16 15:20 Lab File ID: 201604260001a021.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.27	Incomplete Integration	zakhrabov y	04/27/16 04:37

Lab Sample ID: 440-145066-2 Client Sample ID: MW-11-20160420

Date Analyzed: 04/27/16 15:34 Lab File ID: 201604260001a060.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.11	Incomplete Integration	zakhrabov y	04/29/16 08:58

Lab Sample ID: CCV 440-326441/61 Client Sample ID:

Date Analyzed: 04/27/16 16:07 Lab File ID: 201604260001a061.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.36	Baseline Smoothing	zakhrabov y	04/29/16 08:59

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-25 Analysis Batch Number: 327943

Lab Sample ID: LCS 440-327943/2 Client Sample ID:

Date Analyzed: 05/03/16 09:43 Lab File ID: 20160503_2.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.49	Incomplete Integration	hoangch	05/03/16 14:29
Perchlorate	12.49	Incomplete Integration	hoangch	05/03/16 14:29

Lab Sample ID: 440-145066-5 Client Sample ID: MW-04-20160420

Date Analyzed: 05/03/16 12:18 Lab File ID: 20160503_10.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.58	Incomplete Integration	hoangch	05/03/16 12:39

Lab Sample ID: 440-145066-5 MS Client Sample ID: MW-04-20160420 MS

Date Analyzed: 05/03/16 12:45 Lab File ID: 20160503_11.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.54	Incomplete Integration	hoangch	05/03/16 14:30

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WC3001ICV_00023	06/30/16	01/28/16	Di Water, Lot 20160128	100 mL	WC2CHLORATE_00003	0.4 mL	Chlorate	4.004 mg/L
.WC2CHLORATE_00003	12/31/16		Ultra Scientific, Lot P01208		(Purchased Reagent)		Chlorate	1001 mg/L
WC3001LCS_00034	07/28/16	01/28/16	Di Water, Lot 20160128	100 mL	WC1BROMATE_00005	0.1 mL	Bromate	1.001 mg/L
					WC1CHLORATE_00006	0.4 mL	Chlorate	4 mg/L
					wcbromide_00008	0.1 mL	Bromide	10 mg/L
.WC1BROMATE_00005	11/26/16		O2Si, Lot 1075653		(Purchased Reagent)		Bromate	1001 mg/L
.WC1CHLORATE_00006	11/26/16		O2Si, Lot 1075652		(Purchased Reagent)		Chlorate	1000 mg/L
.wcbromide_00008	12/23/16		high purity, Lot 1427506		(Purchased Reagent)		Bromide	10000 ug/mL
WCCLO41st-10_00001	06/22/16	03/22/16	Di Water, Lot 03/22/16	100 mg/L	WCCLO4-1st_00001	1 mg/L	Perchlorate	10 mg/L
.WCCLO4-1st_00001	03/30/17		SPEX CERTIPREP, Lot 3-149CLO4-2Y		(Purchased Reagent)		Perchlorate	1000 mg/L
WCCLO4ICV10_00019	05/16/16	02/16/16	Di Water, Lot 02/16/2016	100 mL	WCCLO4ICV_00009	1 mL	Perchlorate	10.0002 mg/L
.WCCLO4ICV_00009	07/29/16	07/29/15	Di Water, Lot 07/29/2015	250 mL	WCCLO4ICVSOLI_00001	0.3078 g	Perchlorate	1000.02 mg/L
..WCCLO4ICVSOLI_00001	03/14/19		SPECTRUM, Lot XK0226		(Purchased Reagent)		Perchlorate	0.81223 g/g
WCDCA_00031	04/11/16	01/11/16	Di Water, Lot 20160111	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCDCA_00032	07/12/16	04/12/16	Di Water, Lot 20160412	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCICVANIONS_00059	04/02/16	03/02/16	Di Water, Lot 03/02/2016	100 mL	WCBROMIDE_00007	10 mL	Bromide	100 mg/L
					WCICNACLICV_00004	10 mL	Chloride	100 mg/L
.WCBROMIDE_00007	07/31/16		ERA, Lot 250714		(Purchased Reagent)		Bromide	1000 mg/L
.WCICNACLICV_00004	07/31/17		ENVIRONMENTAL RESOURCE ASSOCIATES, Lot 280615		(Purchased Reagent)		Chloride	1000 mg/L
WCLCSANIONS_00113	04/20/16	03/21/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
					wcfluoride_00004	10 mL	Fluoride	1000 mg/L
					wcsulfate_00006	10 mL	Sulfate	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
.wcfluoride_00004	01/30/17		ricca, Lot 1507D81		(Purchased Reagent)		Fluoride	10000 ug/mL
.wcsulfate_00006	04/15/17		high purity, Lot 1522216		(Purchased Reagent)		Sulfate	10000 ug/mL
WCLCSANIONS_00114	05/08/16	04/09/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
wctdslcs_00061	08/15/16	02/15/16	Di Water, Lot 20160215	1 L	WCNACLTDSLCS_00001	1 g	Total Dissolved Solids	1000 ppm
.WCNACLTDSLCS_00001	04/04/21		FISHER CHEMICAL, Lot 103358		(Purchased Reagent)		Total Dissolved Solids	1 g/g

Reagent

WC1BROMATE_00005

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062015-01-01
Lot No: 1075653
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Bromate, 100 mL 1,000 mg/L in H_2O

2629062
ID: WC1BROMATE_000(
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Bromate

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Bromate	BrO_3	7789-38-0	7085.48.1P	99.5	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

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Reagent

WC1CHLORATE_00006

Certificate of Analysis

Rev 0

o2si smart solutions®

Quality System Audited & Registered by NSF-ISR to ISO 9001:2008

Catalog No: 062014-01-01
Lot No: 1075652
Storage: Refrigerated
Matrix: H_2O
Container: 4 oz (125 mL) Narrow Mouth, HDPE
Description: Ion Chromatography Standard Chlorate, 100 mL 1,000 mg/L in H_2O

2629060
ID: WC1CHLORATE_00C
Exp:11/26/16 Prpd:YZ Opn:06/03.
300.1 -Standard Chlorate

ACCREDITED
ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received _____

Expiration Date 26-Nov-2016

Element	Symbol	CAS No.	Source Lot No.	Purity %	Concentration mg/L
Chlorate	ClO_3^-	N/A	7120.29.1P	99	1000 +/- 3

Certified By: _____ Carrie Bibbins

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. The concentration and uncertainty of this standard are calculated based on the weight and volumes used in the manufacturing process. The uncertainty value is calculated for a 95% confidence interval with a k value of 2. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

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Reagent

WC2CHLORATE_00003

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Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 17025 • ISO GUIDE 34 • ISO 9001

ULTRAgrade™ Ion Chromatography Solution: 1000 µg/mL Chlorate in water
Catalog Number: ICC-011
Lot Number: P01208
Job Number: J00015342
Lot Issue Date: 11/14/2012
Expiration Date: 12/31/2016

2617385
ID: WC2CHLORATE_00C
Exp:12/31/16 Prpd:YZ Opn:05/28.
300.1 -Standard Chlorate

Starting Material:	Potassium Chlorate
Starting Material Purity:	99.999%
Starting Material Lot No.:	NT00423
Matrix:	low TOC water (< 50 ppb)

Certified Value: 1001 ± 5 µg/mL

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentrations were verified by our ISO 17025 accredited laboratory to be within ± 2.5%, when compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

Confirmation by Ion Chromatography (IC) vs. Second Source (CRM)

Confirmation by Inductively Coupled Plasma Spectroscopy (ICP / ICP-MS) vs. NIST SRM 3141a

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

A2LA ACCREDITED

ISO 17025:2005
Accredited
A2LA
Cert. No. 0851.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004

William J. Leary
Quality Assurance Manager

250 SMITH STREET N. KINGSTOWN, RHODE ISLAND 02852 USA WWW.ULTRASCI.COM

Reagent

WCBROMIDE_00007

Certificate of Analysis

PRODUCT:	1000 mg/L Bromide
CATALOG NUMBER:	046 -125 mL; 987 - 500 mL
LOT NUMBER:	250714
ISSUE DATE:	July 31, 2014
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Bromide (KBr)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9972 ± 0.0005 g/mL at 21.0°C and 766 mm Hg
TRACEABILITY[3]:	101%
NIST/SRM:	3184 Bromide
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2016**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcbromide_00010

Certificate of Analysis

Product Description:

Name:	Bromide	Source Material:	Sodium Bromide
Part Number:	**IC-BR-10M**	Material Purity:	99.5%
Lot Number:	**1521536**	Matrix:	H_2O

Certified Value:

Bromide 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3184 (lot number 020701) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of bromide, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

wcchloride_00001

Certificate of Analysis

Product Description:

Name:	Chloride	Source Material:	Sodium Chloride
Part Number:	**IC-CL-10M**	Material Purity:	99.3%
Lot Number:	**1417005**	Matrix:	H_2O

Certified Value:

Chloride 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3182 (lot number 060925) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of chloride, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Reagent

WCCLO4-1st_00001

3255268

ID WCCLO4-1st_00001

Exp 03/30/17 Prpd YZ

PERCHLORATE- 1000 PPM

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-CLO49-2Y **Lot No.** 3-149CLO4-2Y

Description: 1000 µg/mL Perchlorate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 0114A†

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Perchlorate, Lot# F10T022. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1003 µg/mL

Method: Evaporate to dryness. Ignite and weigh as KClO4.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.03	NO_3^-	<0.02
Cl^-	<0.05	PO_4^{-3}	<0.03
F^-	<0.005	SO_4^{-2}	<0.5
NO_2^-	<0.02		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: MAR - - 2016 Certifying Officer:

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Reagent

wcfluoride_00004

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Fluoride Standard, 10,000 ppm F^-

Lot Number: 1507D81 **Product Number:** 3174.10

Manufacture Date: JUL 23, 2015
Expiration Date: JAN 2017

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless to light yellow liquid	Passed
Fluoride (F)	9950-10050 ppm	10000 ppm

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3174.10-32	1 L natural poly	18 months
3174.10-1	4 L natural poly	18 months
3174.10-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

WCICNACLICV_00004

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Chloride
CATALOG NUMBER:	047 -125 mL; 988 - 500 mL
LOT NUMBER:	280615
ISSUE DATE:	July 28, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Chloride (NaCl)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9988 ± 0.0008 g/mL at 19.4°C and 745 mm Hg
TRACEABILITY[3]:	99.2%
NIST/SRM:	3182 Chloride
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 7/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009 — ACCREDITED — REFERENCE MATERIAL PRODUCER CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 — ACCREDITED — CHEMICAL TESTING LABORATORY CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

wcsulfate_00006

Certificate of Analysis

Product Description:

Name:	Sulfate	Source Material:	Sodium Sulfate
Part Number:	**IC-SS-10M**	Material Purity:	99%
Lot Number:	**1522216**	Matrix:	H_2O

Certified Value:

Sulfate 10,000 µg/mL ± 50 µg/mL

The Certified value is based on gravimetric and volumetric preparation, and confirmed against SRM 3181 (lot number 080603) by ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

Preparation Information:

The standard solution is prepared using high purity materials and assayed by analytical methods for conformity prior to use. This standard was prepared using the methods developed at NIST for SRM Spectrometric Standard Solutions under appropriate laboratory conditions. The matrix is 18 megaohm deionized water.
Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This Certified Reference Material (CRM) is intended for use as a calibration standard for the quantitative determination of sulfate, calibration of instruments such as ion chromatography (IC), and validation of analytical methods. It also can be used in EPA, ASTM and other methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards:**
The Calibration Standard is directly traceable to SRM 3100 Series Spectrometric Standard Solutions.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160422002.d

Lab ID: LCS 440-325963/2 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	5.00	5.05	101	90-110	
Chloride	5.00	5.04	101	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160422051.d

Lab ID: 440-145066-5 MS Client ID: MW-04-20160420 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	50.0	ND	48.4	97	80-120	
Chloride	50.0	4300	4200	-230	80-120	E 4

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160422052.d

Lab ID: 440-145066-5 MSD Client ID: MW-04-20160420 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromide	50.0	44.5	89	8	20	80-120	
Chloride	50.0	4190	-253	0	20	80-120	E 4

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab File ID: 20160422004.d Lab Sample ID: MB 440-325963/4

Matrix: Water Date Extracted:

Instrument ID: IC-9 Date Analyzed: 04/22/2016 13:05

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-325963/2	20160422002.d	04/22/2016 12:38
	CCB 440-325963/42	20160422042.d	04/22/2016 22:40
MW-11-20160420	440-145066-2	20160422045.d	04/22/2016 23:26
MW-11-20160420	440-145066-2	20160422046.d	04/22/2016 23:40
MW-05-20160420	440-145066-3	20160422047.d	04/22/2016 23:54
MW-05-20160420	440-145066-3	20160422048.d	04/23/2016 00:08
MW-04-20160420	440-145066-5	20160422049.d	04/23/2016 00:21
MW-04-20160420	440-145066-5	20160422050.d	04/23/2016 00:35
MW-04-20160420 MS	440-145066-5 MS	20160422051.d	04/23/2016 00:49
MW-04-20160420 MSD	440-145066-5 MSD	20160422052.d	04/23/2016 01:03
	CCB 440-325963/54	20160422054.d	04/23/2016 01:31
MW-18-20160420	440-145066-4	20160422055.d	04/23/2016 01:48
MW-18-20160420	440-145066-4	20160422056.d	04/23/2016 02:02
	CCB 440-325963/66	20160422066.d	04/23/2016 04:20

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-11-20160420
Lab Sample ID: 440-145066-2
Matrix: Water
Lab File ID: 20160422045.d
Analysis Method: 300.0
Date Collected: 04/20/2016 08:35
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 23:26
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	1.0		1.0	0.50

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422045.d				
Lims ID:	440-145066-C-2				
Client ID:	MW-11-20160420				
Sample Type:	Client				
Inject. Date:	22-Apr-2016 23:26:32	ALS Bottle#:	0	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001A Name: 440-0072193-045				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 23:50:26	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	22-Apr-2016 23:50:26		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.420	3.327	0.093	9737419	211.7	E
4 Bromide	4.985	5.033	-0.048	6692	0.5004	

QC Flag Legend

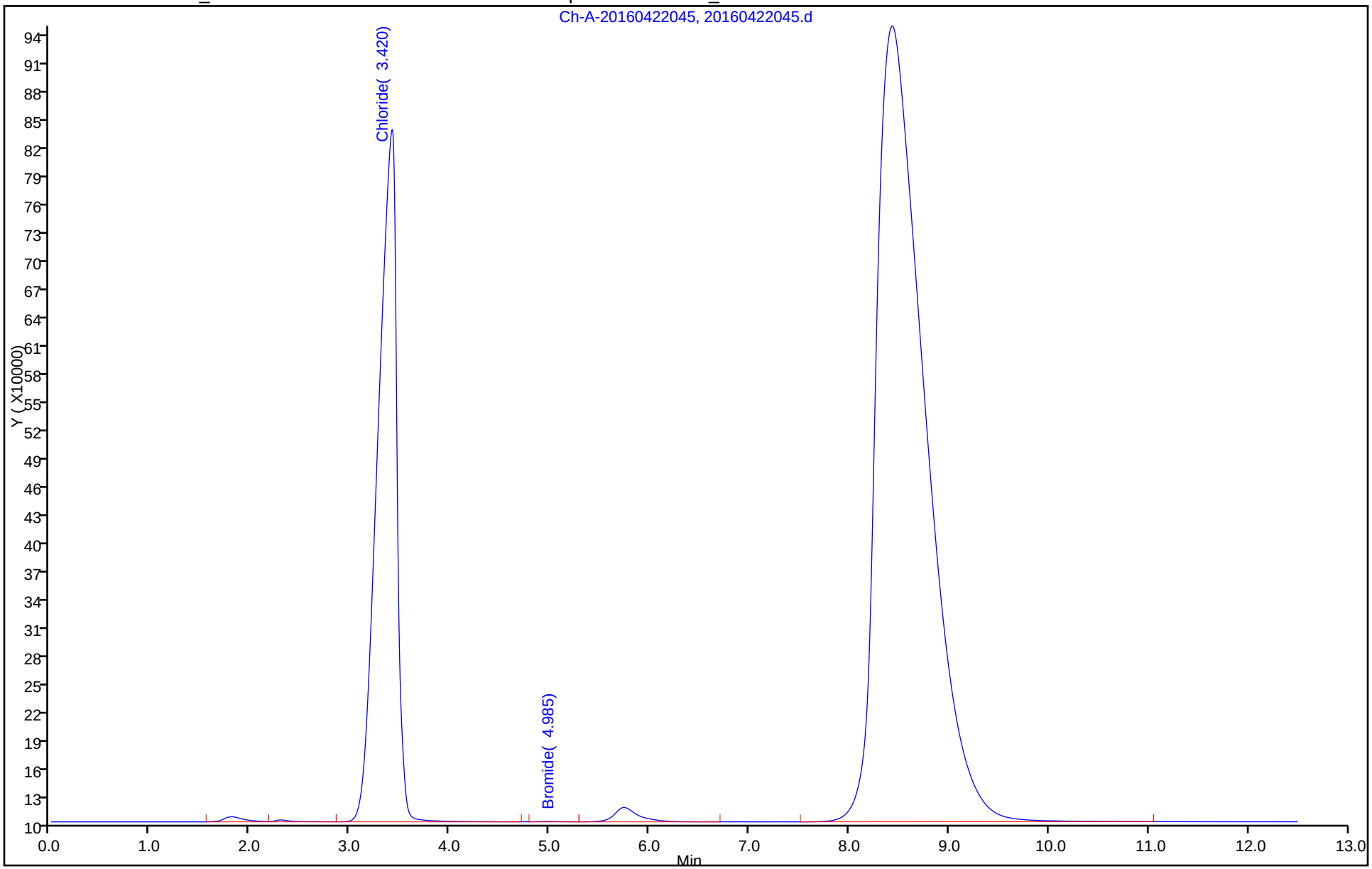
Processing Flags

E - Exceeded Maximum Amount

Report Date: 22-Apr-2016 23:50:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422045.d				
Injection Date:	22-Apr-2016 23:26:32	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-2	Lab Sample ID:	440-145066-2	Worklist Smp#:	45
Client ID:	MW-11-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-11-20160420
Lab Sample ID: 440-145066-2
Matrix: Water
Lab File ID: 20160422046.d
Analysis Method: 300.0
Date Collected: 04/20/2016 08:35
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 23:40
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	320		50	25

TestAmerica Irvine
Target Compound Quantitation Report

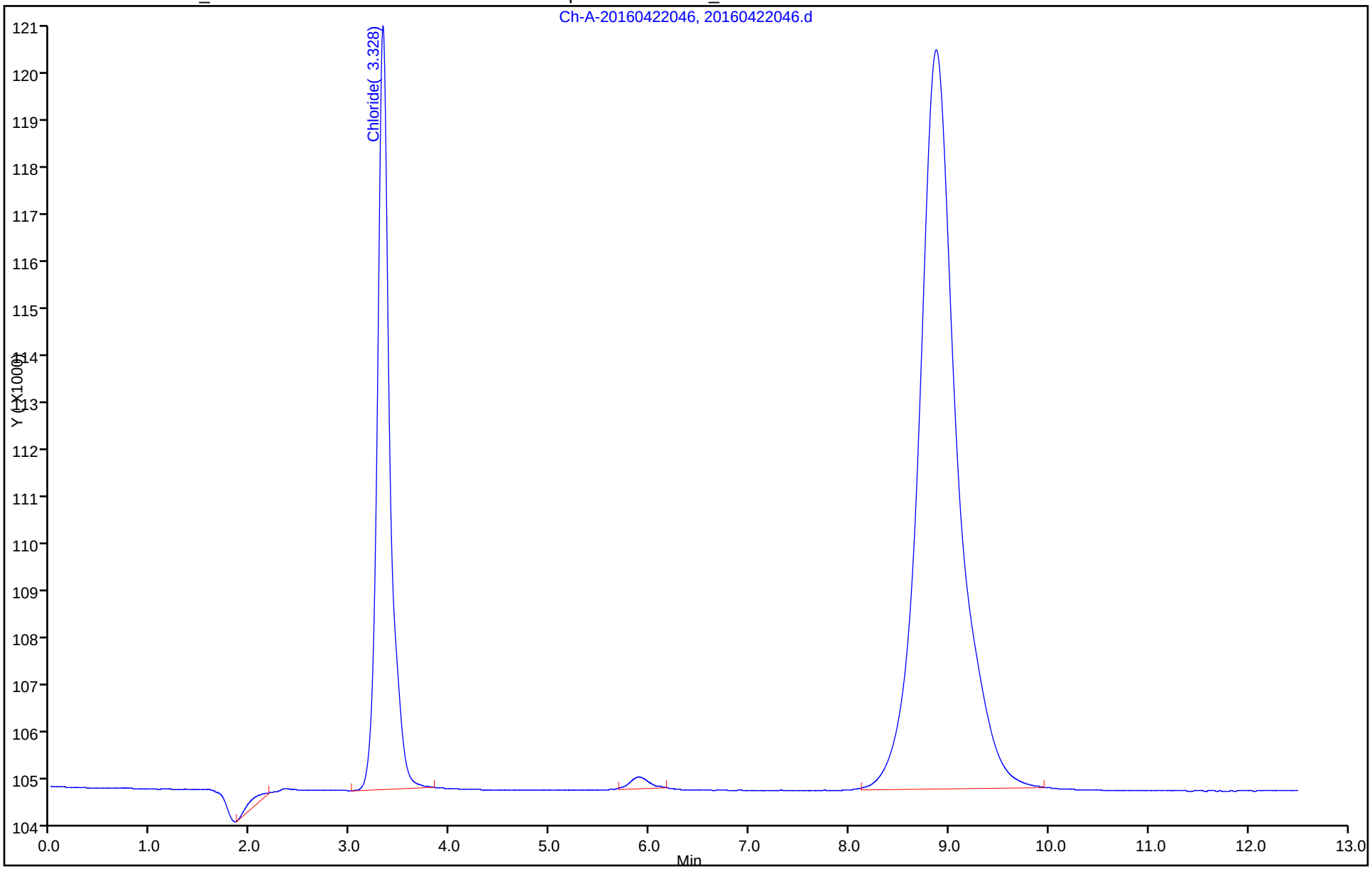
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422046.d				
Lims ID:	440-145066-C-2				
Client ID:	MW-11-20160420				
Sample Type:	Client				
Inject. Date:	22-Apr-2016 23:40:23	ALS Bottle#:	0	Worklist Smp#:	46
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001A Name: 440-0072193-046				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 00:55:53	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 00:06:40		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.328	3.327	0.001	136300	3.23	

Report Date: 23-Apr-2016 00:06:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422046.d				
Injection Date:	22-Apr-2016 23:40:23	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-2	Lab Sample ID:	440-145066-2	Worklist Smp#:	46
Client ID:	MW-11-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-05-20160420
Lab Sample ID: 440-145066-3
Matrix: Water
Lab File ID: 20160422047.d
Analysis Method: 300.0
Date Collected: 04/20/2016 10:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 23:54
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		2.5	1.3

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422047.d				
Lims ID:	440-145066-C-3				
Client ID:	MW-05-20160420				
Sample Type:	Client				
Inject. Date:	22-Apr-2016 23:54:13	ALS Bottle#:	0	Worklist Smp#:	47
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	#: 001A Name: 440-0072193-047				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 01:49:45	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 00:52:51		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.392	3.327	0.065	4212830	91.7	E

QC Flag Legend

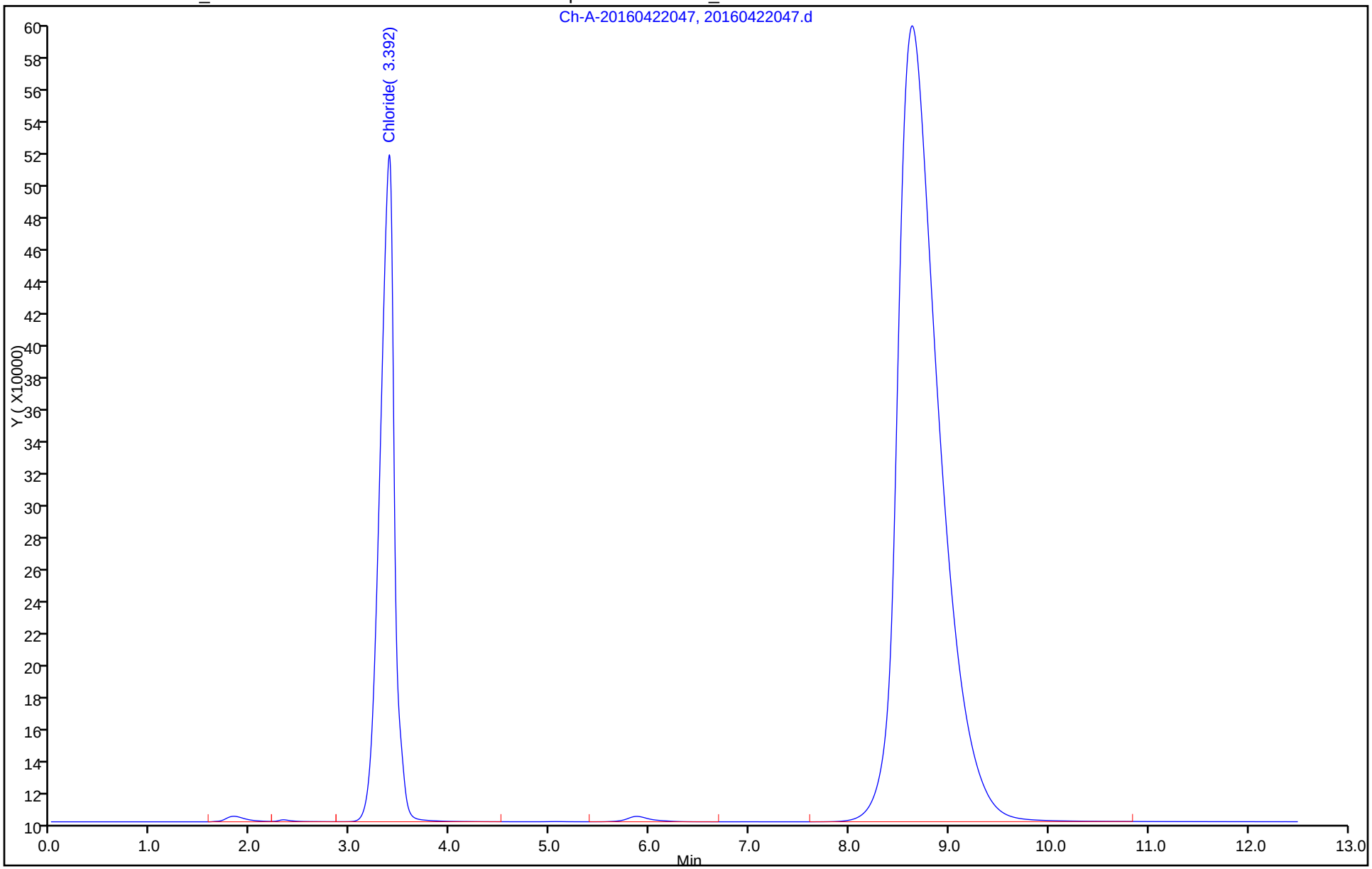
Processing Flags

E - Exceeded Maximum Amount

Report Date: 23-Apr-2016 00:52:51 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422047.d				
Injection Date:	22-Apr-2016 23:54:13	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-3	Lab Sample ID:	440-145066-3	Worklist Smp#:	47
Client ID:	MW-05-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-05-20160420
Lab Sample ID: 440-145066-3
Matrix: Water
Lab File ID: 20160422048.d
Analysis Method: 300.0
Date Collected: 04/20/2016 10:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 00:08
Con. Extract Vol.:
Dilution Factor: 200
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	390		100	50

TestAmerica Irvine
Target Compound Quantitation Report

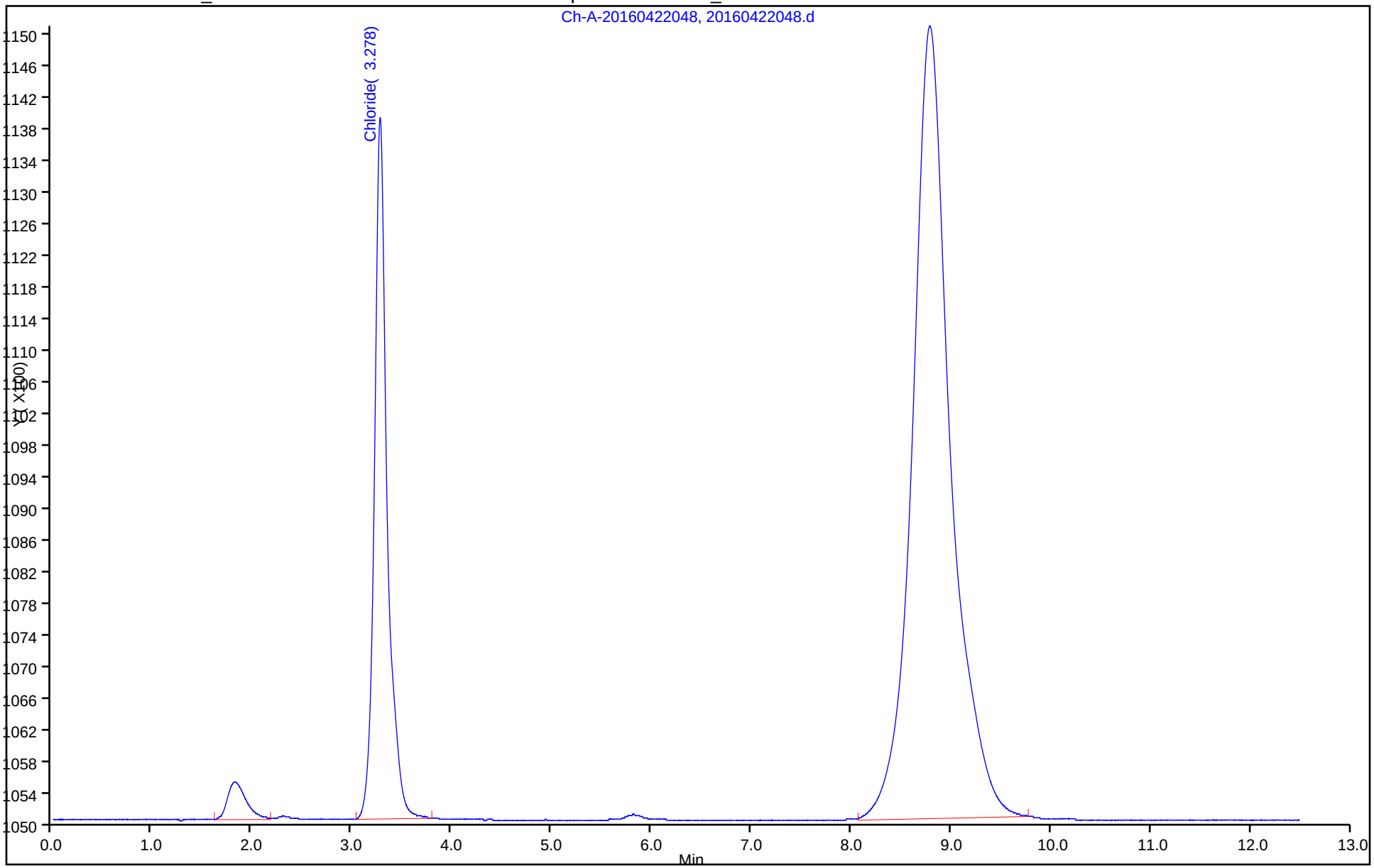
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422048.d				
Lims ID:	440-145066-C-3				
Client ID:	MW-05-20160420				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 00:08:04	ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	200.0000		
Sample Info:	#: 001A Name: 440-0072193-048				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 01:49:45	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 00:52:53		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.278	3.327	-0.049	78108	1.97	

Report Date: 23-Apr-2016 00:52:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422048.d				
Injection Date:	23-Apr-2016 00:08:04	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-3	Lab Sample ID:	440-145066-3	Worklist Smp#:	48
Client ID:	MW-05-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	200.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-18-20160420
Lab Sample ID: 440-145066-4
Matrix: Water
Lab File ID: 20160422055.d
Analysis Method: 300.0
Date Collected: 04/20/2016 12:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 01:48
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		2.5	1.3

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422055.d				
Lims ID:	440-145066-C-4				
Client ID:	MW-18-20160420				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 01:48:22	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	#: 001A Name: 440-0072193-055				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 03:29:03	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 02:37:15		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.468	3.325	0.143	8272428	179.9	E

QC Flag Legend

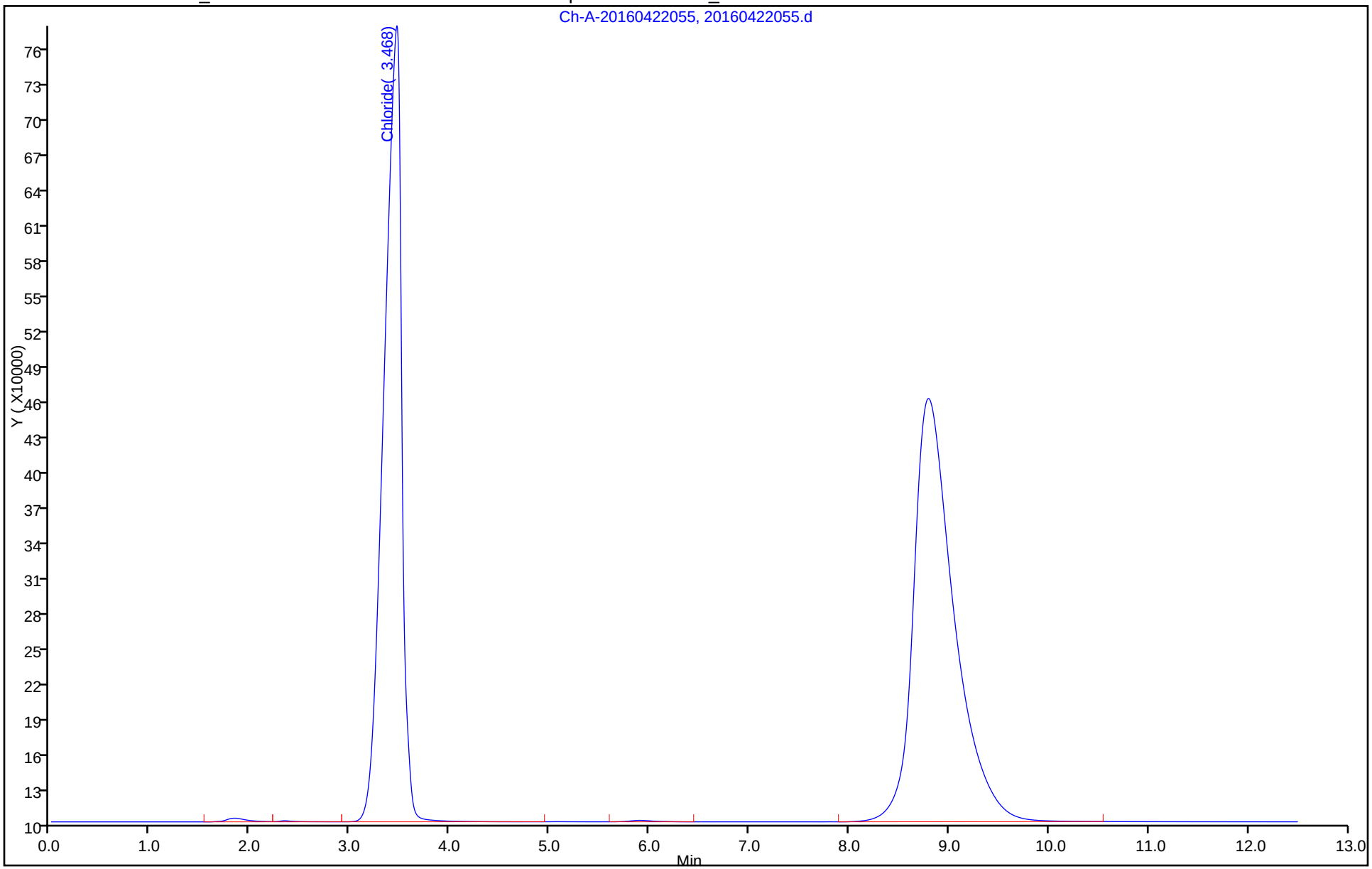
Processing Flags

E - Exceeded Maximum Amount

Report Date: 23-Apr-2016 02:37:15 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422055.d				
Injection Date:	23-Apr-2016 01:48:22	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-4	Lab Sample ID:	440-145066-4	Worklist Smp#:	55
Client ID:	MW-18-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine | Job No.: 440-145066-1

SDG No.:

Client Sample ID: MW-18-20160420 | Lab Sample ID: 440-145066-4

Matrix: Water | Lab File ID: 20160422056.d

Analysis Method: 300.0 | Date Collected: 04/20/2016 12:10

Extraction Method: | Date Extracted:

Sample wt/vol: 5(mL) | Date Analyzed: 04/23/2016 02:02

Con. Extract Vol.: | Dilution Factor: 200

Injection Volume: 1(uL) | GC Column: AS14 ID: 4(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 325963 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	670		100	50

TestAmerica Irvine
Target Compound Quantitation Report

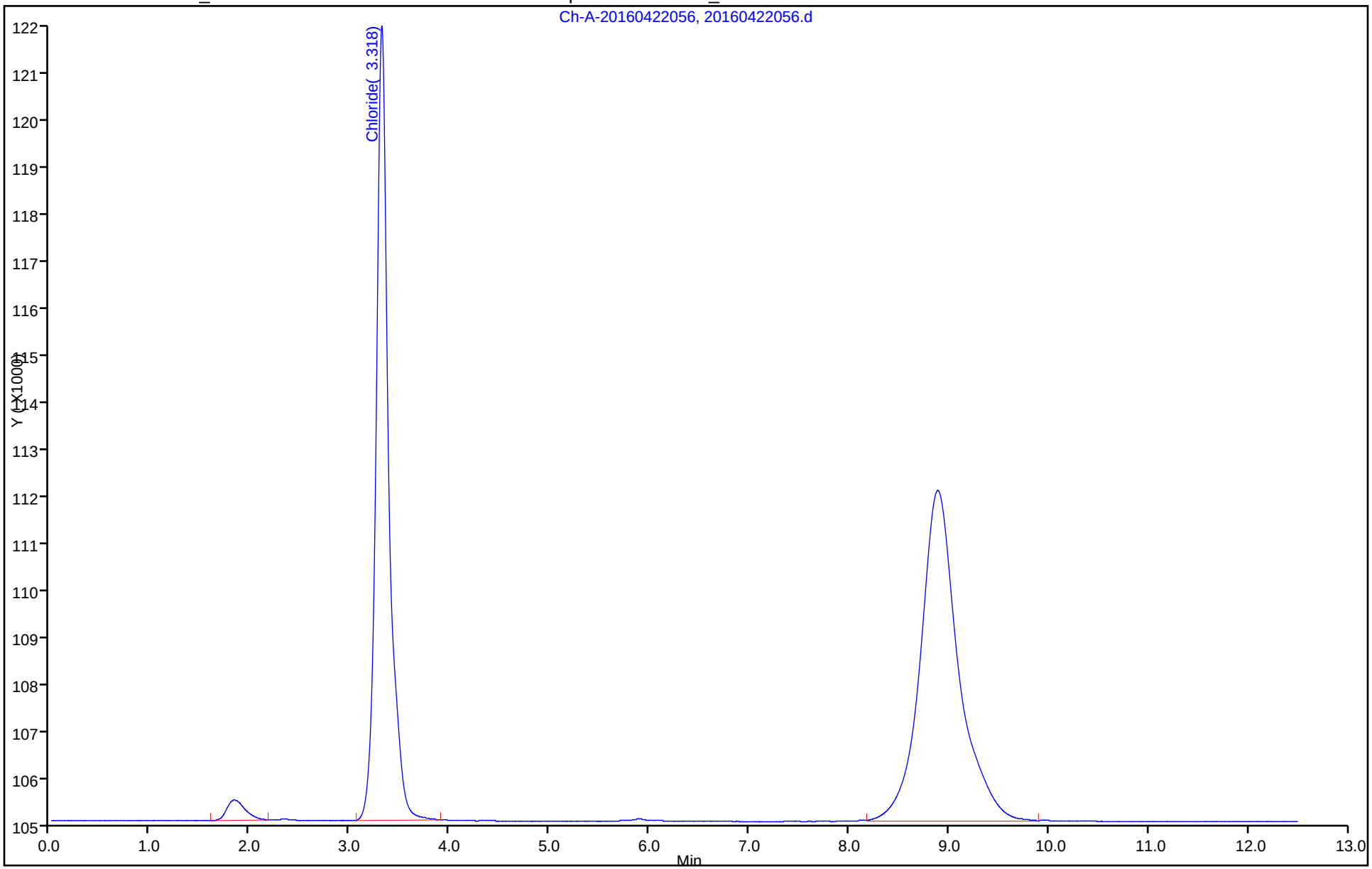
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422056.d				
Lims ID:	440-145066-C-4				
Client ID:	MW-18-20160420				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 02:02:13	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	1.0 ul	Dil. Factor:	200.0000		
Sample Info:	#: 001A Name: 440-0072193-056				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 03:29:03	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 02:37:20		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.318	3.325	-0.007	142669	3.37	

Report Date: 23-Apr-2016 02:37:20 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422056.d				
Injection Date:	23-Apr-2016 02:02:13	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-4	Lab Sample ID:	440-145066-4	Worklist Smp#:	56
Client ID:	MW-18-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	200.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420
Lab Sample ID: 440-145066-5
Matrix: Water
Lab File ID: 20160422050.d
Analysis Method: 300.0
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 00:35
Con. Extract Vol.:
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422050.d				
Lims ID:	440-145066-C-5				
Client ID:	MW-04-20160420				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 00:35:45	ALS Bottle#:	0	Worklist Smp#:	50
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	#: 001A Name: 440-0072193-050				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 01:49:45	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 00:53:04		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 Fluoride	2.337	2.358	-0.021	3732	0.3195	
	2 Chloride	3.482	3.327	0.155	9918301	215.6	E
	5 Nitrate as NO3	5.888	5.822	0.066	67590	NC	
	10 Nitrate as N	5.888	5.822	0.066	67590	NC	
	9 Orthophosphate as P	6.992	7.238	-0.246	5994	NC	
	11 Orthophosphorus as PO4	6.992	7.238	-0.246	5994	NC	
	7 Sulfate	8.748	8.878	-0.130	11437768	364.5	E
S	8 Nitrate Nitrite as N					0	

QC Flag Legend

Processing Flags

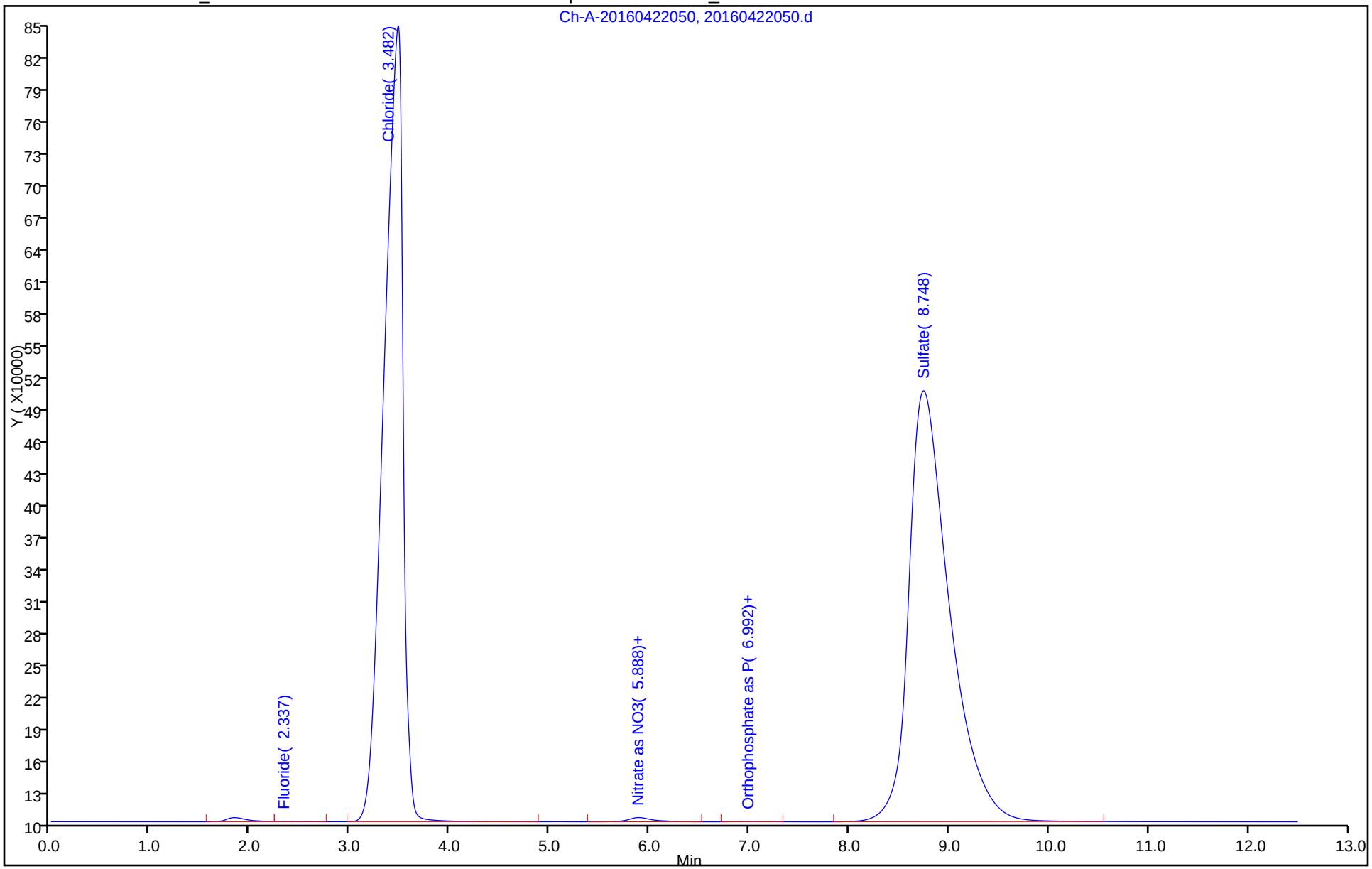
NC - Not Calibrated

E - Exceeded Maximum Amount

Report Date: 23-Apr-2016 00:53:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422050.d				
Injection Date:	23-Apr-2016 00:35:45	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-5	Lab Sample ID:	440-145066-5	Worklist Smp#:	50
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420
Lab Sample ID: 440-145066-5
Matrix: Water
Lab File ID: 20160422049.d
Analysis Method: 300.0
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 00:21
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	3100		250	130

FORM I 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422049.d				
Lims ID:	440-145066-C-5				
Client ID:	MW-04-20160420				
Sample Type:	Client				
Inject. Date:	23-Apr-2016 00:21:54	ALS Bottle#:	0	Worklist Smp#:	49
Injection Vol:	1.0 ul	Dil. Factor:	500.0000		
Sample Info:	#: 001A Name: 440-0072193-049				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		

Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m		
Limit Group:	IC-300_28D		
Method Label:	Anions 300.0		
Last Update:	23-Apr-2016 01:49:45	Calib Date:	24-Mar-2016 12:49:24
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d		

Column 1 :		Det: Ch-A-20110829007
Process Host:	XAWRK019	

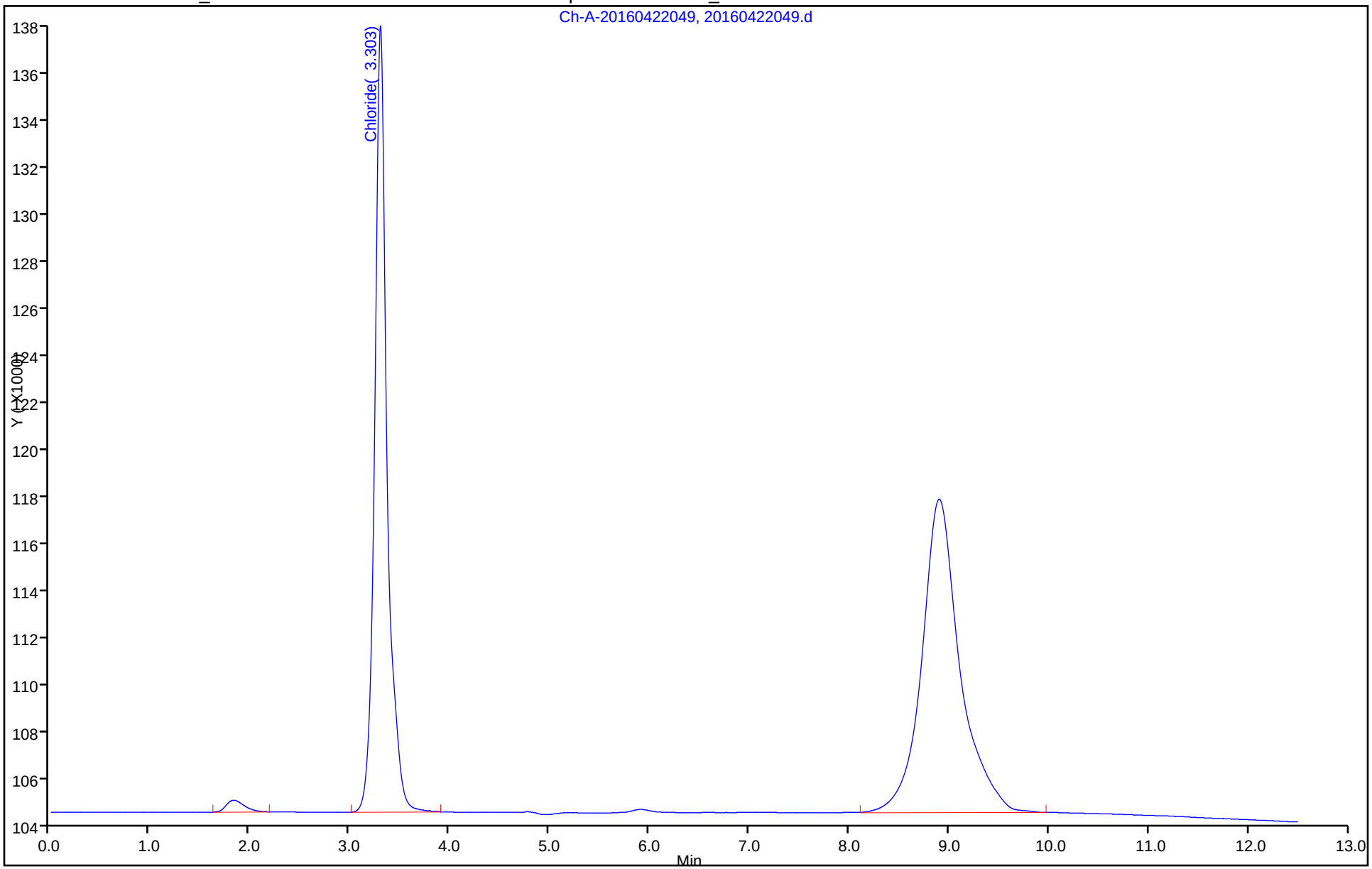
First Level Reviewer: nguyennt Date: 23-Apr-2016 00:52:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.303	3.327	-0.024	275934	6.26	

Report Date: 23-Apr-2016 00:52:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422049.d				
Injection Date:	23-Apr-2016 00:21:54	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-5	Lab Sample ID:	440-145066-5	Worklist Smp#:	49
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride		2.362	2.345	2.375	2.375	2.378	2.392	2.412	2.415		0.000 - 0.000	2.382
Chloride		3.353	3.325	3.358	3.357	3.348	3.360	+++++	+++++		0.000 - 0.000	3.350
Bromide		5.118	5.090	5.105	5.100	5.072	5.067	+++++	+++++		0.000 - 0.000	5.092
Sulfate		9.157	9.152	9.160	9.155	9.148	9.142	9.147	+++++		0.000 - 0.000	9.152

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	65877 70199	61212 68714	58686 70188	63710 71797	Lin	-18969.789	71059.0214							0.9990		0.9950
Chloride	41479 +++++	40154 44895	38506 46563	41144 +++++	Lin	-12592.548	46057.0259							0.9970		0.9950
Bromide	16747 +++++	12776 17391	15757 17642	17491 +++++	Lin	-2106.9510	17583.1001							0.9990		0.9950
Sulfate	29093 +++++	22462 30047	25575 30307	29989 31695	Lin	-9226.3425	31401.0643							0.9990		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin	1030709	30606 1403750	58686 2153918	318548 2807955	658771	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 40.0	10.0
Chloride	Lin	673430	20077 931268	38506 +++++	205722 +++++	414786	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Bromide	Lin	260864	6388 352845	15757 +++++	87457 +++++	167470	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Sulfate	Lin	450709	11231 606140	25575 950847	149943 +++++	290931	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0

Curve Type Legend:

Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603003.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	24-Mar-2016 10:58:39	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-003				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:25	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Reagents:

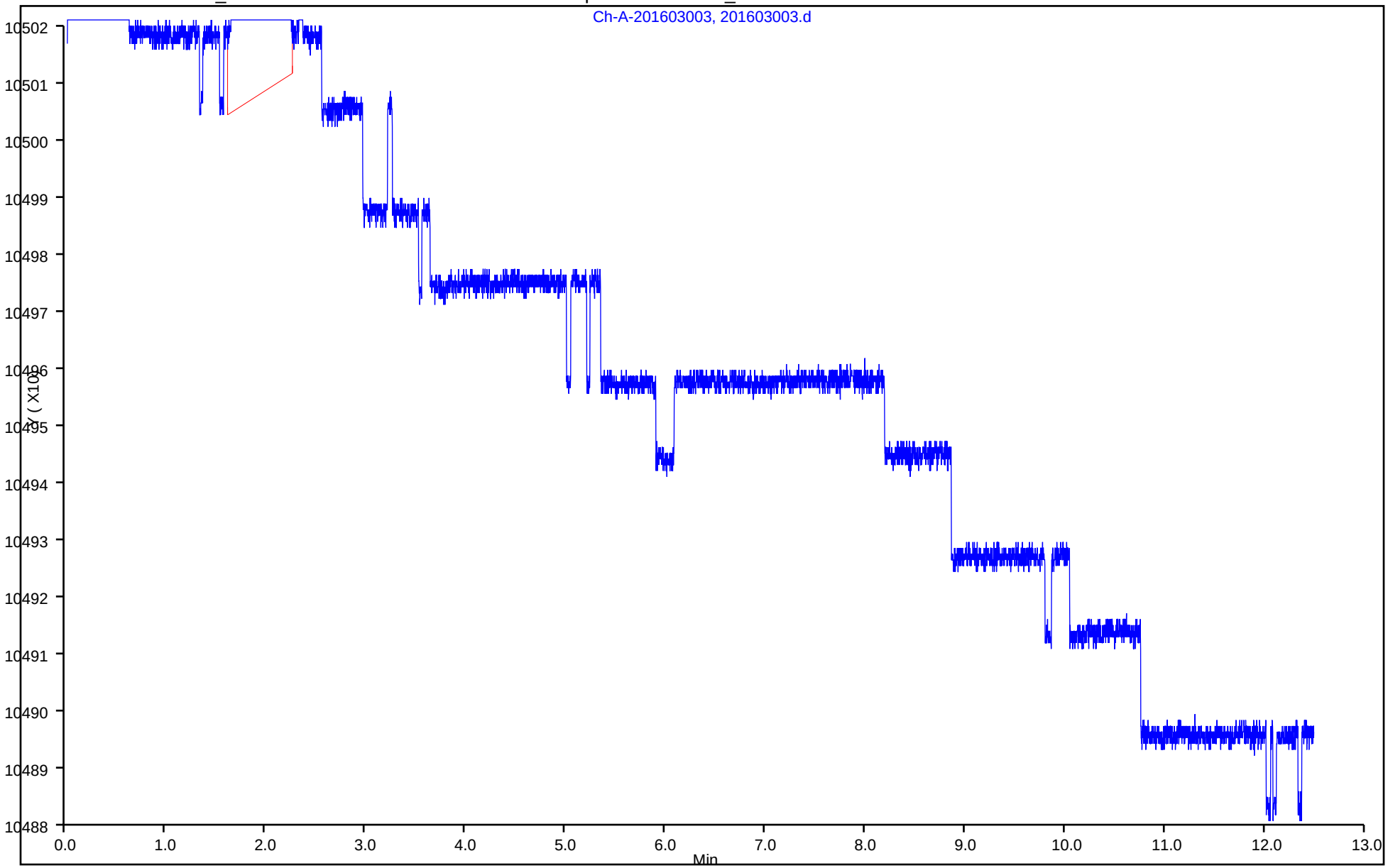
WCLCSANIONS_00113 Amount Added: 0.00 Units: mL

Report Date: 24-Mar-2016 14:09:26 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603003.d

Injection Date:	24-Mar-2016 10:58:39	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std0			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603005.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	24-Mar-2016 11:26:21	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-005				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:23	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.345	2.378	-0.033	58686	1.00	1.09	
	2 Chloride	3.325	3.348	-0.023	38506	1.00	1.11	
	3 Nitrite as NO2	3.975	3.987	-0.012	25652	NC	NC	
	12 Nitrite as N	3.975	3.987	-0.012	25652	NC	NC	
	4 Bromide	5.090	5.072	0.018	15757	1.00	1.02	
	10 Nitrate as N	5.937	5.868	0.069	19168	NC	NC	
	5 Nitrate as NO3	5.937	5.868	0.069	19168	NC	NC	
	11 Orthophosphorus as PO4	7.507	7.502	0.005	9023	NC	NC	
	9 Orthophosphate as P	7.507	7.502	0.005	9023	NC	NC	
	7 Sulfate	9.152	9.148	0.004	25575	1.00	1.11	
S	8 Nitrate Nitrite as N					0.3045	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

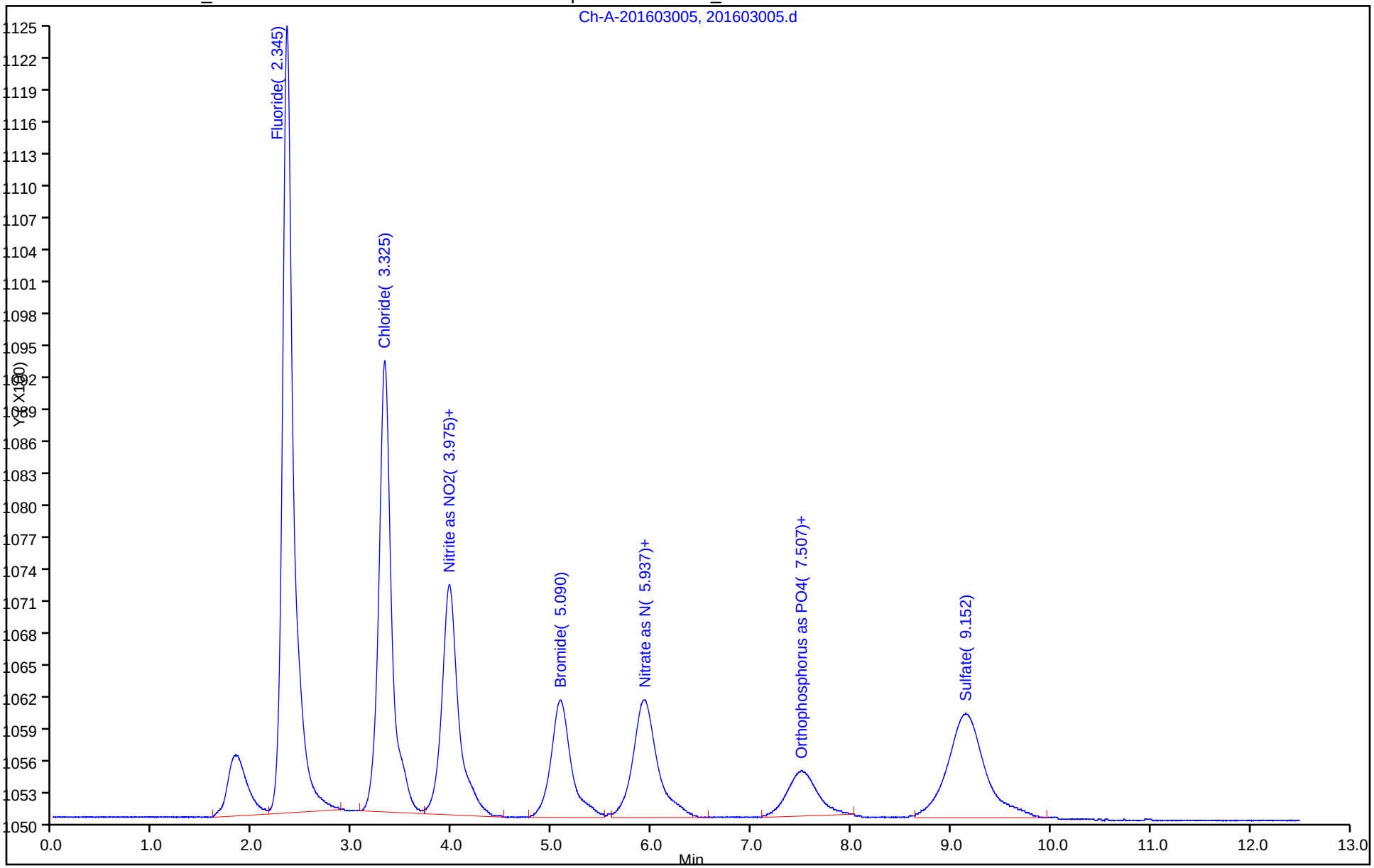
Reagents:

WCLCSANIONS_00113 Amount Added: 10.00 Units: uL

Report Date: 24-Mar-2016 14:09:23 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603005.d				
Injection Date:	24-Mar-2016 11:26:21	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std2			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603006.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	24-Mar-2016 11:40:11	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-006				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:22	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				
First Level Reviewer: nickloffn		Date:	24-Mar-2016 14:05:13		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.375	2.378	-0.003	318548	5.00	4.75	
	2 Chloride	3.358	3.348	0.010	205722	5.00	4.74	
	3 Nitrite as NO2	4.005	3.987	0.018	137353	NC	NC	
	12 Nitrite as N	4.005	3.987	0.018	137353	NC	NC	
	4 Bromide	5.105	5.072	0.033	87457	5.00	5.09	
	10 Nitrate as N	5.920	5.868	0.052	113442	NC	NC	
	5 Nitrate as NO3	5.920	5.868	0.052	113442	NC	NC	
	11 Orthophosphorus as PO4	7.513	7.502	0.011	67404	NC	NC	
	9 Orthophosphate as P	7.513	7.502	0.011	67404	NC	NC	
	7 Sulfate	9.160	9.148	0.012	149943	5.00	5.07	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

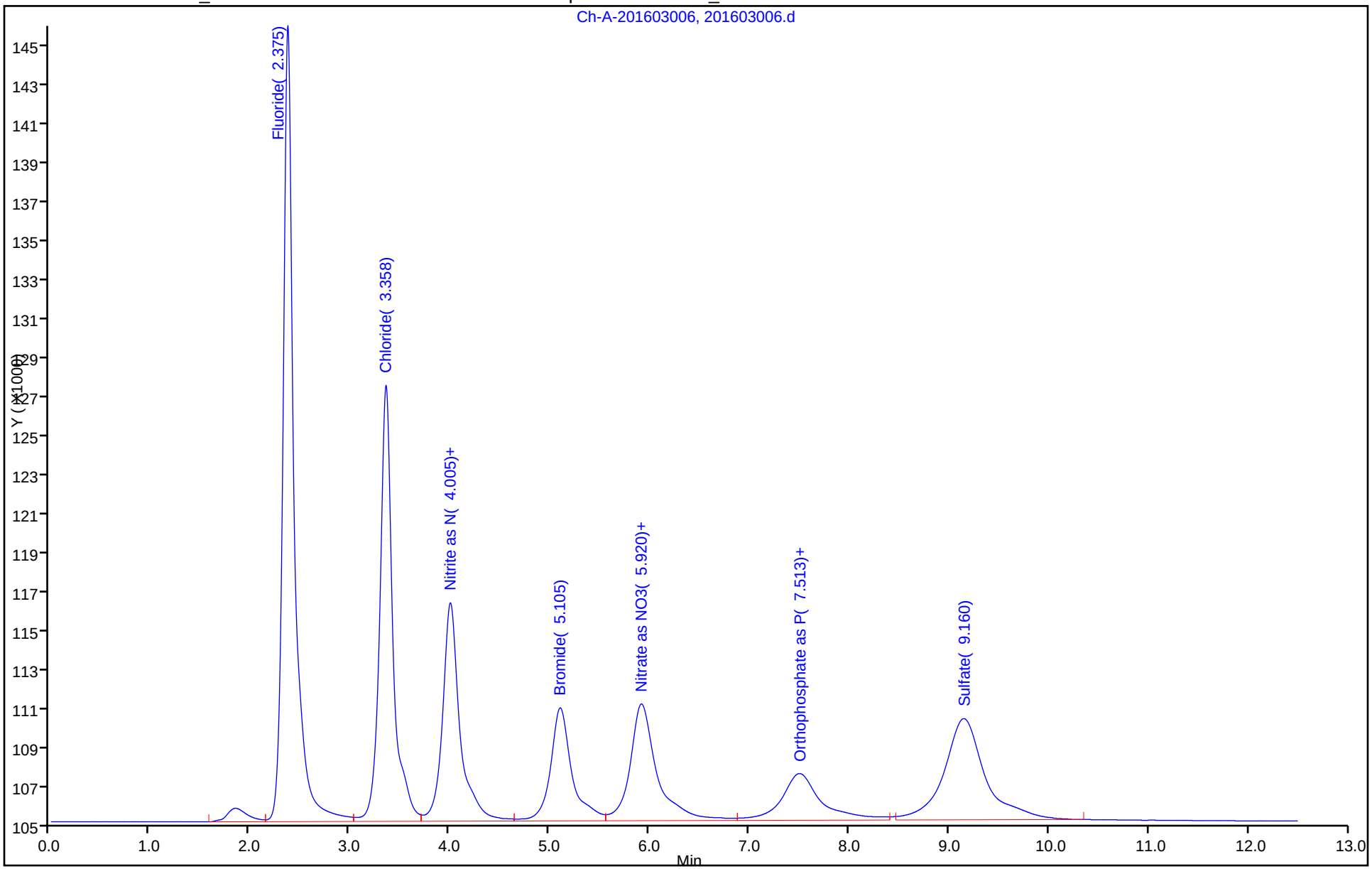
Reagents:

WCLCSANIONS_00113 Amount Added: 50.00 Units: uL

Report Date: 24-Mar-2016 14:09:22 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603006.d				
Injection Date:	24-Mar-2016 11:40:11	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std3			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603007.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	24-Mar-2016 11:54:02	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-007				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:21	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.375	2.378	-0.003	658771	10.0	9.54	
	2 Chloride	3.357	3.348	0.009	414786	10.0	9.28	
	3 Nitrite as NO2	4.002	3.987	0.015	260114	NC	NC	
	12 Nitrite as N	4.002	3.987	0.015	260114	NC	NC	
	4 Bromide	5.100	5.072	0.028	167470	10.0	9.64	
	10 Nitrate as N	5.908	5.868	0.040	213412	NC	NC	
	5 Nitrate as NO3	5.908	5.868	0.040	213412	NC	NC	
	11 Orthophosphorus as PO4	7.507	7.502	0.005	112614	NC	NC	
	9 Orthophosphate as P	7.507	7.502	0.005	112614	NC	NC	
	7 Sulfate	9.155	9.148	0.007	290931	10.0	9.56	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

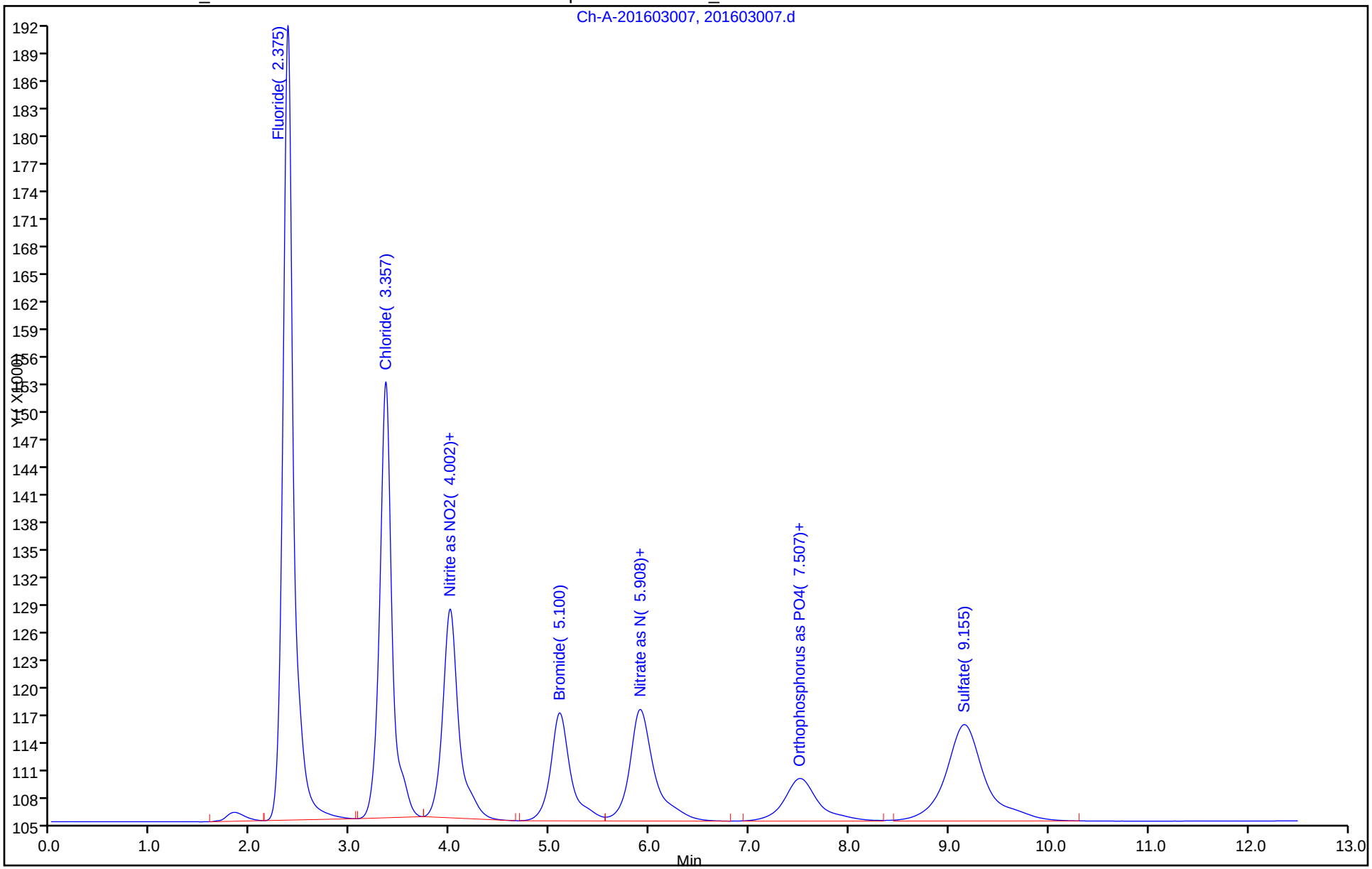
Reagents:

WCLCSANIONS_00113 Amount Added: 100.00 Units: uL

Report Date: 24-Mar-2016 14:09:21 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603007.d				
Injection Date:	24-Mar-2016 11:54:02	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std4			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603008.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	24-Mar-2016 12:07:53	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-008				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:19	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.378	2.378	0.000	1030709	15.0	14.8	
2 Chloride	3.348	3.348	0.000	673430	15.0	14.9	
3 Nitrite as NO2	3.987	3.987	0.000	420441	NC	NC	
12 Nitrite as N	3.987	3.987	0.000	420441	NC	NC	
4 Bromide	5.072	5.072	0.000	260864	15.0	15.0	
10 Nitrate as N	5.868	5.868	0.000	333298	NC	NC	
5 Nitrate as NO3	5.868	5.868	0.000	333298	NC	NC	
11 Orthophosphorus as PO4	7.502	7.502	0.000	174900	NC	NC	
9 Orthophosphate as P	7.502	7.502	0.000	174900	NC	NC	
7 Sulfate	9.148	9.148	0.000	450709	15.0	14.6	
S 8 Nitrate Nitrite as N					4.57	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

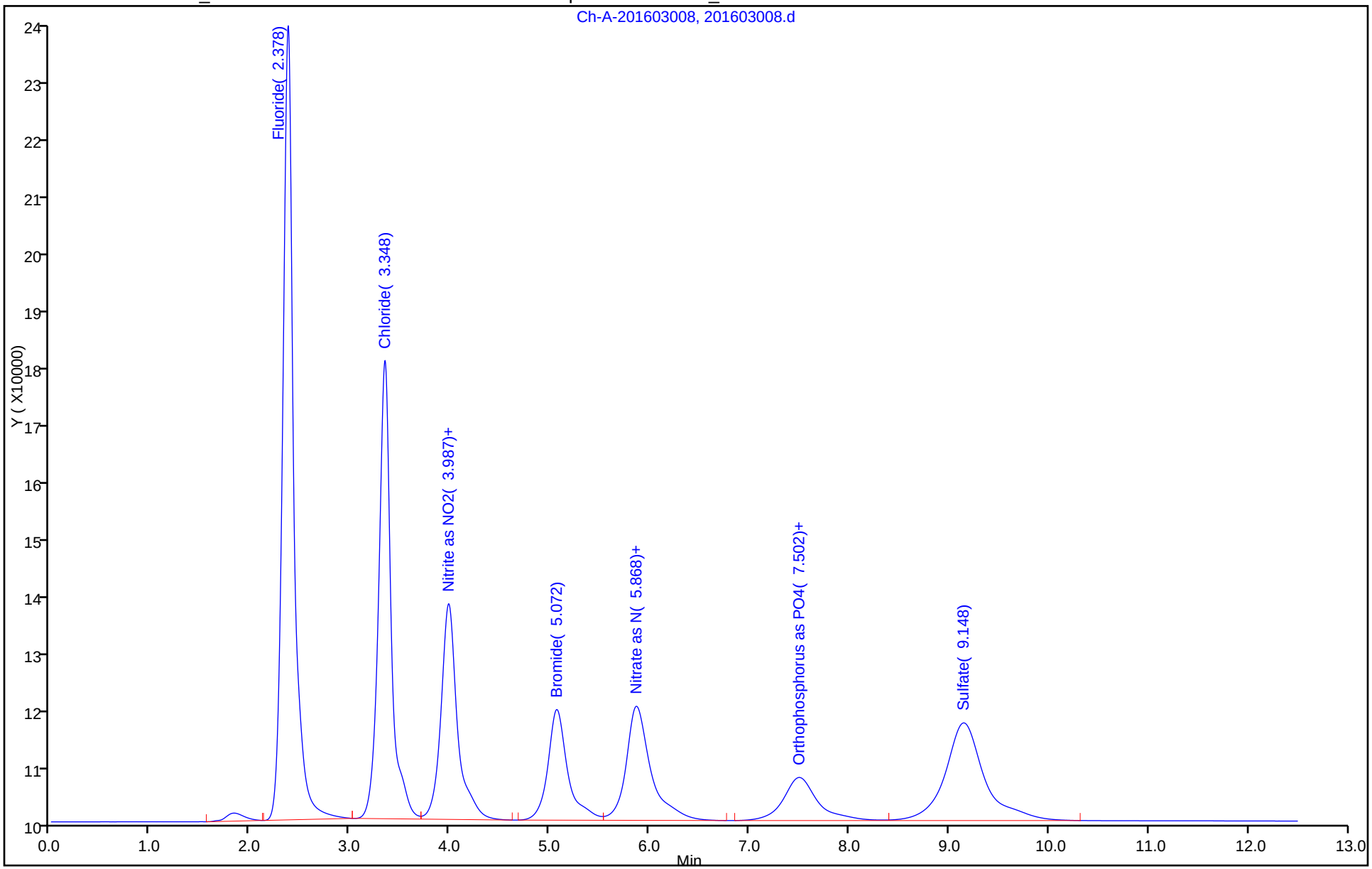
Reagents:

WCLCSANIONS_00113 Amount Added: 150.00 Units: uL

Report Date: 24-Mar-2016 14:09:19 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603008.d				
Injection Date:	24-Mar-2016 12:07:53	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std5			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603009.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	24-Mar-2016 12:21:43	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-009				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:16	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.392	2.378	0.014	1403750	20.0	20.0	
2 Chloride	3.360	3.348	0.012	931268	20.0	20.5	
3 Nitrite as NO2	3.995	3.987	0.008	570701	NC	NC	
12 Nitrite as N	3.995	3.987	0.008	570701	NC	NC	
4 Bromide	5.067	5.072	-0.005	352845	20.0	20.2	
10 Nitrate as N	5.850	5.868	-0.018	453361	NC	NC	
5 Nitrate as NO3	5.850	5.868	-0.018	453361	NC	NC	
11 Orthophosphorus as PO4	7.492	7.502	-0.010	230689	NC	NC	
9 Orthophosphate as P	7.492	7.502	-0.010	230689	NC	NC	
7 Sulfate	9.142	9.148	-0.006	606140	20.0	19.6	
S 8 Nitrate Nitrite as N					6.09	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

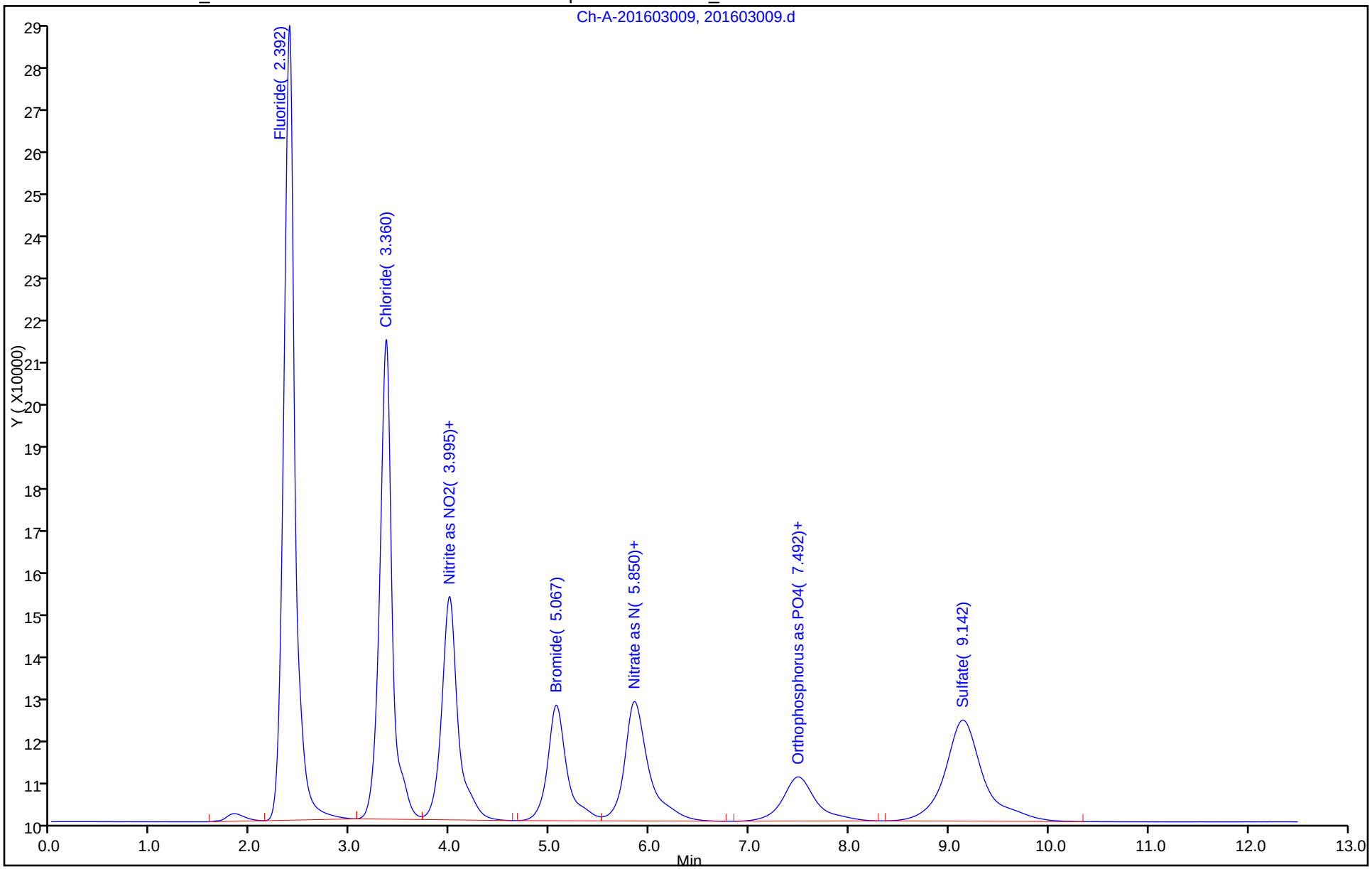
Reagents:

WCLCSANIONS_00113 Amount Added: 200.00 Units: uL

Report Date: 24-Mar-2016 14:09:18 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603009.d				
Injection Date:	24-Mar-2016 12:21:43	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std6			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603010.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	24-Mar-2016 12:35:34	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-010				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:15	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.412	2.378	0.034	2153918	30.0	30.6	
	2 Chloride	3.387	3.348	0.039	1486643	30.0	32.6	
	3 Nitrite as NO2	4.023	3.987	0.036	872272	NC	NC	
	12 Nitrite as N	4.023	3.987	0.036	872272	NC	NC	
	4 Bromide	5.088	5.072	0.016	554643	30.0	31.7	
	10 Nitrate as N	5.863	5.868	-0.005	710299	NC	NC	
	5 Nitrate as NO3	5.863	5.868	-0.005	710299	NC	NC	
	11 Orthophosphorus as PO4	7.500	7.502	-0.002	355979	NC	NC	
	9 Orthophosphate as P	7.500	7.502	-0.002	355979	NC	NC	
	7 Sulfate	9.147	9.148	-0.001	950847	30.0	30.6	
S	8 Nitrate Nitrite as N					9.13	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

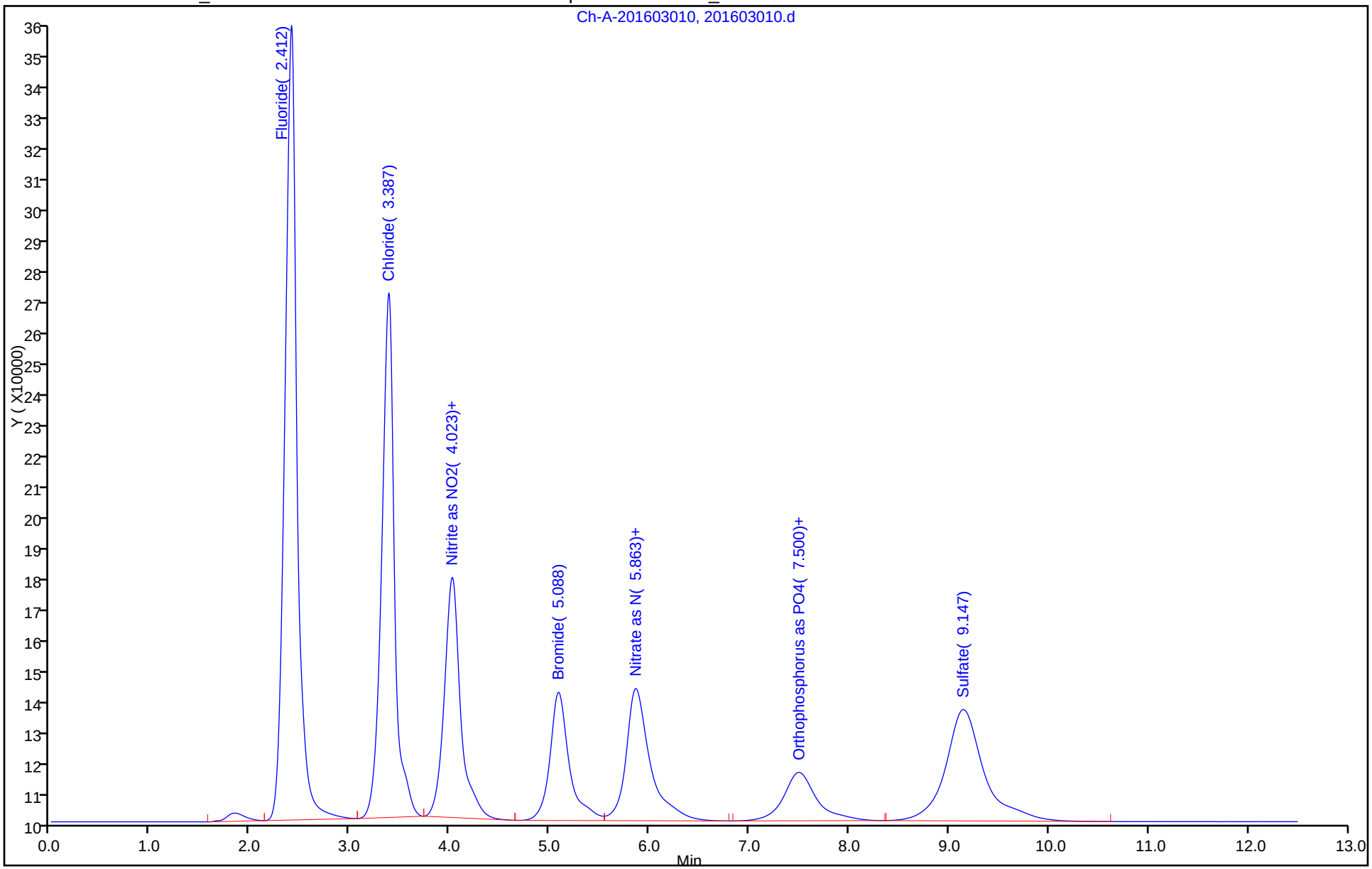
Reagents:

WCLCSANIONS_00113 Amount Added: 300.00 Units: uL

Report Date: 24-Mar-2016 14:09:15 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603010.d				
Injection Date:	24-Mar-2016 12:35:34	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std7			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	24-Mar-2016 12:49:24	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0070927-011				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Sublist:	chrom-300_9*sub5				
Method:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	24-Mar-2016 14:09:13	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK016				
First Level Reviewer: nickloffn		Date:	24-Mar-2016 14:07:59		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.415	2.378	0.037	2807955	40.0	39.8	
2 Chloride	3.387	3.348	0.039	2031292	40.0	44.4	
3 Nitrite as NO2	4.022	3.987	0.035	1172728	NC	NC	
12 Nitrite as N	4.022	3.987	0.035	1172728	NC	NC	
4 Bromide	5.080	5.072	0.008	752360	40.0	42.9	
10 Nitrate as N	5.853	5.868	-0.015	965501	NC	NC	
5 Nitrate as NO3	5.853	5.868	-0.015	965501	NC	NC	
11 Orthophosphorus as PO4	7.497	7.502	-0.005	477086	NC	NC	
9 Orthophosphate as P	7.497	7.502	-0.005	477086	NC	NC	
7 Sulfate	9.140	9.148	-0.008	1270536	40.0	40.8	
S 8 Nitrate Nitrite as N					12.2	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

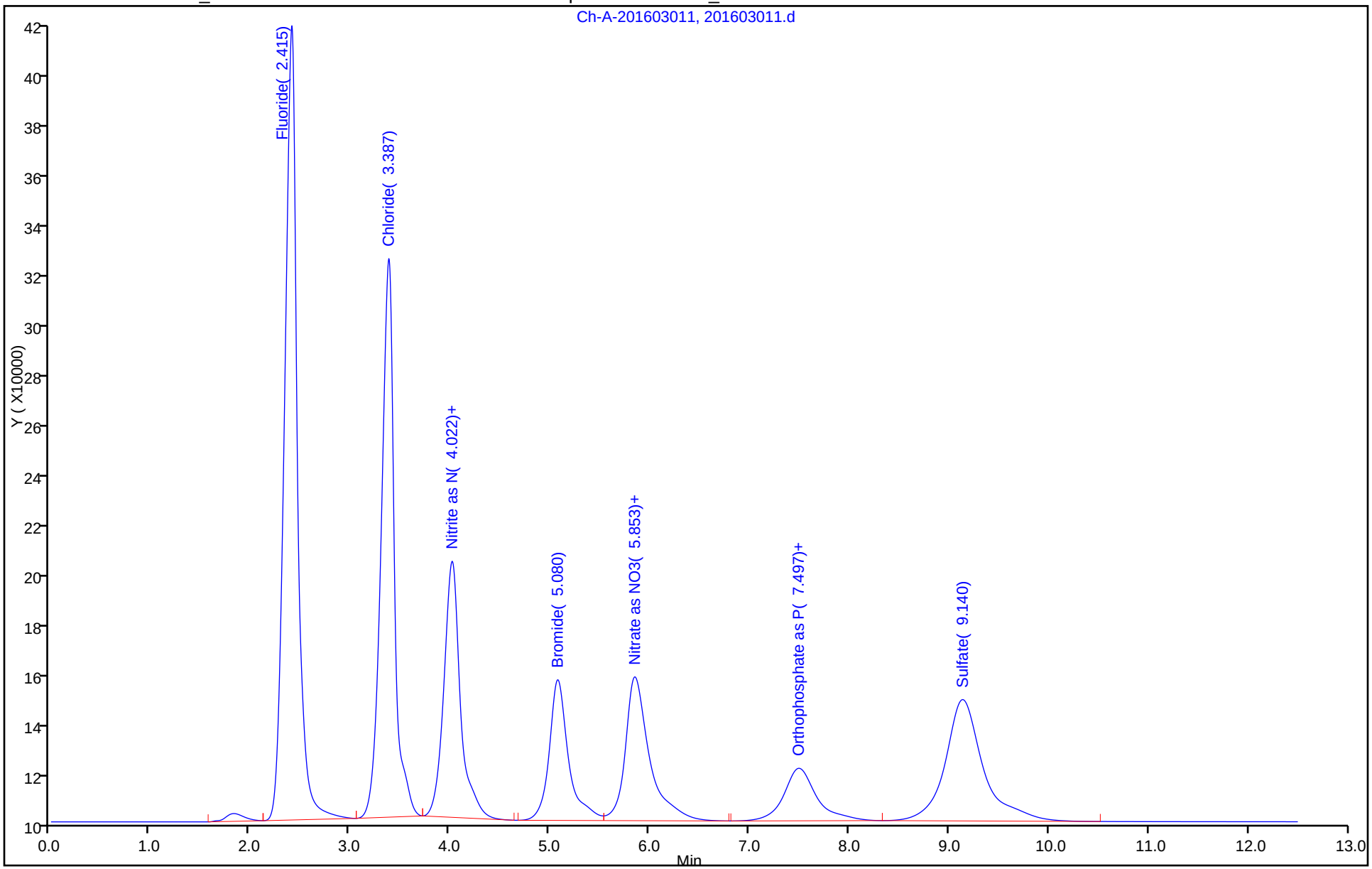
Reagents:

WCLCSANIONS_00113 Amount Added: 400.00 Units: uL

Report Date: 24-Mar-2016 14:09:13 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Injection Date:	24-Mar-2016 12:49:24	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	std8			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: ICV 440-319859/12 Calibration Date: 03/24/2016 13:10

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 201603012.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		67124		9.71	10.0	-2.9	10.0
Chloride	Lin		41570		9.30	10.0	-7.0	10.0
Bromide	Lin		17100		9.84	10.0	-1.6	10.0
Sulfate	Lin		29209		9.60	10.0	-4.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: ICV 440-319859/12 Calibration Date: 03/24/2016 13:10

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 201603012.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.38	2.26	2.50
Chloride	3.35	3.18	3.52
Bromide	5.07	4.82	5.33
Sulfate	9.12	8.69	9.61

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603012.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 24-Mar-2016 13:10:09 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0070927-012
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 24-Mar-2016 17:25:35 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK011

First Level Reviewer: nguyennt Date: 24-Mar-2016 16:30:40

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.378	2.378	0.000	671243	10.0	9.71	
2 Chloride	3.350	3.348	0.002	415702	10.0	9.30	
3 Nitrite as NO2	3.987	3.987	0.000	261865	NC	NC	
12 Nitrite as N	3.987	3.987	0.000	261865	NC	NC	
4 Bromide	5.065	5.072	-0.007	170997	10.0	9.84	
10 Nitrate as N	5.860	5.868	-0.008	218575	NC	NC	
5 Nitrate as NO3	5.860	5.868	-0.008	218575	NC	NC	
11 Orthophosphorus as PO4	7.480	7.502	-0.022	117338	NC	NC	
9 Orthophosphate as P	7.480	7.502	-0.022	117338	NC	NC	
7 Sulfate	9.123	9.148	-0.025	292088	10.0	9.60	
S 8 Nitrate Nitrite as N					5.30	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

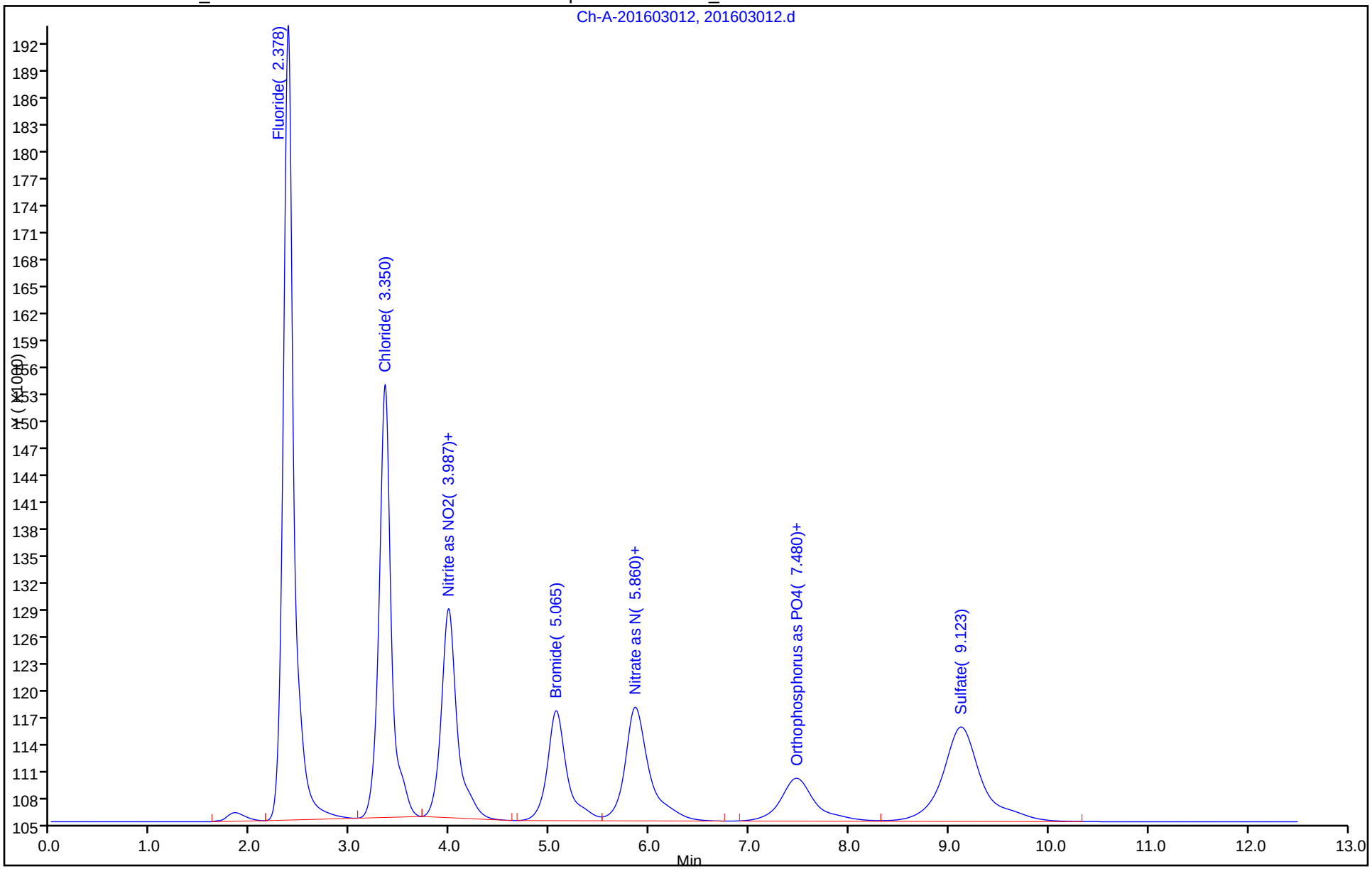
Reagents:

WCICVANIONS_00059 Amount Added: 1.00 Units: mL

Report Date: 24-Mar-2016 16:30:41 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603012.d				
Injection Date:	24-Mar-2016 13:10:09	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	icv			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/17 Calibration Date: 04/22/2016 16:11

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422017.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		62757		9.10	10.0	-9.0	10.0
Chloride	Lin		44927		10.0	10.0	0.3	10.0
Bromide	Lin		17531		10.1	10.0	0.9	10.0
Sulfate	Lin		29439		9.67	10.0	-3.3	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/17 Calibration Date: 04/22/2016 16:11

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422017.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.37	2.25	2.48
Chloride	3.35	3.18	3.52
Bromide	5.08	4.82	5.33
Sulfate	8.87	8.43	9.32

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422017.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 22-Apr-2016 16:11:57 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072193-017
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist: chrom-300_9*sub5

Method: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 22-Apr-2016 18:54:46 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK019

First Level Reviewer: nguyennt Date: 22-Apr-2016 18:54:46

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.365	2.365	0.000	627570	10.0	9.10	
	2 Chloride	3.352	3.352	0.000	449268	10.0	10.0	
	3 Nitrite as NO2	3.983	3.983	0.000	275812	NC	NC	
	12 Nitrite as N	3.983	3.983	0.000	275812	NC	NC	
	4 Bromide	5.075	5.075	0.000	175305	10.0	10.1	
	10 Nitrate as N	5.867	5.867	0.000	223290	NC	NC	
	5 Nitrate as NO3	5.867	5.867	0.000	223290	NC	NC	
	11 Orthophosphorus as PO4	7.235	7.235	0.000	119087	NC	NC	
	9 Orthophosphate as P	7.235	7.235	0.000	119087	NC	NC	
	7 Sulfate	8.873	8.873	0.000	294388	10.0	9.67	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

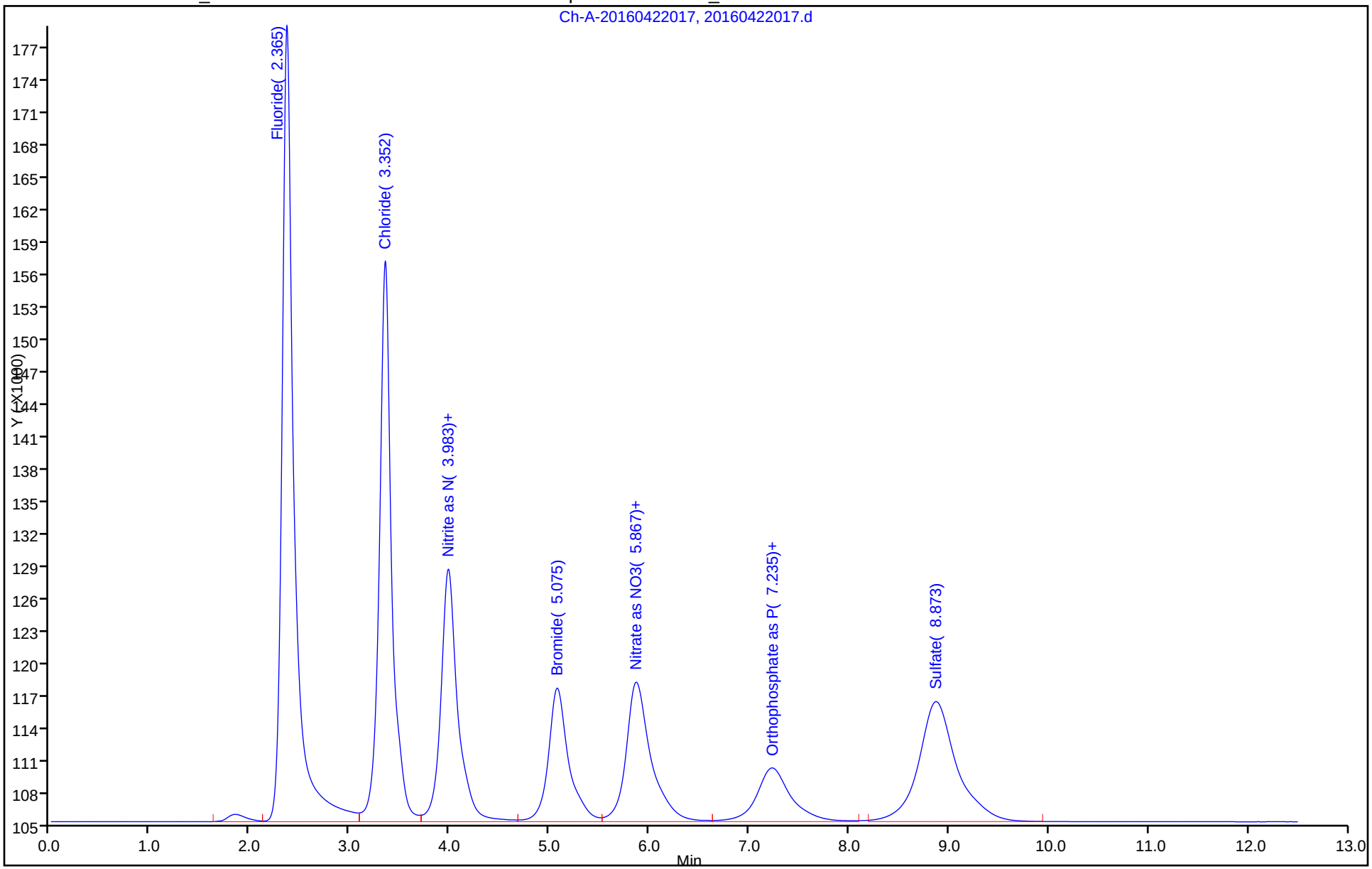
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 22-Apr-2016 18:54:47 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422017.d				
Injection Date:	22-Apr-2016 16:11:57	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/41 Calibration Date: 04/22/2016 22:26

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422041.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		63695		9.23	10.0	-7.7	10.0
Chloride	Lin		43892		9.80	10.0	-2.0	10.0
Bromide	Lin		17493		10.1	10.0	0.7	10.0
Sulfate	Lin		29338		9.64	10.0	-3.6	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/41 Calibration Date: 04/22/2016 22:26

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422041.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.36	2.24	2.48
Chloride	3.33	3.16	3.49
Bromide	5.03	4.78	5.29
Sulfate	8.88	8.43	9.32

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422041.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 22-Apr-2016 22:26:50 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072193-041
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist: chrom-300_9*sub5

Method: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 22-Apr-2016 22:57:12 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK019

First Level Reviewer: nguyennt Date: 22-Apr-2016 22:57:12

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.358	2.358	0.000	636947	10.0	9.23	
	2 Chloride	3.327	3.327	0.000	438920	10.0	9.80	
	12 Nitrite as N	3.957	3.957	0.000	271619	NC	NC	
	3 Nitrite as NO2	3.957	3.957	0.000	271619	NC	NC	
	4 Bromide	5.033	5.033	0.000	174925	10.0	10.1	
	5 Nitrate as NO3	5.822	5.822	0.000	223429	NC	NC	
	10 Nitrate as N	5.822	5.822	0.000	223429	NC	NC	
	9 Orthophosphate as P	7.238	7.238	0.000	115018	NC	NC	
	11 Orthophosphorus as PO4	7.238	7.238	0.000	115018	NC	NC	
	7 Sulfate	8.878	8.878	0.000	293377	10.0	9.64	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

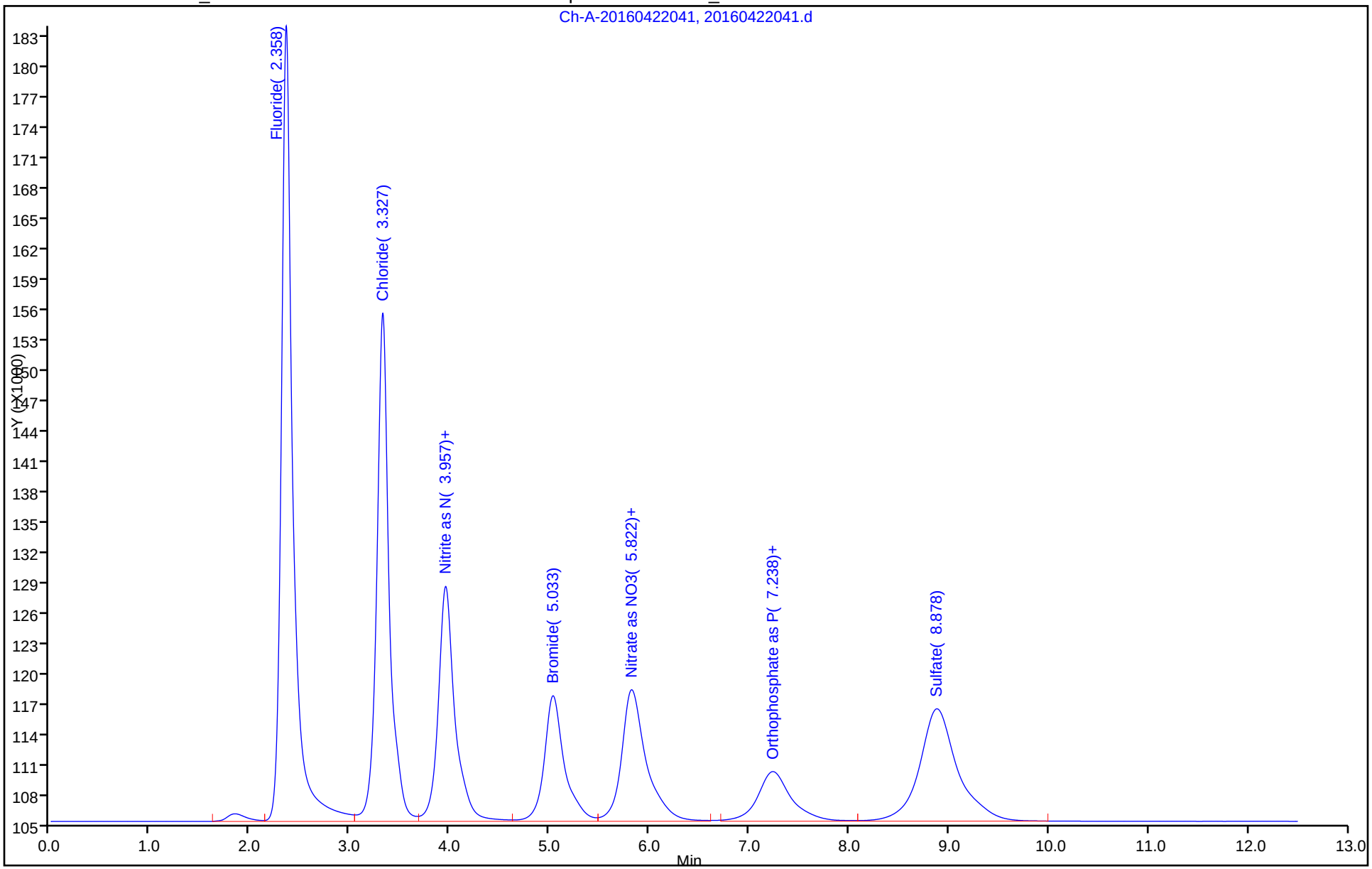
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 22-Apr-2016 22:57:12 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422041.d				
Injection Date:	22-Apr-2016 22:26:50	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/53 Calibration Date: 04/23/2016 01:17

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422053.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		64419		9.33	10.0	-6.7	10.0
Chloride	Lin		44092		9.85	10.0	-1.5	10.0
Bromide	Lin		17347		9.99	10.0	-0.1	10.0
Sulfate	Lin		29556		9.71	10.0	-2.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/53 Calibration Date: 04/23/2016 01:17

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422053.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.35	2.23	2.47
Chloride	3.33	3.16	3.49
Bromide	5.04	4.78	5.29
Sulfate	8.94	8.49	9.38

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422053.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 23-Apr-2016 01:17:16 ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072193-053
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist: chrom-300_9*sub5

Method: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Apr-2016 01:36:32 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK019

First Level Reviewer: nguyennt Date: 23-Apr-2016 01:36:32

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.352	2.352	0.000	644190	10.0	9.33	
	2 Chloride	3.325	3.325	0.000	440919	10.0	9.85	
	12 Nitrite as N	3.955	3.955	0.000	271940	NC	NC	
	3 Nitrite as NO2	3.955	3.955	0.000	271940	NC	NC	
	4 Bromide	5.035	5.035	0.000	173469	10.0	9.99	
	5 Nitrate as NO3	5.823	5.823	0.000	222518	NC	NC	
	10 Nitrate as N	5.823	5.823	0.000	222518	NC	NC	
	9 Orthophosphate as P	7.297	7.297	0.000	124241	NC	NC	
	11 Orthophosphorus as PO4	7.297	7.297	0.000	124241	NC	NC	
	7 Sulfate	8.935	8.935	0.000	295558	10.0	9.71	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

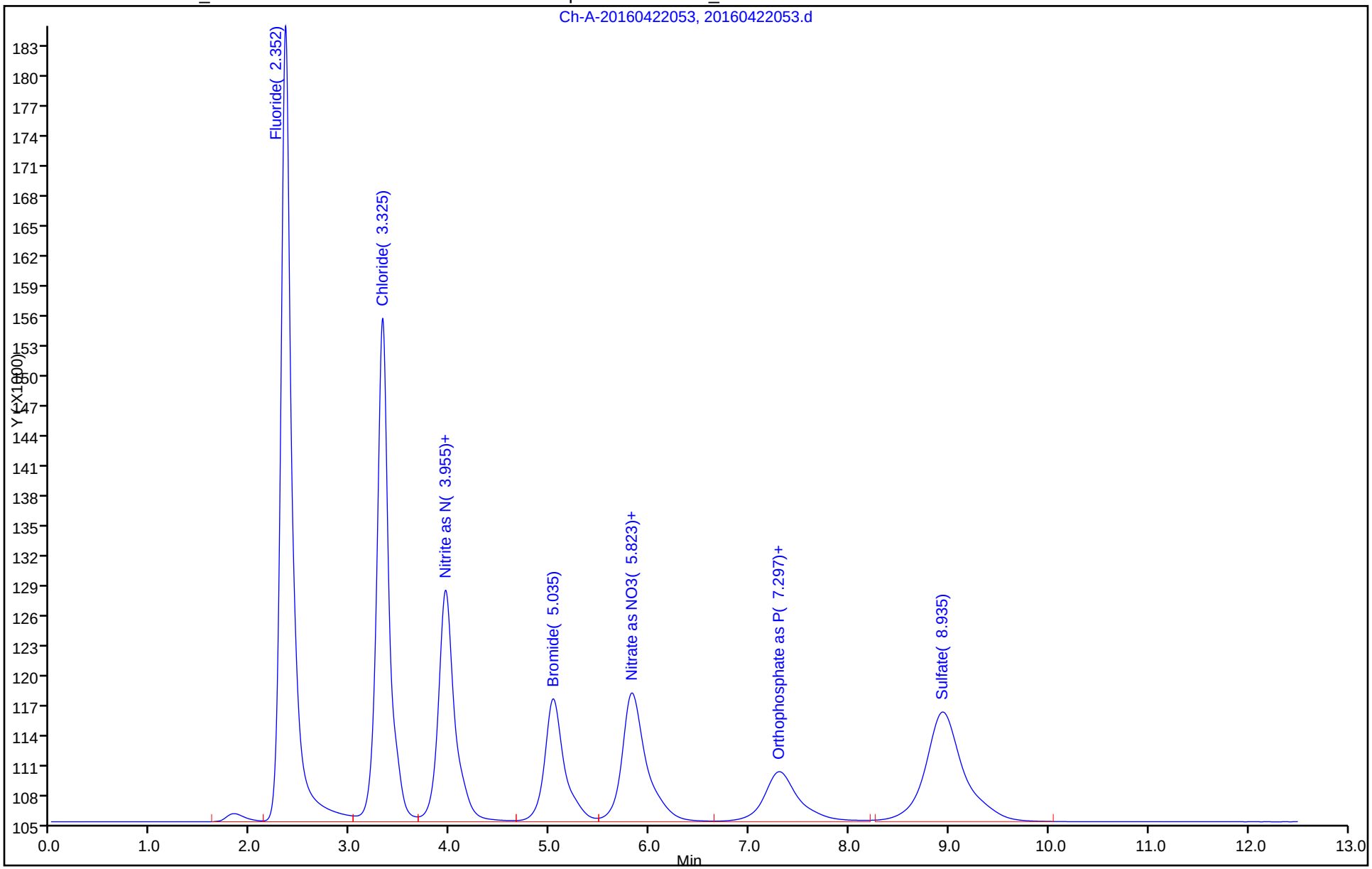
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 23-Apr-2016 01:36:33 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422053.d				
Injection Date:	23-Apr-2016 01:17:16	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	53
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/65 Calibration Date: 04/23/2016 04:06

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422065.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		64309		9.32	10.0	-6.8	10.0
Chloride	Lin		43895		9.80	10.0	-2.0	10.0
Bromide	Lin		17311		9.97	10.0	-0.3	10.0
Sulfate	Lin		29591		9.72	10.0	-2.8	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-325963/65 Calibration Date: 04/23/2016 04:06

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422065.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.35	2.23	2.46
Chloride	3.32	3.16	3.49
Bromide	5.04	4.79	5.29
Sulfate	8.87	8.43	9.32

Form VII 300.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422065.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 23-Apr-2016 04:06:50 ALS Bottle#: 0 Worklist Smp#: 65
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072193-065
Operator ID: IRVINSTWET4 Instrument ID: IC-9
Sublist: chrom-300_9*sub5

Method: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 23-Apr-2016 19:45:13 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK017

First Level Reviewer: nguyennt Date: 23-Apr-2016 19:45:12

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.345	2.345	0.000	643088	10.0	9.32	
	2 Chloride	3.322	3.322	0.000	438948	10.0	9.80	
	3 Nitrite as NO2	3.952	3.952	0.000	271164	NC	NC	
	12 Nitrite as N	3.952	3.952	0.000	271164	NC	NC	
	4 Bromide	5.037	5.037	0.000	173111	10.0	9.97	
	10 Nitrate as N	5.828	5.828	0.000	221382	NC	NC	
	5 Nitrate as NO3	5.828	5.828	0.000	221382	NC	NC	
	11 Orthophosphorus as PO4	7.258	7.258	0.000	115276	NC	NC	
	9 Orthophosphate as P	7.258	7.258	0.000	115276	NC	NC	
	7 Sulfate	8.872	8.872	0.000	295906	10.0	9.72	
S	8 Nitrate Nitrite as N					3.04	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

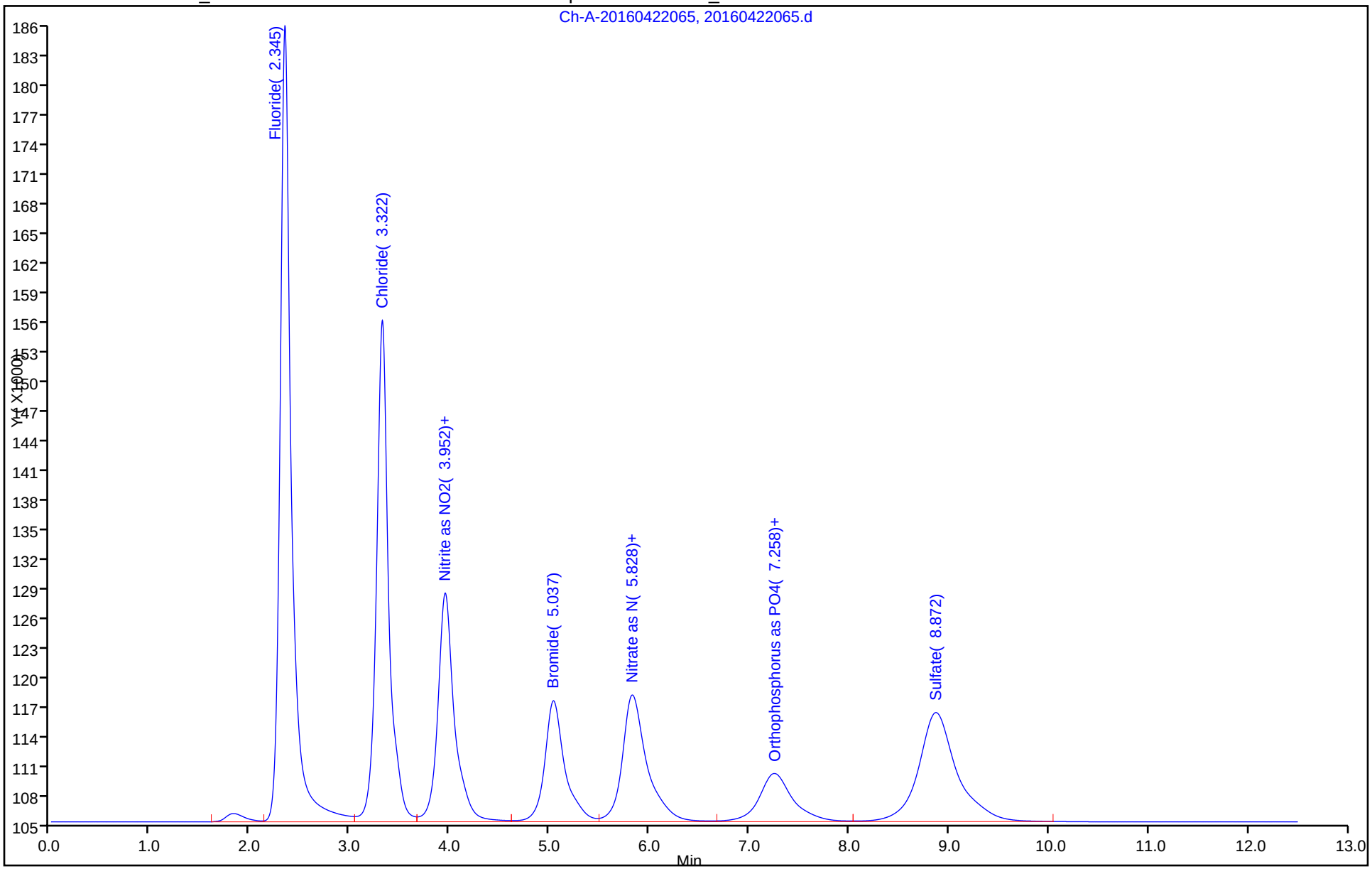
Reagents:

WCLCSANIONS_00114 Amount Added: 1.00 Units: mL

Report Date: 23-Apr-2016 19:45:14 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422065.d				
Injection Date:	23-Apr-2016 04:06:50	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccv			Worklist Smp#:	65
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325963/4
Matrix: Water
Lab File ID: 20160422004.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 13:05
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

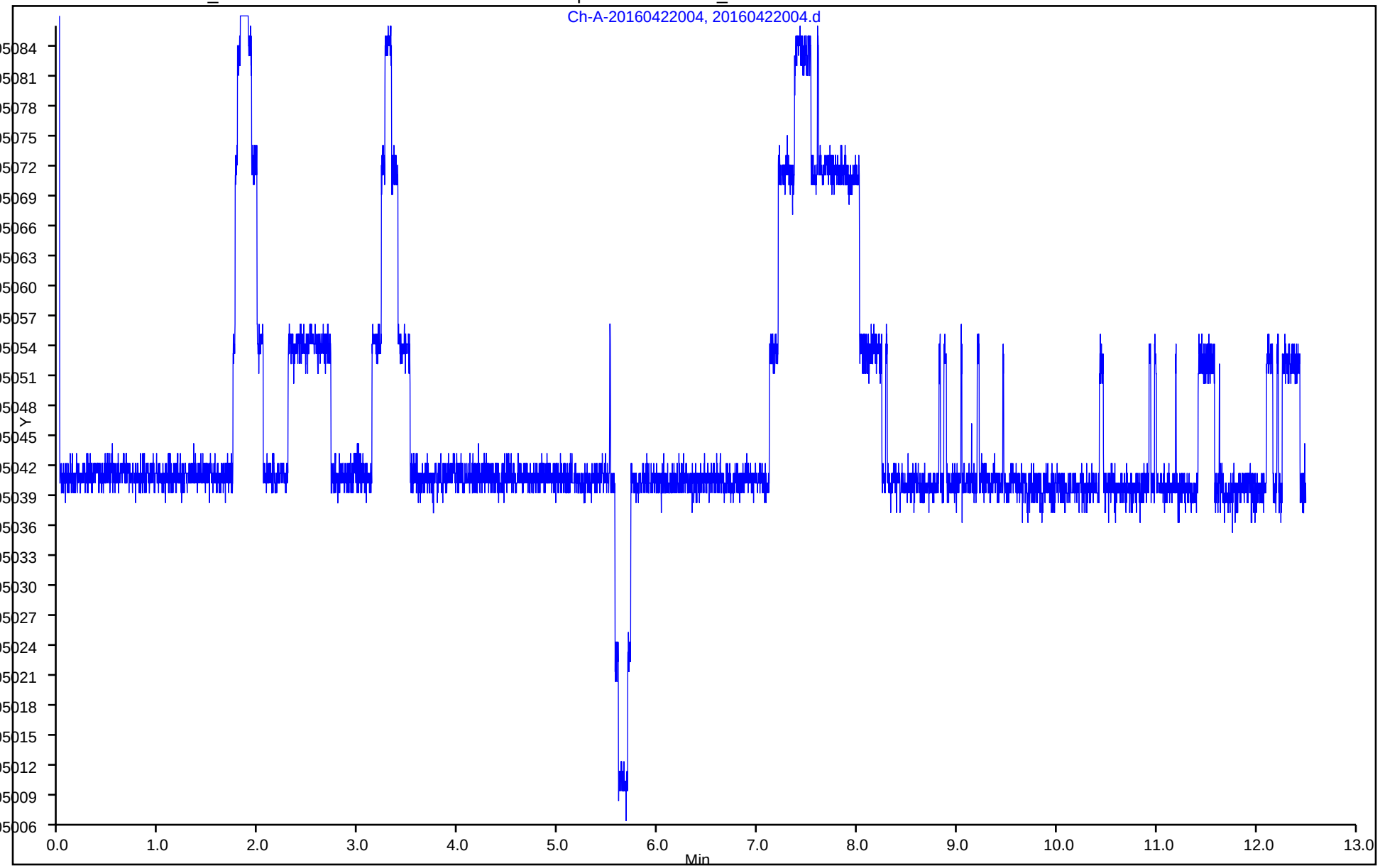
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422004.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	22-Apr-2016 13:05:51	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072193-004				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 18:48:00	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	22-Apr-2016 18:48:30		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 22-Apr-2016 18:48:31 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422004.d				
Injection Date:	22-Apr-2016 13:05:51	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	mb			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325963/42
Matrix: Water
Lab File ID: 20160422042.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 22:40
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

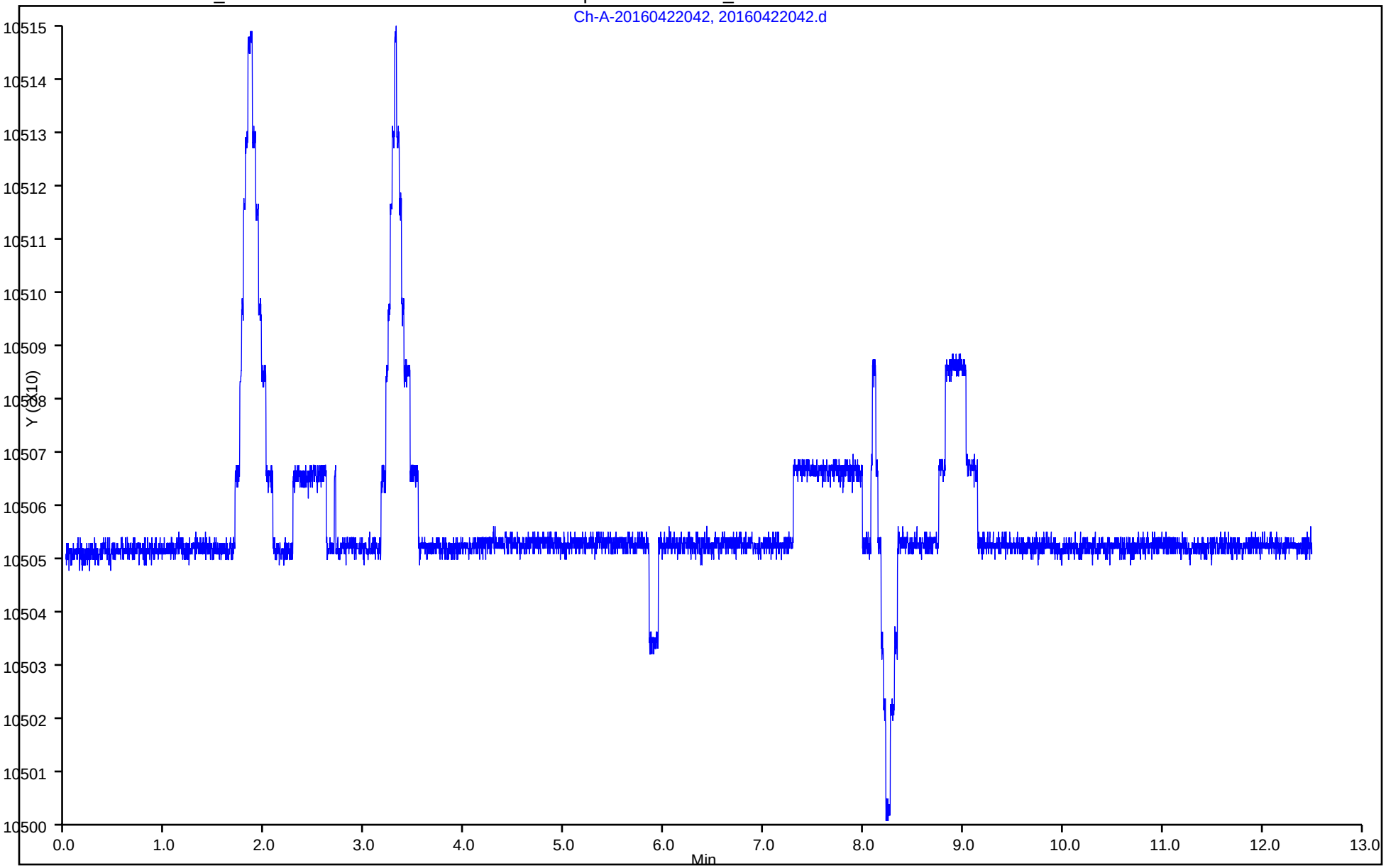
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422042.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	22-Apr-2016 22:40:41	ALS Bottle#:	0	Worklist Smp#:	42
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072193-042				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	22-Apr-2016 23:41:09	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	22-Apr-2016 22:57:08		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 22-Apr-2016 22:57:08 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422042.d				
Injection Date:	22-Apr-2016 22:40:41	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325963/54
Matrix: Water
Lab File ID: 20160422054.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 01:31
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422054.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	23-Apr-2016 01:31:07	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072193-054				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 01:36:32	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK019				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 01:46:48		

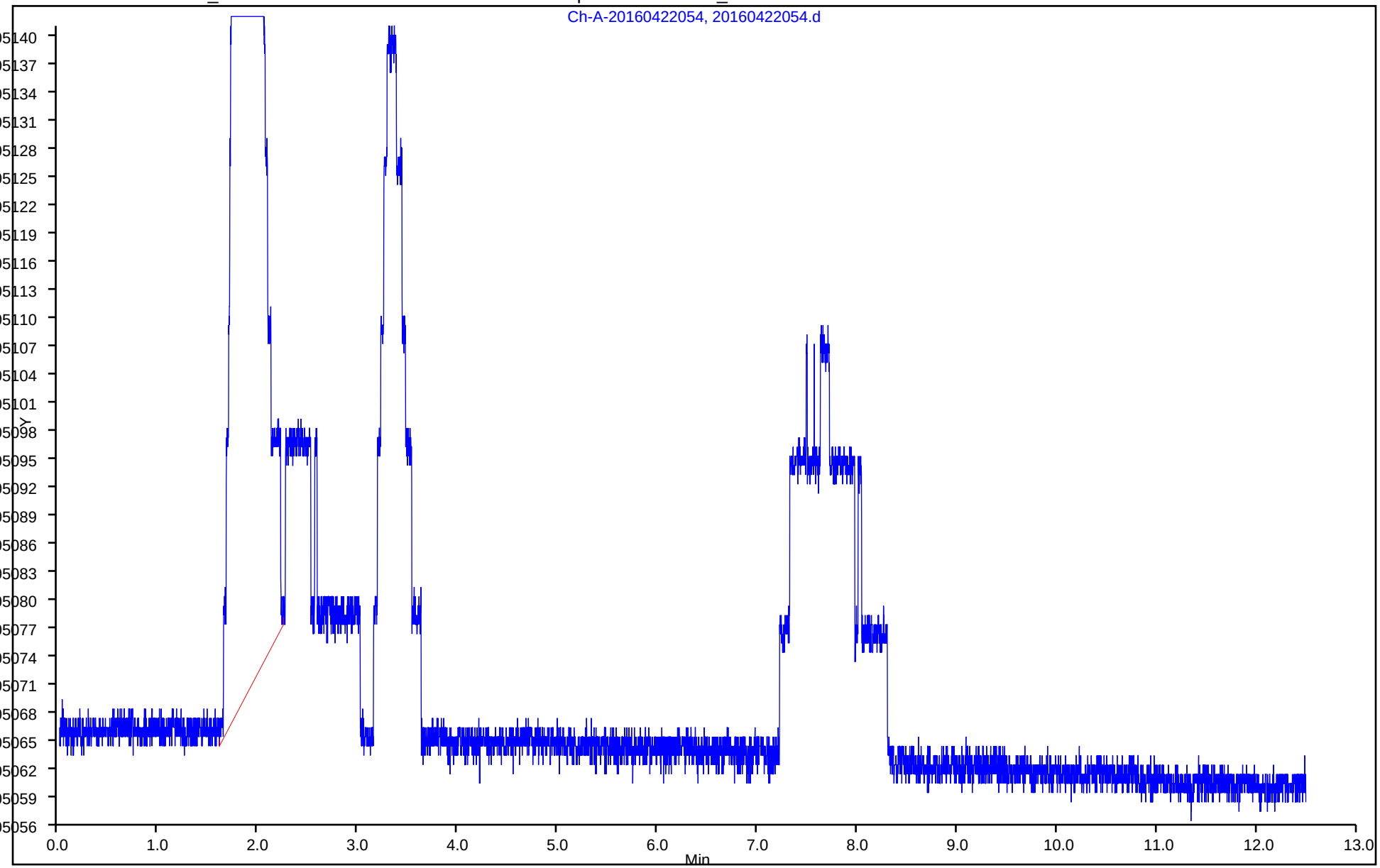
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 23-Apr-2016 01:46:48 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422054.d

Injection Date:	23-Apr-2016 01:31:07	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325963/66
Matrix: Water
Lab File ID: 20160422066.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 04:20
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

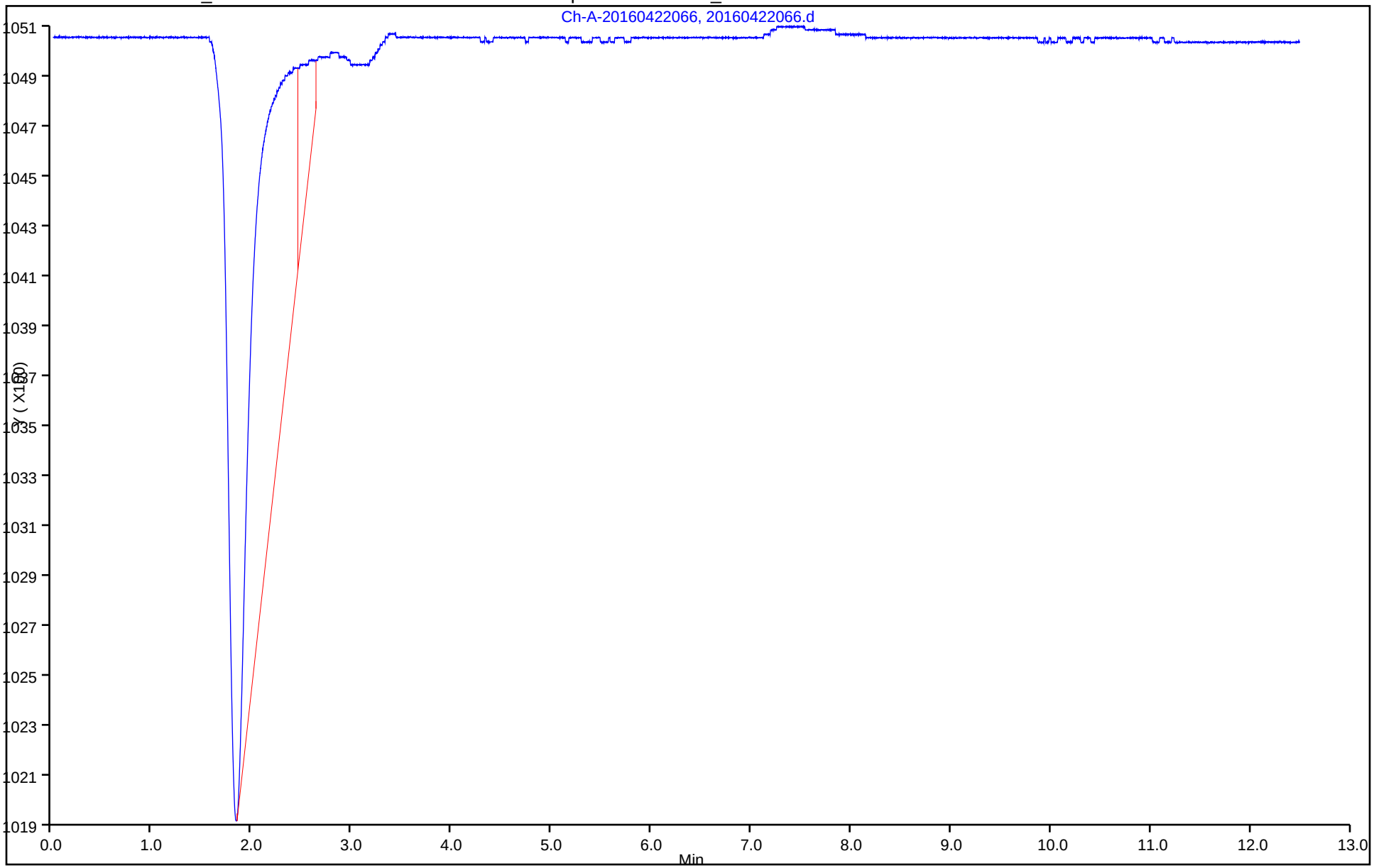
Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422066.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	23-Apr-2016 04:20:41	ALS Bottle#:	0	Worklist Smp#:	66
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001A Name: 440-0072193-066				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 19:45:13	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK017				
First Level Reviewer: nguyennt		Date:	23-Apr-2016 19:45:25		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 8 Nitrate Nitrite as N						0	

Report Date: 23-Apr-2016 19:45:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422066.d				
Injection Date:	23-Apr-2016 04:20:41	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	ccb			Worklist Smp#:	66
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325963/2
Matrix: Water
Lab File ID: 20160422002.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/22/2016 12:38
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	5.05		0.50	0.25
16887-00-6	Chloride	5.04		0.50	0.25

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422002.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 22-Apr-2016 12:38:10 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001A Name: 440-0072193-002
Operator ID: IRVINSTWET4 Instrument ID: IC-9

Method: \\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m
Limit Group: IC-300_28D
Method Label: Anions 300.0
Last Update: 22-Apr-2016 18:48:00 Calib Date: 24-Mar-2016 12:49:24
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d

Column 1 : Det: Ch-A-20110829007
Process Host: XAWRK019

First Level Reviewer: nguyennt Date: 22-Apr-2016 18:48:13

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.345	2.365	-0.020	263905	5.00	3.98	
	2 Chloride	3.317	3.352	-0.035	219619	5.00	5.04	
	3 Nitrite as NO2	3.960	3.983	-0.023	138123	NC	NC	
	12 Nitrite as N	3.960	3.983	-0.023	138123	NC	NC	
	4 Bromide	5.067	5.075	-0.008	86712	5.00	5.05	
	10 Nitrate as N	5.880	5.867	0.013	109155	NC	NC	
	5 Nitrate as NO3	5.880	5.867	0.013	109155	NC	NC	
	11 Orthophosphorus as PO4	7.367	7.235	0.132	53492	NC	NC	
	9 Orthophosphate as P	7.367	7.235	0.132	53492	NC	NC	
	7 Sulfate	9.025	8.873	0.152	142579	5.00	4.83	
S	8 Nitrate Nitrite as N					1.52	0	

QC Flag Legend

Processing Flags
NC - Not Calibrated

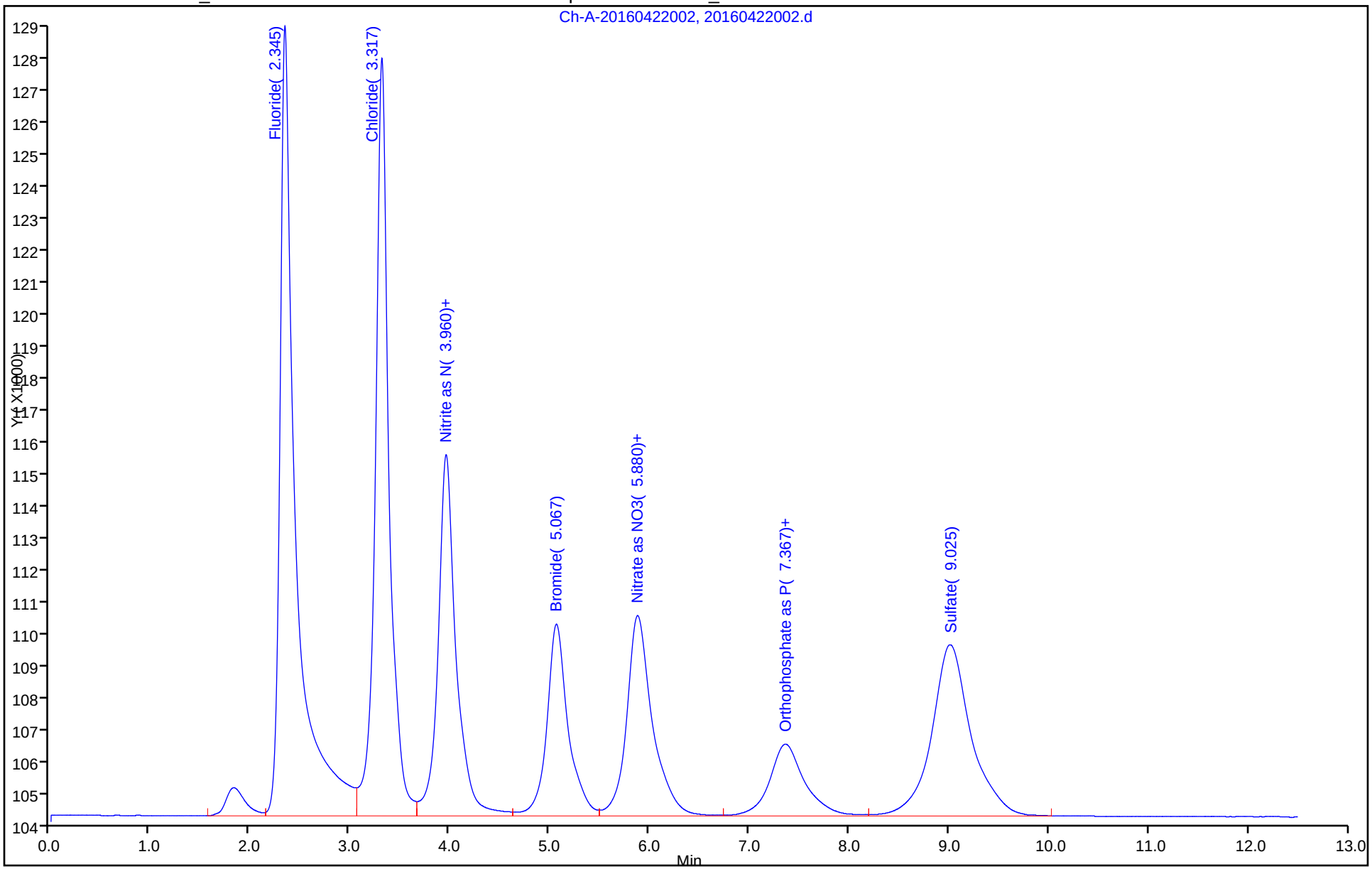
Reagents:

WCLCSANIONS_00114 Amount Added: 50.00 Units: uL

Report Date: 22-Apr-2016 18:48:13 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422002.d				
Injection Date:	22-Apr-2016 12:38:10	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	lcs			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420 MS
Lab Sample ID: 440-145066-5 MS
Matrix: Water
Lab File ID: 20160422051.d
Analysis Method: 300.0
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 00:49
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	48.4		10	5.0
16887-00-6	Chloride	4200		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422051.d				
Lims ID:	440-145066-C-5 MS				
Client ID:	MW-04-20160420				
Sample Type:	MS				
Inject. Date:	23-Apr-2016 00:49:35	ALS Bottle#:	0	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	#: 001A Name: 440-0072193-051				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 19:50:00	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK048				
First Level Reviewer: bruzziot		Date:	25-Apr-2016 19:54:10		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	2.340	2.345	-0.005	145786	2.50	2.32	
	2 Chloride	3.473	3.322	0.151	9652998	2.50	209.9	E
	12 Nitrite as N	3.975	3.952	0.023	80958	NC	NC	
	3 Nitrite as NO2	3.975	3.952	0.023	80958	NC	NC	
	4 Bromide	5.068	5.037	0.031	40441	2.50	2.42	
	5 Nitrate as NO3	5.860	5.828	0.032	117770	NC	NC	
	10 Nitrate as N	5.860	5.828	0.032	117770	NC	NC	
	9 Orthophosphate as P	7.347	7.258	0.089	41540	NC	NC	
	11 Orthophosphorus as PO4	7.347	7.258	0.089	41540	NC	NC	
	7 Sulfate	8.738	8.872	-0.134	11158930	2.50	355.7	E
S	8 Nitrate Nitrite as N					0.7611	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

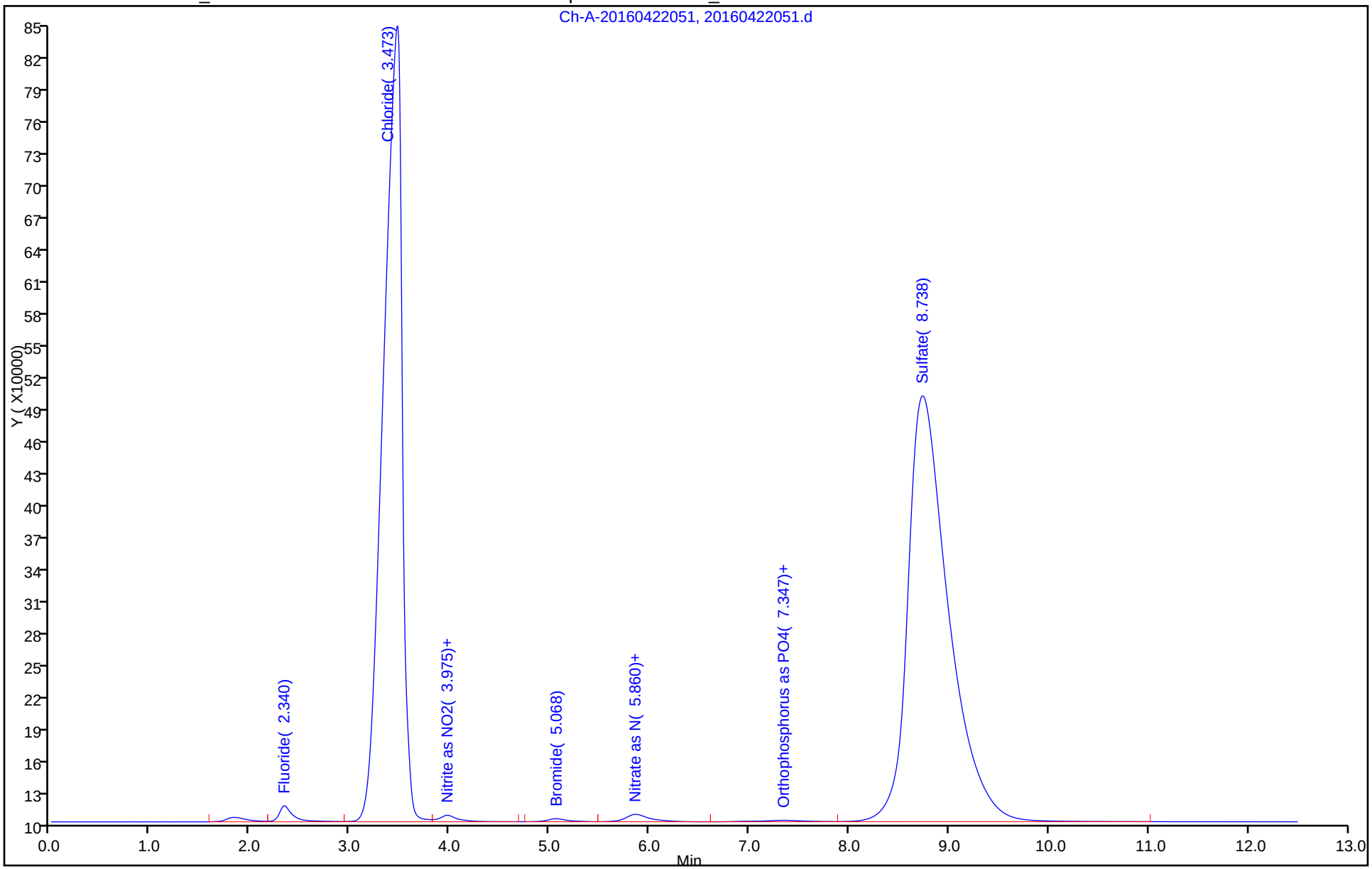
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 25-Apr-2016 19:54:12 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422051.d				
Injection Date:	23-Apr-2016 00:49:35	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-5 MS			Worklist Smp#:	51
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420 MSD
Lab Sample ID: 440-145066-5 MSD
Matrix: Water
Lab File ID: 20160422052.d
Analysis Method: 300.0
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 01:03
Con. Extract Vol.: 1.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	44.5		10	5.0
16887-00-6	Chloride	4190		10	5.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422052.d				
Lims ID:	440-145066-C-5 MSD				
Client ID:	MW-04-20160420				
Sample Type:	MSD				
Inject. Date:	23-Apr-2016 01:03:26	ALS Bottle#:	0	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	#: 001A Name: 440-0072193-052				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-9		
Method:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\300_9.m				
Limit Group:	IC-300_28D				
Method Label:	Anions 300.0				
Last Update:	23-Apr-2016 19:50:00	Calib Date:	24-Mar-2016 12:49:24		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC9\20160324-70927.b\201603011.d				
Column 1 :			Det: Ch-A-20110829007		
Process Host:	XAWRK048				
First Level Reviewer: bruzziot		Date:	25-Apr-2016 19:54:22		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.342	2.345	-0.003	144987	2.50	2.31	
2 Chloride	3.477	3.322	0.155	9627331	2.50	209.3	E
12 Nitrite as N	3.980	3.952	0.028	76973	NC	NC	
3 Nitrite as NO2	3.980	3.952	0.028	76973	NC	NC	
4 Bromide	5.075	5.037	0.038	37015	2.50	2.22	
5 Nitrate as NO3	5.873	5.828	0.045	114488	NC	NC	
10 Nitrate as N	5.873	5.828	0.045	114488	NC	NC	
9 Orthophosphate as P	7.357	7.258	0.099	46177	NC	NC	
11 Orthophosphorus as PO4	7.357	7.258	0.099	46177	NC	NC	
7 Sulfate	8.745	8.872	-0.127	11147023	2.50	355.3	E
S 8 Nitrate Nitrite as N					0.7611	0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

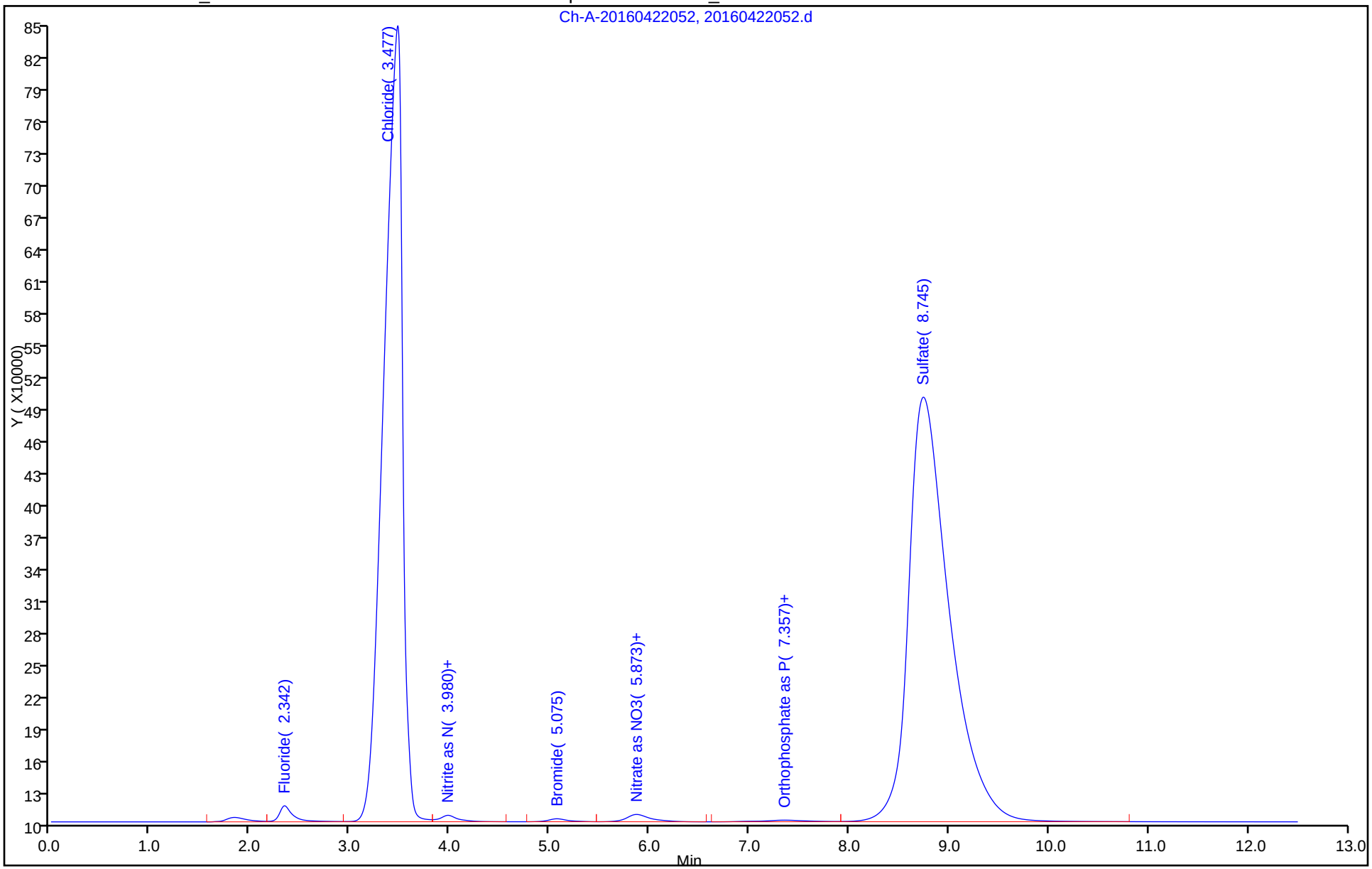
Reagents:

WCLCSANIONS_00114 Amount Added: 500.00 Units: uL

Report Date: 25-Apr-2016 19:54:23 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC9\20160422-72193.b\20160422052.d				
Injection Date:	23-Apr-2016 01:03:26	Instrument ID:	IC-9	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-C-5 MSD			Worklist Smp#:	52
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_9	Limit Group:	IC-300_28D		



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-9 Start Date: 03/24/2016 10:58

Analysis Batch Number: 319859 End Date: 03/24/2016 17:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0 440-319859/3 IC		03/24/2016 10:58	1	201603003.d	AS14 4(mm)
STD1 440-319859/4 IC		03/24/2016 11:12	1	201603004.d	AS14 4(mm)
STD2 440-319859/5 IC		03/24/2016 11:26	1	201603005.d	AS14 4(mm)
STD3 440-319859/6 IC		03/24/2016 11:40	1	201603006.d	AS14 4(mm)
STD4 440-319859/7 IC		03/24/2016 11:54	1	201603007.d	AS14 4(mm)
STD5 440-319859/8 IC		03/24/2016 12:07	1	201603008.d	AS14 4(mm)
STD6 440-319859/9 IC		03/24/2016 12:21	1	201603009.d	AS14 4(mm)
STD7 440-319859/10 IC		03/24/2016 12:35	1	201603010.d	AS14 4(mm)
STD8 440-319859/11 IC		03/24/2016 12:49	1	201603011.d	AS14 4(mm)
ICV 440-319859/12		03/24/2016 13:10	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:16	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:30	1		AS14 4(mm)
		03/24/2016 14:44	1		AS14 4(mm)
		03/24/2016 14:58	1		AS14 4(mm)
		03/24/2016 15:11	1		AS14 4(mm)
		03/24/2016 15:52	1		AS14 4(mm)
		03/24/2016 16:05	50		AS14 4(mm)
		03/24/2016 16:19	1		AS14 4(mm)
		03/24/2016 16:33	50		AS14 4(mm)
		03/24/2016 16:47	1		AS14 4(mm)
		03/24/2016 17:01	50		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-9 Start Date: 04/22/2016 12:24

Analysis Batch Number: 325963 End Date: 04/23/2016 09:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/22/2016 12:24	1		AS14 4(mm)
LCS 440-325963/2		04/22/2016 12:38	1	20160422002.d	AS14 4(mm)
CCV 440-325963/1002		04/22/2016 12:38	1		AS14 4(mm)
ZZZZZ		04/22/2016 12:52	1		AS14 4(mm)
MB 440-325963/4		04/22/2016 13:05	1	20160422004.d	AS14 4(mm)
CCB 440-325963/1004		04/22/2016 13:05	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:19	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:33	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:53	1		AS14 4(mm)
ZZZZZ		04/22/2016 14:07	50		AS14 4(mm)
ZZZZZ		04/22/2016 14:21	2		AS14 4(mm)
ZZZZZ		04/22/2016 14:35	100		AS14 4(mm)
ZZZZZ		04/22/2016 14:48	1		AS14 4(mm)
ZZZZZ		04/22/2016 15:02	50		AS14 4(mm)
ZZZZZ		04/22/2016 15:16	2		AS14 4(mm)
ZZZZZ		04/22/2016 15:30	100		AS14 4(mm)
ZZZZZ		04/22/2016 15:44	100		AS14 4(mm)
ZZZZZ		04/22/2016 15:58	100		AS14 4(mm)
CCV 440-325963/17		04/22/2016 16:11	1	20160422017.d	AS14 4(mm)
CCB 440-325963/18		04/22/2016 16:25	1		AS14 4(mm)
ZZZZZ		04/22/2016 16:45	1		AS14 4(mm)
ZZZZZ		04/22/2016 16:59	1		AS14 4(mm)
ZZZZZ		04/22/2016 17:13	50		AS14 4(mm)
ZZZZZ		04/22/2016 17:26	1		AS14 4(mm)
ZZZZZ		04/22/2016 17:40	50		AS14 4(mm)
ZZZZZ		04/22/2016 17:54	2		AS14 4(mm)
ZZZZZ		04/22/2016 18:08	100		AS14 4(mm)
ZZZZZ		04/22/2016 18:22	1		AS14 4(mm)
ZZZZZ		04/22/2016 18:52	1		AS14 4(mm)
ZZZZZ		04/22/2016 19:06	5		AS14 4(mm)
CCV 440-325963/29		04/22/2016 19:19	1		AS14 4(mm)
CCB 440-325963/30		04/22/2016 19:50	1		AS14 4(mm)
ZZZZZ		04/22/2016 20:08	1		AS14 4(mm)
ZZZZZ		04/22/2016 20:22	5		AS14 4(mm)
ZZZZZ		04/22/2016 20:36	1		AS14 4(mm)
ZZZZZ		04/22/2016 20:49	2		AS14 4(mm)
ZZZZZ		04/22/2016 21:17	2000		AS14 4(mm)
ZZZZZ		04/22/2016 21:31	1		AS14 4(mm)
ZZZZZ		04/22/2016 21:45	2		AS14 4(mm)
ZZZZZ		04/22/2016 21:59	1		AS14 4(mm)
ZZZZZ		04/22/2016 22:13	50		AS14 4(mm)
CCV 440-325963/41		04/22/2016 22:26	1	20160422041.d	AS14 4(mm)
CCB 440-325963/42		04/22/2016 22:40	1	20160422042.d	AS14 4(mm)
ZZZZZ		04/22/2016 22:58	200		AS14 4(mm)
ZZZZZ		04/22/2016 23:12	200		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-9 Start Date: 04/22/2016 12:24

Analysis Batch Number: 325963 End Date: 04/23/2016 09:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
440-145066-2		04/22/2016 23:26	2	20160422045.d	AS14 4(mm)
440-145066-2		04/22/2016 23:40	100	20160422046.d	AS14 4(mm)
440-145066-3		04/22/2016 23:54	5	20160422047.d	AS14 4(mm)
440-145066-3		04/23/2016 00:08	200	20160422048.d	AS14 4(mm)
440-145066-5		04/23/2016 00:21	500	20160422049.d	AS14 4(mm)
440-145066-5		04/23/2016 00:35	20	20160422050.d	AS14 4(mm)
440-145066-5 MS		04/23/2016 00:49	20	20160422051.d	AS14 4(mm)
440-145066-5 MSD		04/23/2016 01:03	20	20160422052.d	AS14 4(mm)
CCV 440-325963/53		04/23/2016 01:17	1	20160422053.d	AS14 4(mm)
CCB 440-325963/54		04/23/2016 01:31	1	20160422054.d	AS14 4(mm)
440-145066-4		04/23/2016 01:48	5	20160422055.d	AS14 4(mm)
440-145066-4		04/23/2016 02:02	200	20160422056.d	AS14 4(mm)
ZZZZZ		04/23/2016 02:16	20		AS14 4(mm)
ZZZZZ		04/23/2016 02:29	1		AS14 4(mm)
ZZZZZ		04/23/2016 02:43	1		AS14 4(mm)
ZZZZZ		04/23/2016 02:57	1		AS14 4(mm)
ZZZZZ		04/23/2016 03:25	1		AS14 4(mm)
ZZZZZ		04/23/2016 03:39	200		AS14 4(mm)
ZZZZZ		04/23/2016 03:52	10		AS14 4(mm)
CCV 440-325963/65		04/23/2016 04:06	1	20160422065.d	AS14 4(mm)
CCB 440-325963/66		04/23/2016 04:20	1	20160422066.d	AS14 4(mm)
ZZZZZ		04/23/2016 04:34	10		AS14 4(mm)
ZZZZZ		04/23/2016 04:48	10		AS14 4(mm)
ZZZZZ		04/23/2016 05:02	1		AS14 4(mm)
ZZZZZ		04/23/2016 05:16	50		AS14 4(mm)
ZZZZZ		04/23/2016 05:29	2		AS14 4(mm)
ZZZZZ		04/23/2016 05:43	100		AS14 4(mm)
ZZZZZ		04/23/2016 05:57	2		AS14 4(mm)
ZZZZZ		04/23/2016 06:11	100		AS14 4(mm)
ZZZZZ		04/23/2016 06:25	5		AS14 4(mm)
ZZZZZ		04/23/2016 06:39	200		AS14 4(mm)
CCV 440-325963/77		04/23/2016 06:52	1		AS14 4(mm)
CCB 440-325963/78		04/23/2016 07:06	1		AS14 4(mm)
ZZZZZ		04/23/2016 07:20	1		AS14 4(mm)
ZZZZZ		04/23/2016 07:34	50		AS14 4(mm)
ZZZZZ		04/23/2016 07:48	1000		AS14 4(mm)
ZZZZZ		04/23/2016 08:02	5		AS14 4(mm)
ZZZZZ		04/23/2016 08:16	200		AS14 4(mm)
ZZZZZ		04/23/2016 08:29	10		AS14 4(mm)
ZZZZZ		04/23/2016 08:43	200		AS14 4(mm)
ZZZZZ		04/23/2016 08:57	10		AS14 4(mm)
ZZZZZ		04/23/2016 09:11	200		AS14 4(mm)
CCV 440-325963/88		04/23/2016 09:25	1		AS14 4(mm)
CCB 440-325963/89		04/23/2016 09:39	1		AS14 4(mm)

300.0

Method 300.1

Disinfection By-Products (IC) by Method 300.1

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): AS9-HC ID: 4 (mm)

Client Sample ID	Lab Sample ID	DCAA #
MW-11-20160420	440-145066-2	104
MW-05-20160420	440-145066-3	101
MW-18-20160420	440-145066-4	109
MW-04-20160420	440-145066-5	105
	MB 440-326441/3	108
	LCS 440-326441/2	105
	MRL 440-326441/1	107
MW-04-20160420 MS	440-145066-5 MS	105
	440-145296-A-3 MS	105
MW-04-20160420 MSD	440-145066-5 MSD	104
	440-145296-A-3 MSD	107

	QC LIMITS
DCAA = Dichloroacetic acid(Surr)	90-115

Column to be used to flag recovery values

FORM II 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a002.d

Lab ID: LCS 440-326441/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	101	101	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a001.d

Lab ID: MRL 440-326441/1 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.5 J	97	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a020.d

Lab ID: 440-145066-5 MS Client ID: MW-04-20160420 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	400	14000	14300	-18	75-125	4

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a017.d

Lab ID: 440-145296-A-3 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	240	414	89	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a021.d

Lab ID: 440-145066-5 MSD Client ID: MW-04-20160420 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Chlorate	400	14100	-82	2	25	75-125	4

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a018.d

Lab ID: 440-145296-A-3 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chlorate	200	421	92	2	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab File ID: 201604260001a003.d Lab Sample ID: MB 440-326441/3

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/26/2016 03:32

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-326441/2	201604260001a002.d	04/26/2016 02:59
	CCB 440-326441/15	201604260001a015.d	04/26/2016 12:01
	440-145296-A-3 MS	201604260001a017.d	04/26/2016 13:07
	440-145296-A-3 MSD	201604260001a018.d	04/26/2016 13:40
MW-04-20160420	440-145066-5	201604260001a019.d	04/26/2016 14:13
MW-04-20160420 MS	440-145066-5 MS	201604260001a020.d	04/26/2016 14:46
MW-04-20160420 MSD	440-145066-5 MSD	201604260001a021.d	04/26/2016 15:20
	CCB 440-326441/27	201604260001a027.d	04/26/2016 18:39
	CCB 440-326441/51	201604260001a051.d	04/27/2016 10:35
MW-05-20160420	440-145066-3	201604260001a054.d	04/27/2016 12:15
MW-18-20160420	440-145066-4	201604260001a055.d	04/27/2016 12:48
MW-11-20160420	440-145066-2	201604260001a060.d	04/27/2016 15:34
	CCB 440-326441/62	201604260001a062.d	04/27/2016 16:40

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-11-20160420
Lab Sample ID: 440-145066-2
Matrix: Water
Lab File ID: 201604260001a060.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 08:35
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 15:34
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	93	J	100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a060.d				
Lims ID:	440-145066-A-2				
Client ID:	MW-11-20160420				
Sample Type:	Client				
Inject. Date:	27-Apr-2016 15:34:21	ALS Bottle#:	0	Worklist Smp#:	60
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	#: 001 Name: 440-0072281-060				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	29-Apr-2016 09:07:23	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK008				

First Level Reviewer: zakhrabovy Date: 29-Apr-2016 09:07:37

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.310	15.160	-1.850	13503218	1038.4	
2 Chlorate	16.110	16.230	-0.120	446812	18.5	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

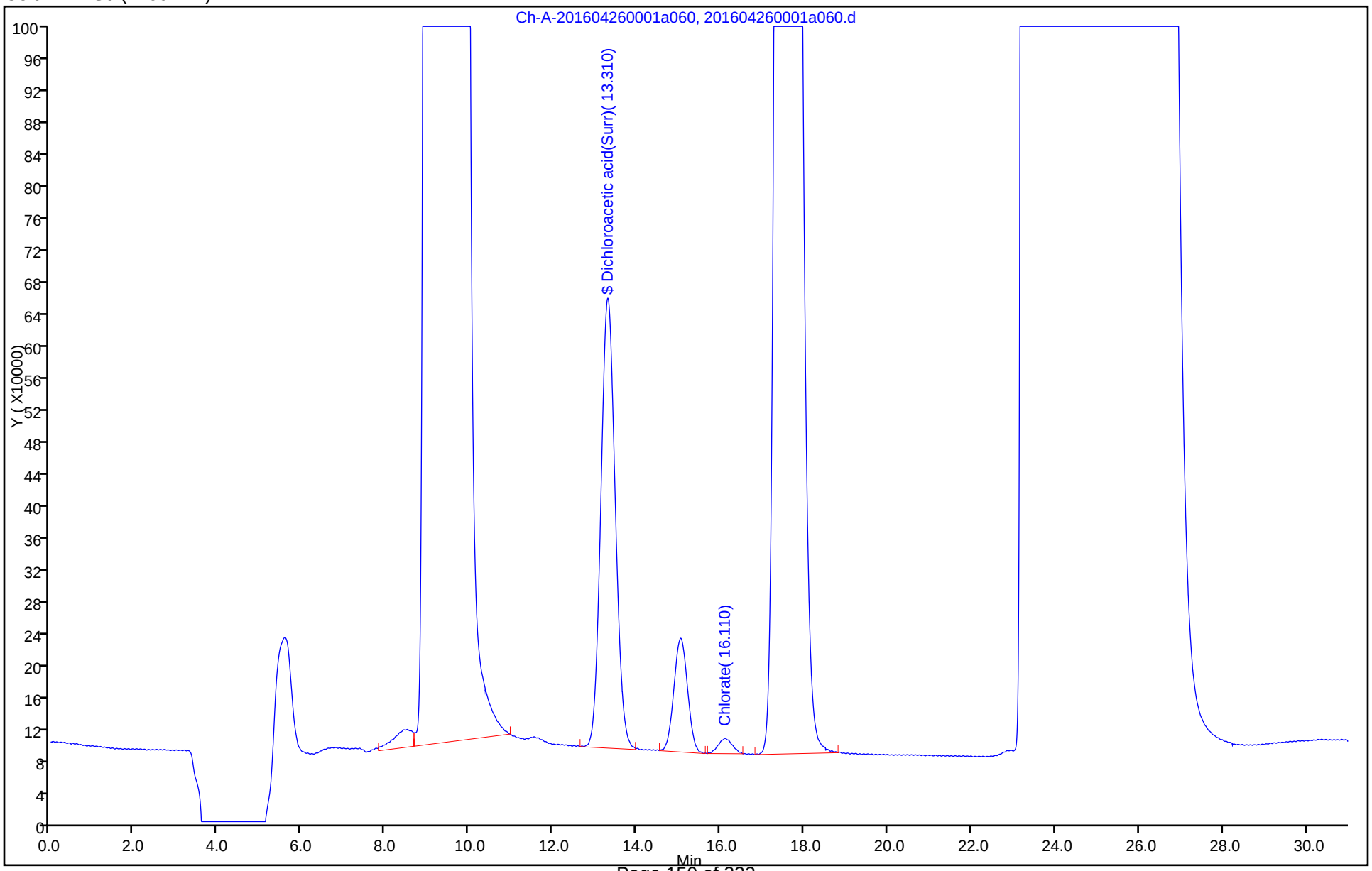
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 29-Apr-2016 09:07:37 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a060.d				
Injection Date:	27-Apr-2016 15:34:21	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-A-2	Lab Sample ID:	440-145066-2	Worklist Smp#:	60
Client ID:	MW-11-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

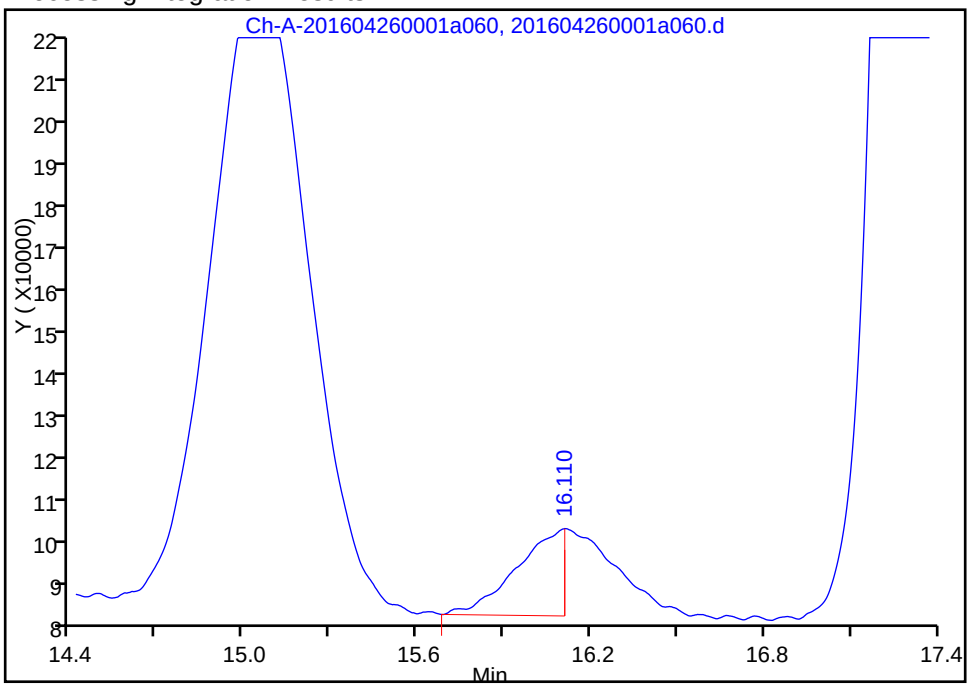
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a060.d				
Injection Date:	27-Apr-2016 15:34:21	Instrument ID:	IC-7		
Lims ID:	440-145066-A-2	Lab Sample ID:	440-145066-2		
Client ID:	MW-11-20160420				
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	60
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

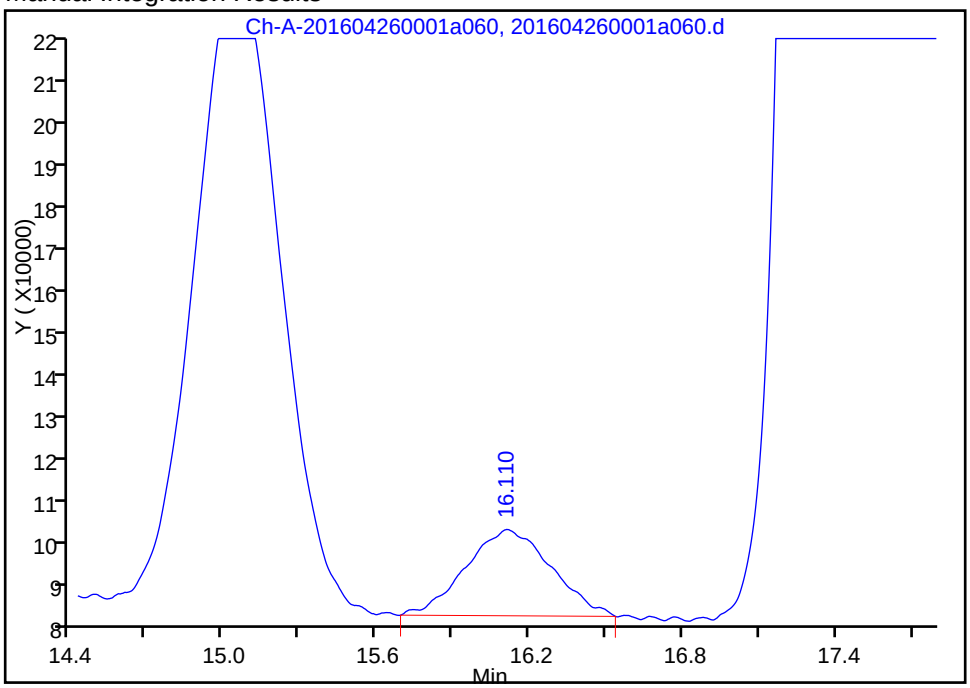
Processing Integration Results

RT: 16.11
Area: 215960
Amount: 8.133854
Amount Units: ug/l



Manual Integration Results

RT: 16.11
Area: 446812
Amount: 18.521571
Amount Units: ug/l



Reviewer: zakhrabovy, 29-Apr-2016 08:58:59

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-05-20160420
Lab Sample ID: 440-145066-3
Matrix: Water
Lab File ID: 201604260001a054.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 10:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 12:15
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	130		100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	101		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a054.d				
Lims ID:	440-145066-A-3				
Client ID:	MW-05-20160420				
Sample Type:	Client				
Inject. Date:	27-Apr-2016 12:15:16	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	#: 001 Name: 440-0072281-054				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	29-Apr-2016 09:07:23	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK008				

First Level Reviewer: zakhrabovy Date: 29-Apr-2016 09:07:23

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.270	15.160	-1.890	13099498	1007.4	
2 Chlorate	16.107	16.230	-0.123	592003	25.1	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

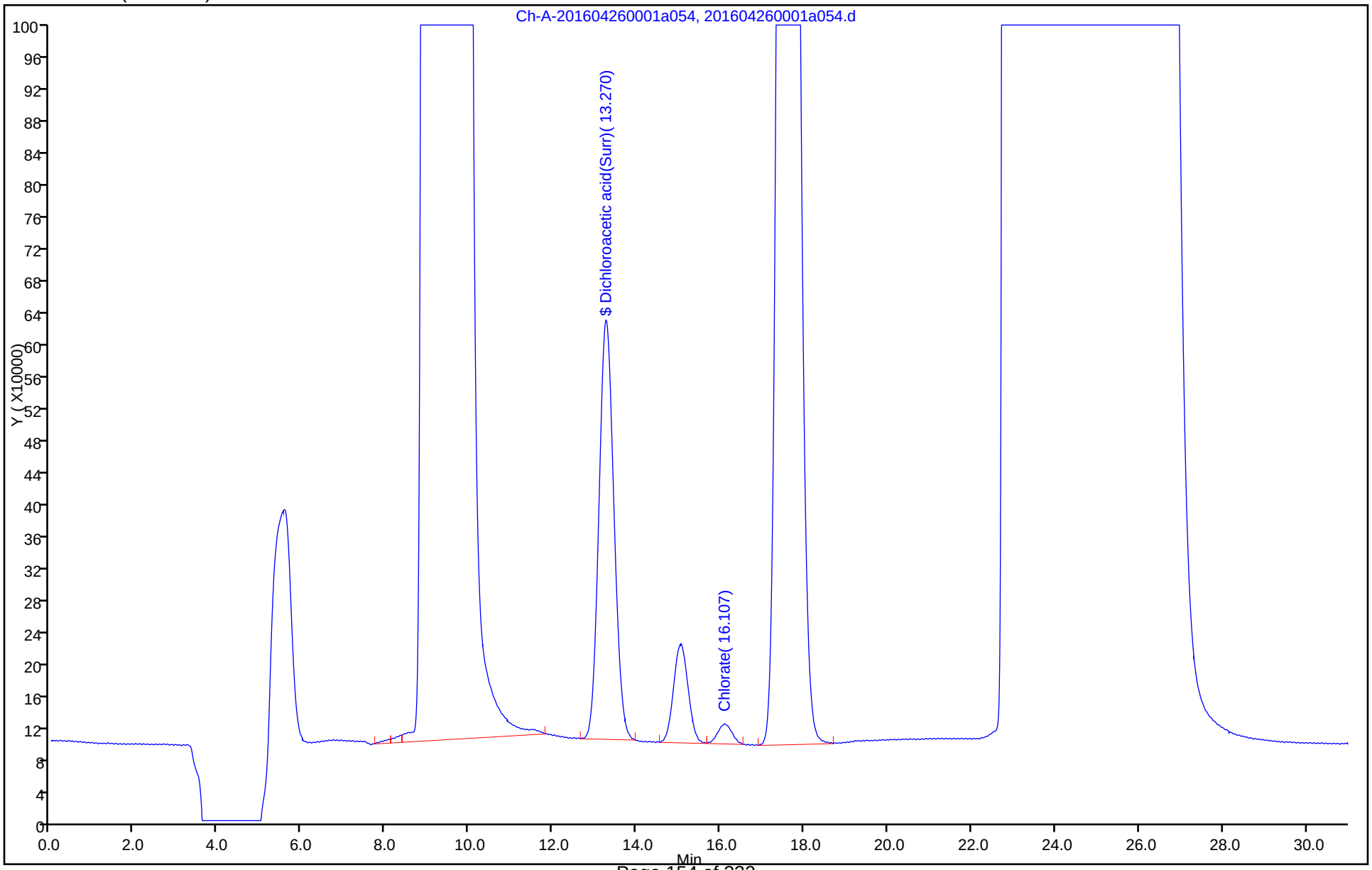
Report Date: 29-Apr-2016 09:07:24 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a054.d

Injection Date:	27-Apr-2016 12:15:16	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-A-3	Lab Sample ID:	440-145066-3	Worklist Smp#:	54
Client ID:	MW-05-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine | Job No.: 440-145066-1

SDG No.:

Client Sample ID: MW-18-20160420 | Lab Sample ID: 440-145066-4

Matrix: Water | Lab File ID: 201604260001a055.d

Analysis Method: 300.1B | Date Collected: 04/20/2016 12:10

Extraction Method: | Date Extracted:

Sample wt/vol: 5(mL) | Date Analyzed: 04/27/2016 12:48

Con. Extract Vol.: | Dilution Factor: 5

Injection Volume: 1(uL) | GC Column: AS9-HC ID: 4(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 326441 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	109		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a055.d				
Lims ID:	440-145066-A-4				
Client ID:	MW-18-20160420				
Sample Type:	Client				
Inject. Date:	27-Apr-2016 12:48:27	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	#: 001 Name: 440-0072281-055				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	29-Apr-2016 08:53:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK008				
First Level Reviewer: zakhrabovy		Date:	29-Apr-2016 08:53:07		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.360	15.160	-1.800	14081680	1082.9	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

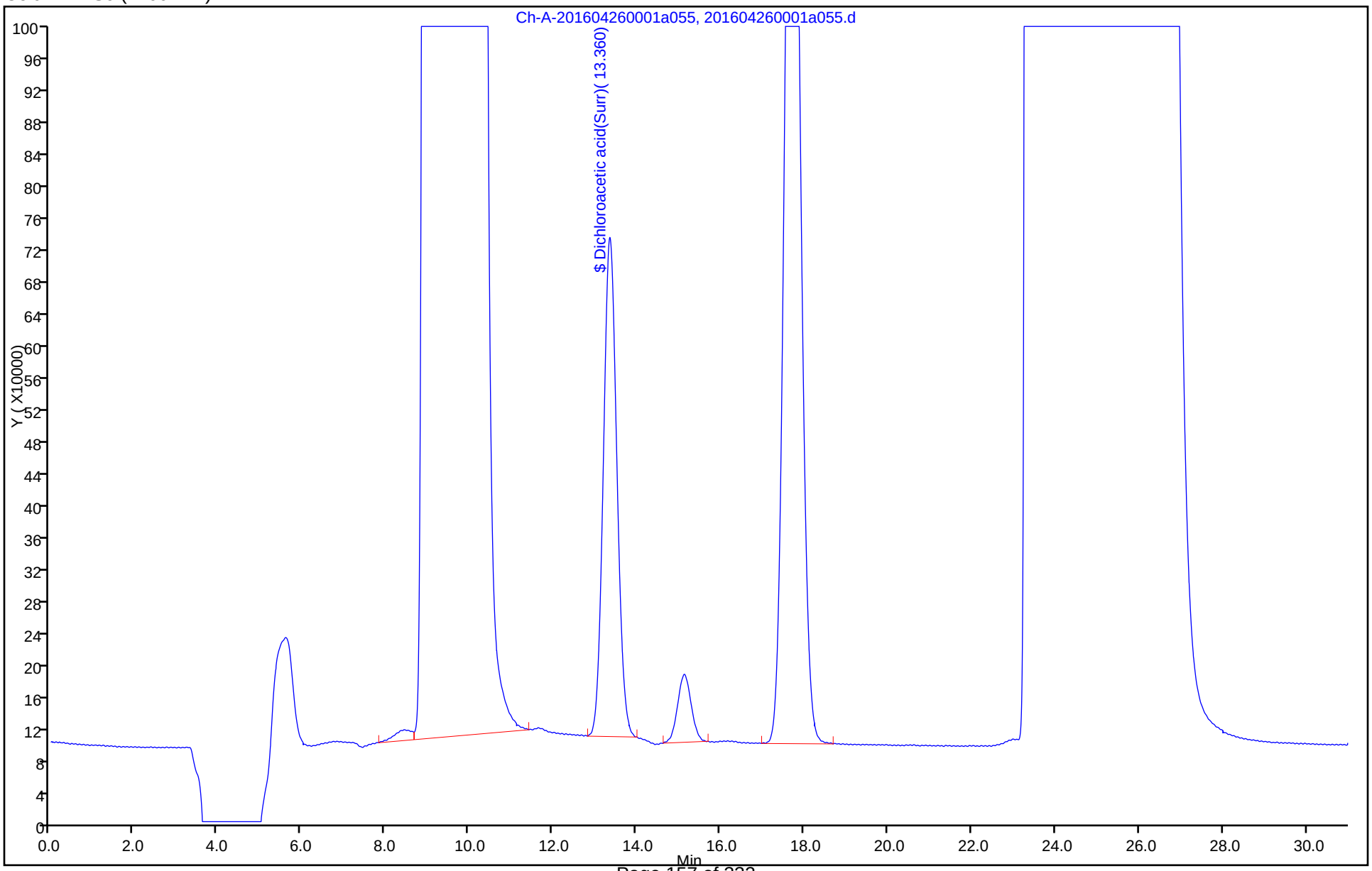
Report Date: 29-Apr-2016 08:53:08 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a055.d

Injection Date:	27-Apr-2016 12:48:27	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-A-4	Lab Sample ID:	440-145066-4	Worklist Smp#:	55
Client ID:	MW-18-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420
Lab Sample ID: 440-145066-5
Matrix: Water
Lab File ID: 201604260001a019.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 14:13
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	14000		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a019.d				
Lims ID:	440-145066-A-5				
Client ID:	MW-04-20160420				
Sample Type:	Client				
Inject. Date:	26-Apr-2016 14:13:47	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072281-019				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 04:36:42	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 27-Apr-2016 04:36:42

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
	4 Bromide	15.183	15.050	0.133	313941	6.21	7
$	6 Dichloroacetic acid(Surr)	13.380	15.160	-1.780	13595391	1045.5	
	2 Chlorate	16.273	16.230	0.043	3238062	144.1	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

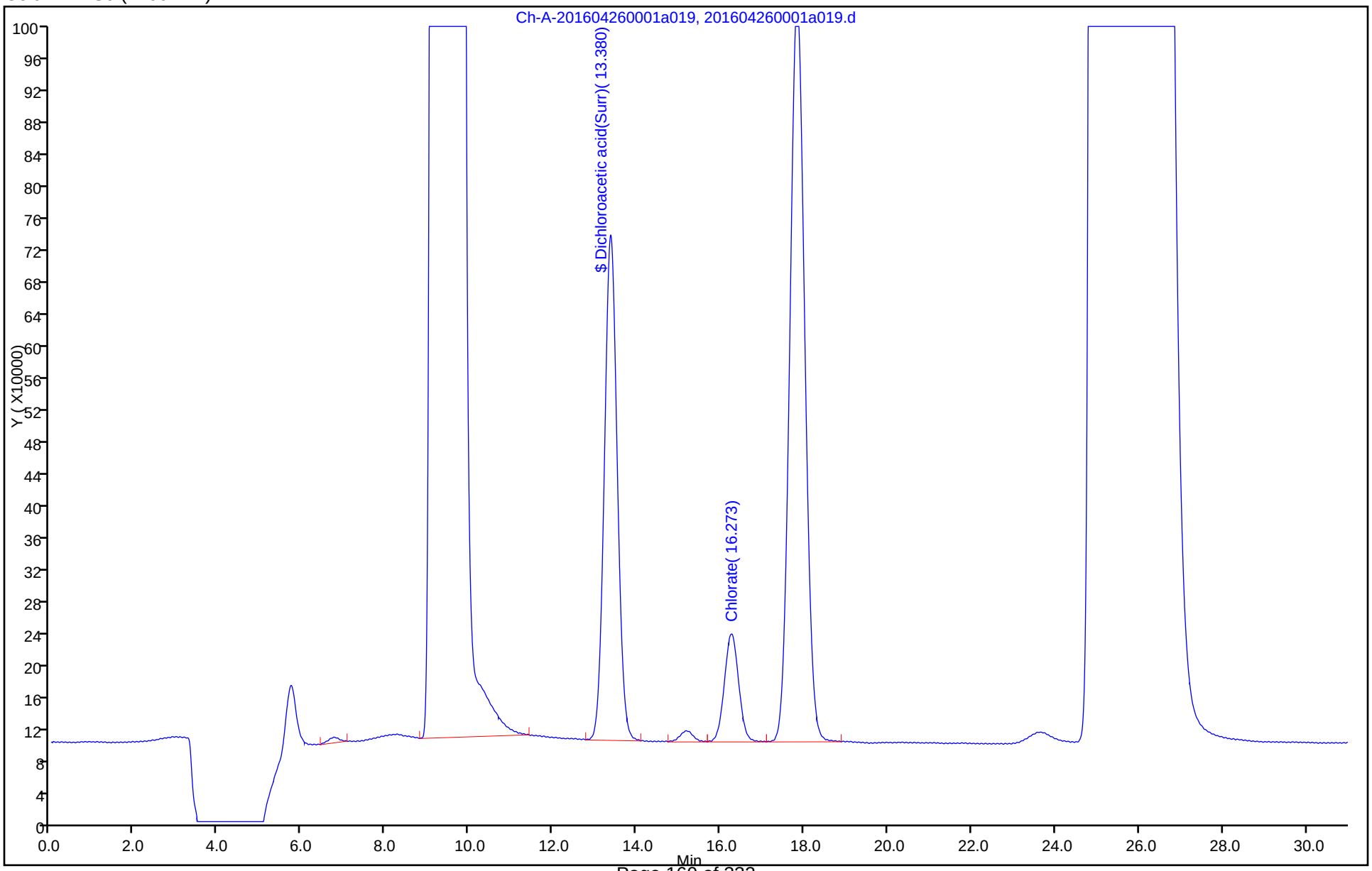
WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 27-Apr-2016 04:36:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a019.d				
Injection Date:	26-Apr-2016 14:13:47	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-A-5	Lab Sample ID:	440-145066-5	Worklist Smp#:	19
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Bromate		8.617	8.637	8.630	8.637	8.637					0.000 - 0.000	8.632
Bromide		16.530	16.547	16.600	16.620	16.693					0.000 - 0.000	16.598
Chlorate		18.010	18.043	18.053	18.067	18.027					0.000 - 0.000	18.040
Dichloroacetic acid(Surr)	14.517	14.520	14.533	14.500	14.513	14.490					13.482 - 15.511	14.512

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Bromate	14349	19044 14698	14750	14388	Lin	3388.08196	14577.9338							1.0000		0.9950
Bromide	26042	23576 24541	25629	26061	Lin	160772.070	24672.7328							0.9990		0.9950
Chlorate	22433	21362 22252	23416	23379	Lin	35196.8608	22223.5543							1.0000		0.9950
Dichloroacetic acid(Surr)	13223 12831	13029 12797	13075	13067	Ave		13003.6499				1.2		15.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Bromate	Lin	1471315	95313	184560	360048	718151	0.000000 100	5.01	12.5	25.0	50.1
Bromide	Lin	24540865	1178813	3203639	6515129	13021197	0.000000 1000	50.0	125	250	500
Chlorate	Lin	8900719	427235	1170778	2337921	4486665	0.000000 400	20.0	50.0	100	200
Dichloroacetic acid(Surr)	Ave	13139591 12716735	12947051	12992376	12984873	12750586	994 994	994	994	994	994

Curve Type Legend:

Ave = Average
Lin = Linear

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d				
Lims ID:	std0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	28-Jan-2016 08:07:59	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-002				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:35	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	14.517	14.513	0.004	13139591	993.7	1010.5	

Reagents:

WC3001LCS_00034	Amount Added: 0.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

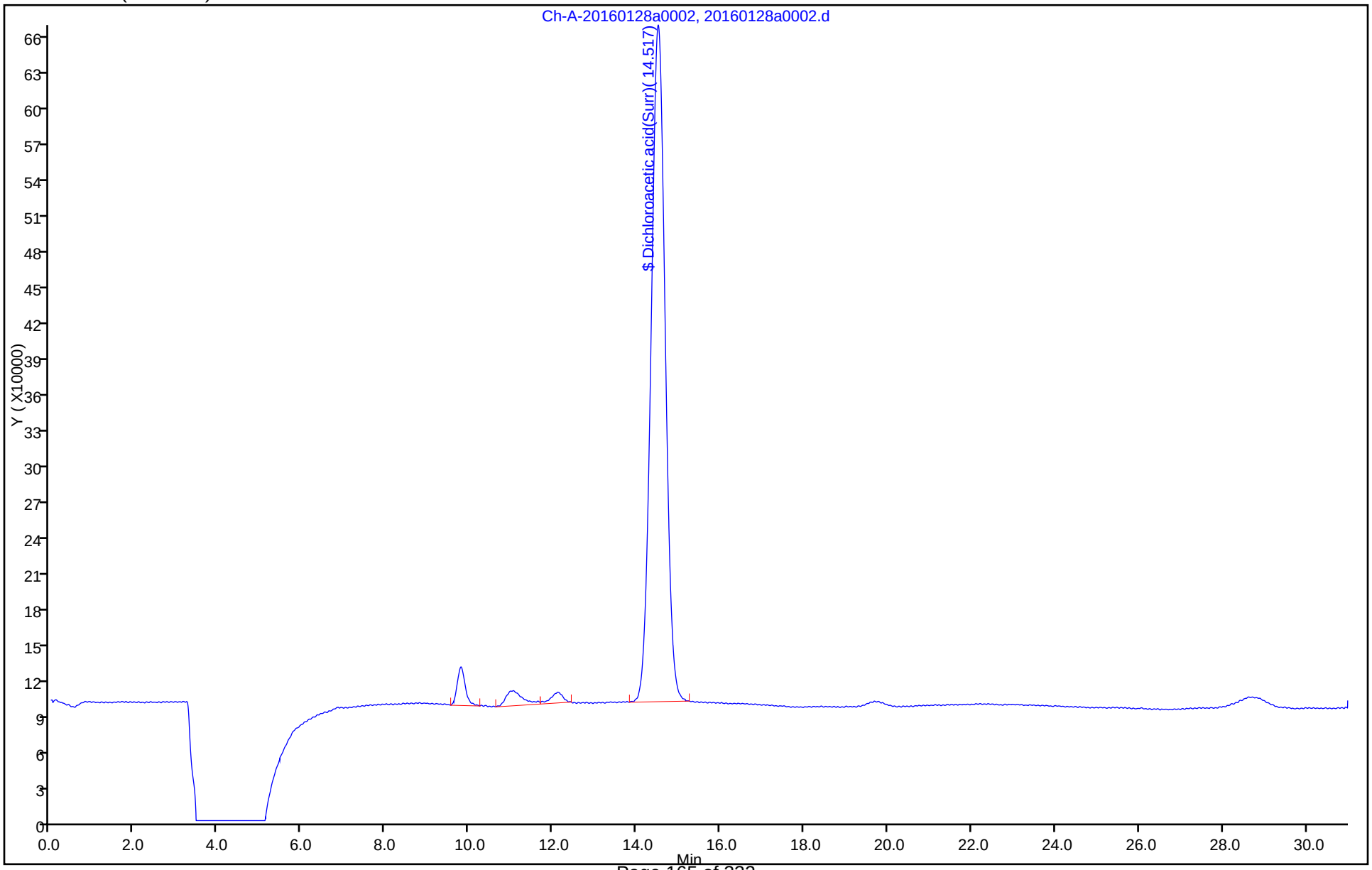
Report Date: 28-Jan-2016 11:28:36 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0002.d

Injection Date:	28-Jan-2016 08:07:59	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std0			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d				
Lims ID:	std1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	28-Jan-2016 08:41:10	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-003				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:37	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 09:17:36

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.547	7.547	0.000	495358	NC	NC	
3 Bromate	8.617	8.617	0.000	95313	5.01	6.31	
$ 6 Dichloroacetic acid(Surr)	14.520	14.513	0.007	12947051	993.7	995.6	
4 Bromide	16.530	16.530	0.000	1178813	50.0	41.3	
2 Chlorate	18.010	18.010	0.000	427235	20.0	17.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

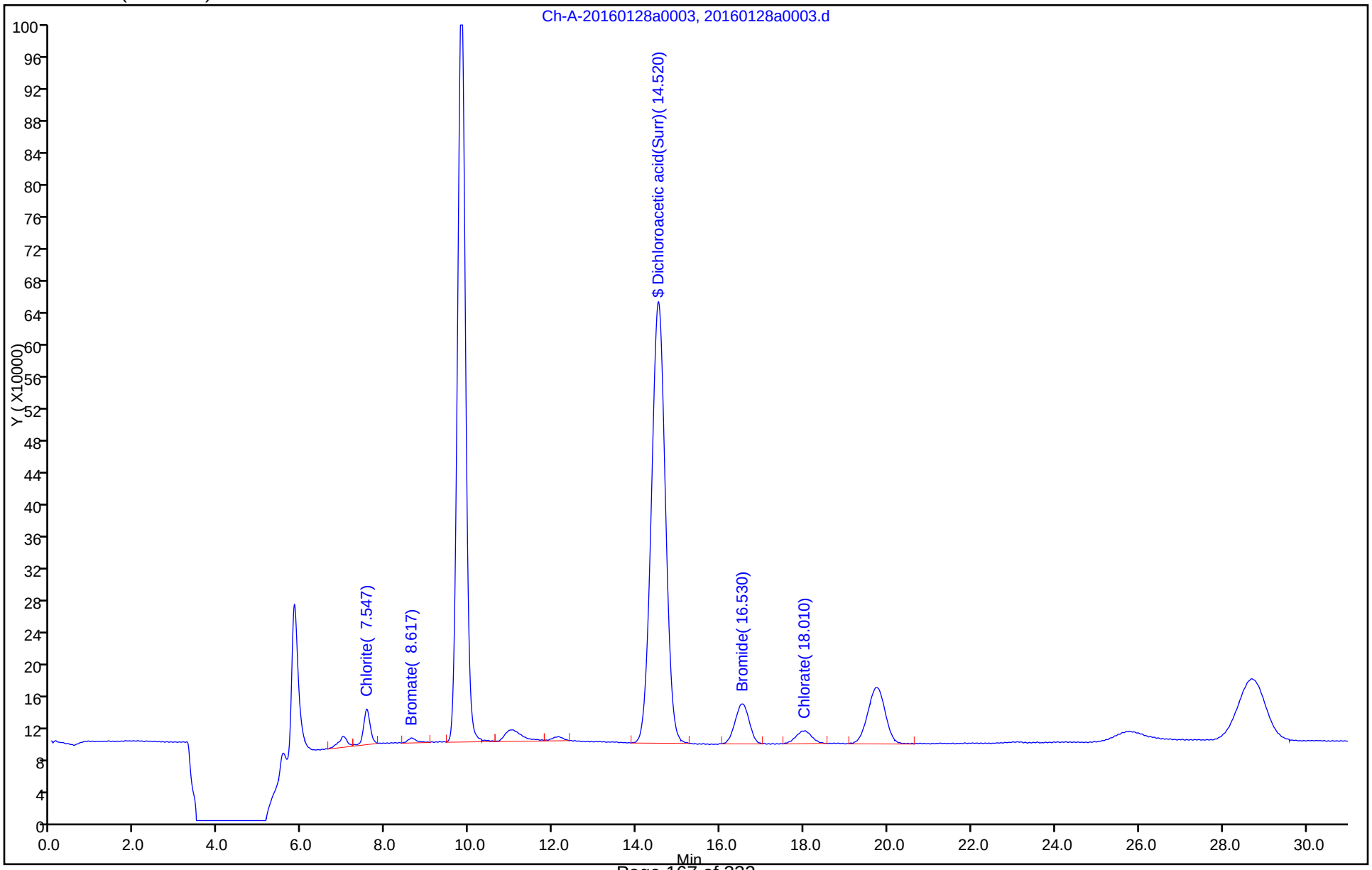
Report Date: 28-Jan-2016 11:28:37 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0003.d

Injection Date:	28-Jan-2016 08:41:10	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std1			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	28-Jan-2016 09:14:20	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-004				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:38	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 09:50:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.557	7.547	0.010	1353340	NC	NC	
3 Bromate	8.637	8.617	0.020	184560	12.5	12.4	
$ 6 Dichloroacetic acid(Surr)	14.533	14.513	0.020	12992376	993.7	999.1	
4 Bromide	16.547	16.530	0.017	3203639	125.0	123.3	
2 Chlorate	18.043	18.010	0.033	1170778	50.0	51.1	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

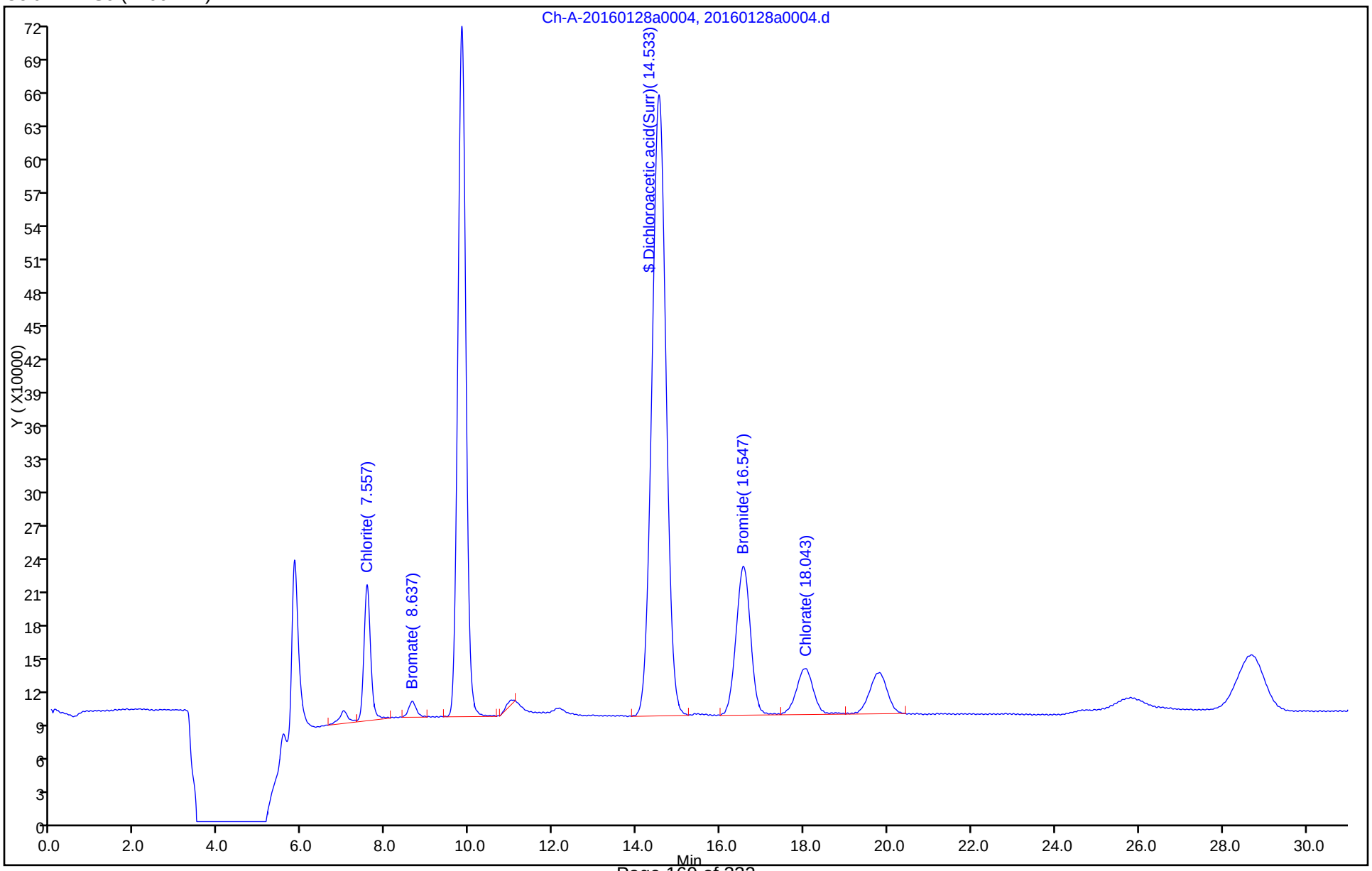
WC3001LCS_00034	Amount Added: 62.50	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 28-Jan-2016 11:28:38 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0004.d				
Injection Date:	28-Jan-2016 09:14:20	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std2			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	28-Jan-2016 09:47:31	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-005				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:23:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	2752443	NC	NC	
3 Bromate	8.630	8.617	0.013	360048	25.0	24.5	
$ 6 Dichloroacetic acid(Surr)	14.500	14.513	-0.013	12984873	993.7	998.6	
4 Bromide	16.600	16.530	0.070	6515129	250.0	257.5	
2 Chlorate	18.053	18.010	0.043	2337921	100.0	103.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

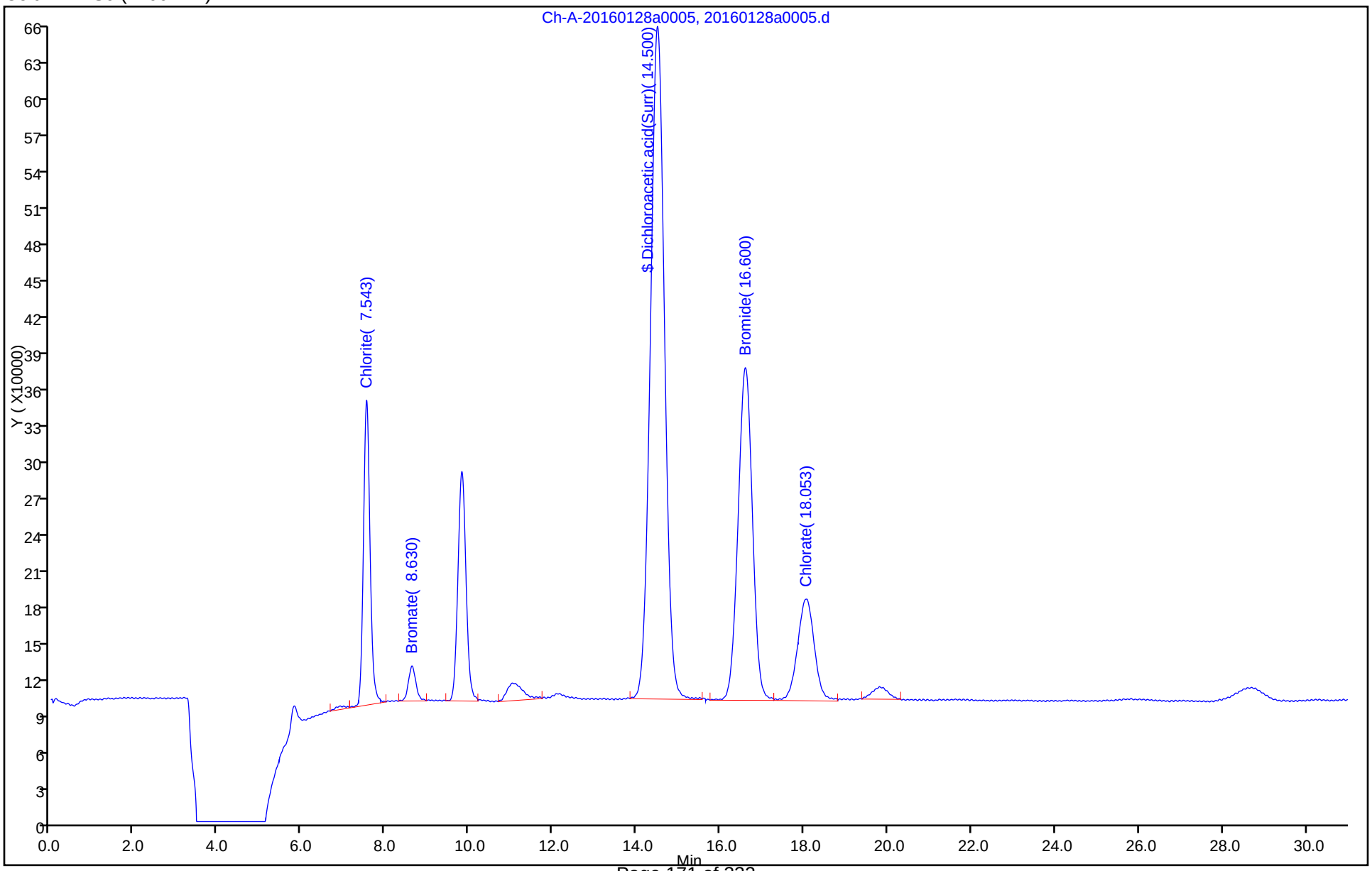
Report Date: 28-Jan-2016 11:28:39 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0005.d

Injection Date:	28-Jan-2016 09:47:31	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std3			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	28-Jan-2016 10:20:42	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-006				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 11:28:40	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 10:57:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.550	7.547	0.003	5566429	NC	NC	
3 Bromate	8.637	8.617	0.020	718151	50.1	49.0	
$ 6 Dichloroacetic acid(Surr)	14.513	14.513	0.000	12750586	993.7	980.5	
4 Bromide	16.620	16.530	0.090	13021197	500.0	521.2	
2 Chlorate	18.067	18.010	0.057	4486665	200.0	200.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

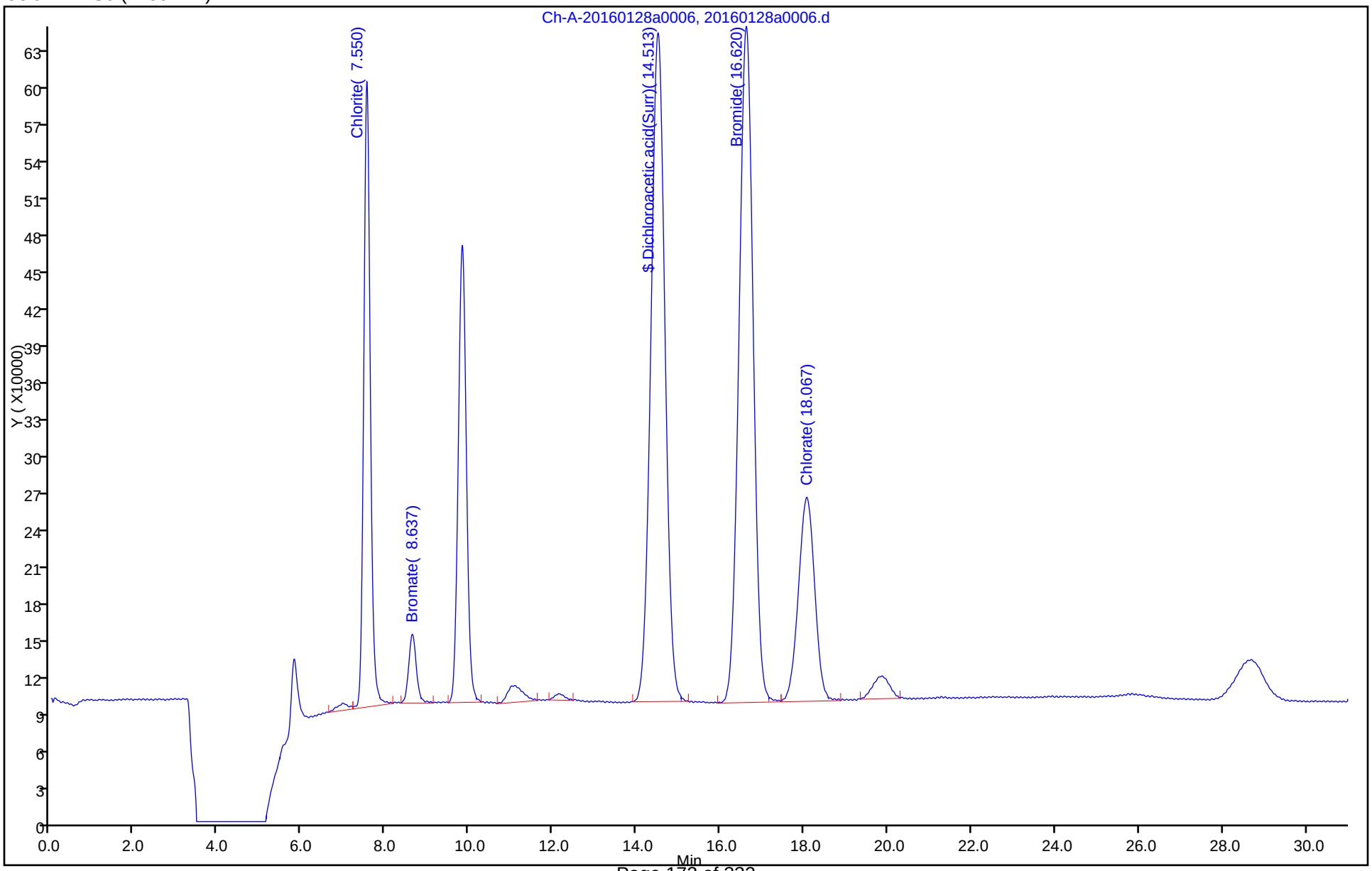
Report Date: 28-Jan-2016 11:28:40 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0006.d

Injection Date:	28-Jan-2016 10:20:42	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std4			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	28-Jan-2016 10:53:53	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 68747 Name: 440-0068747-007				
Operator ID:	irvinstwet3	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub4				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	28-Jan-2016 12:05:32	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK004				

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:05:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.580	7.547	0.033	11051100	NC	NC	
3 Bromate	8.637	8.617	0.020	1471315	100.1	100.7	
$ 6 Dichloroacetic acid(Surr)	14.490	14.513	-0.023	12716735	993.7	977.9	
4 Bromide	16.693	16.530	0.163	24540865	1000.0	988.1	
2 Chlorate	18.027	18.010	0.017	8900719	400.0	398.9	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00031	Amount Added: 10.00	Units: uL	Run Reagent

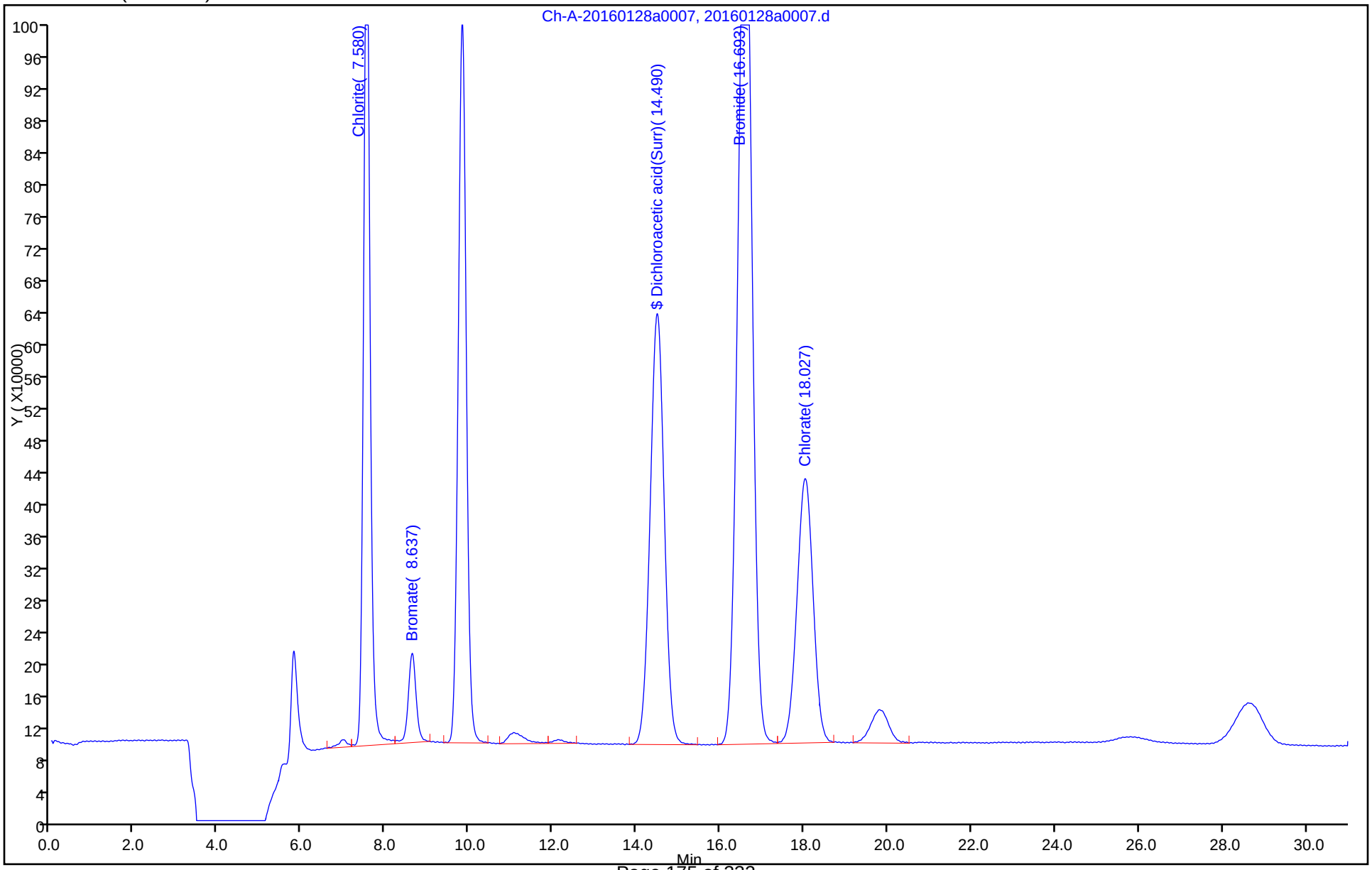
Report Date: 28-Jan-2016 12:05:34 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Injection Date:	28-Jan-2016 10:53:53	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	std5			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		13546		27.7	30.0	-7.8	15.0
Bromide	Lin		25814		307	300	2.5	15.0
Chlorate	Lin		22301		119	120	-1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	12897		986	994	-0.8	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.62	8.01	9.22
Bromide	16.52	15.37	17.69
Chlorate	17.98	17.11	18.91
Dichloroacetic acid(Surr)	14.51	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 28-Jan-2016 11:30:56 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 68747 Name: 440-0068747-008
Operator ID: irvinstwet3 Instrument ID: IC-7
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 29-Jan-2016 05:10:00 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK019

First Level Reviewer: zakhrabovy Date: 28-Jan-2016 12:08:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.543	7.547	-0.004	3264833	NC	NC	
3 Bromate	8.623	8.617	0.006	406799	30.0	27.7	M
$ 6 Dichloroacetic acid(Surr)	14.510	14.513	-0.003	12815970	993.7	985.6	
4 Bromide	16.520	16.530	-0.010	7744059	300.0	307.4	
2 Chlorate	17.980	18.010	-0.030	2678751	120.1	119.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001ICV_00023 Amount Added: 150.00 Units: uL
WCDCA_00031 Amount Added: 10.00 Units: uL Run Reagent

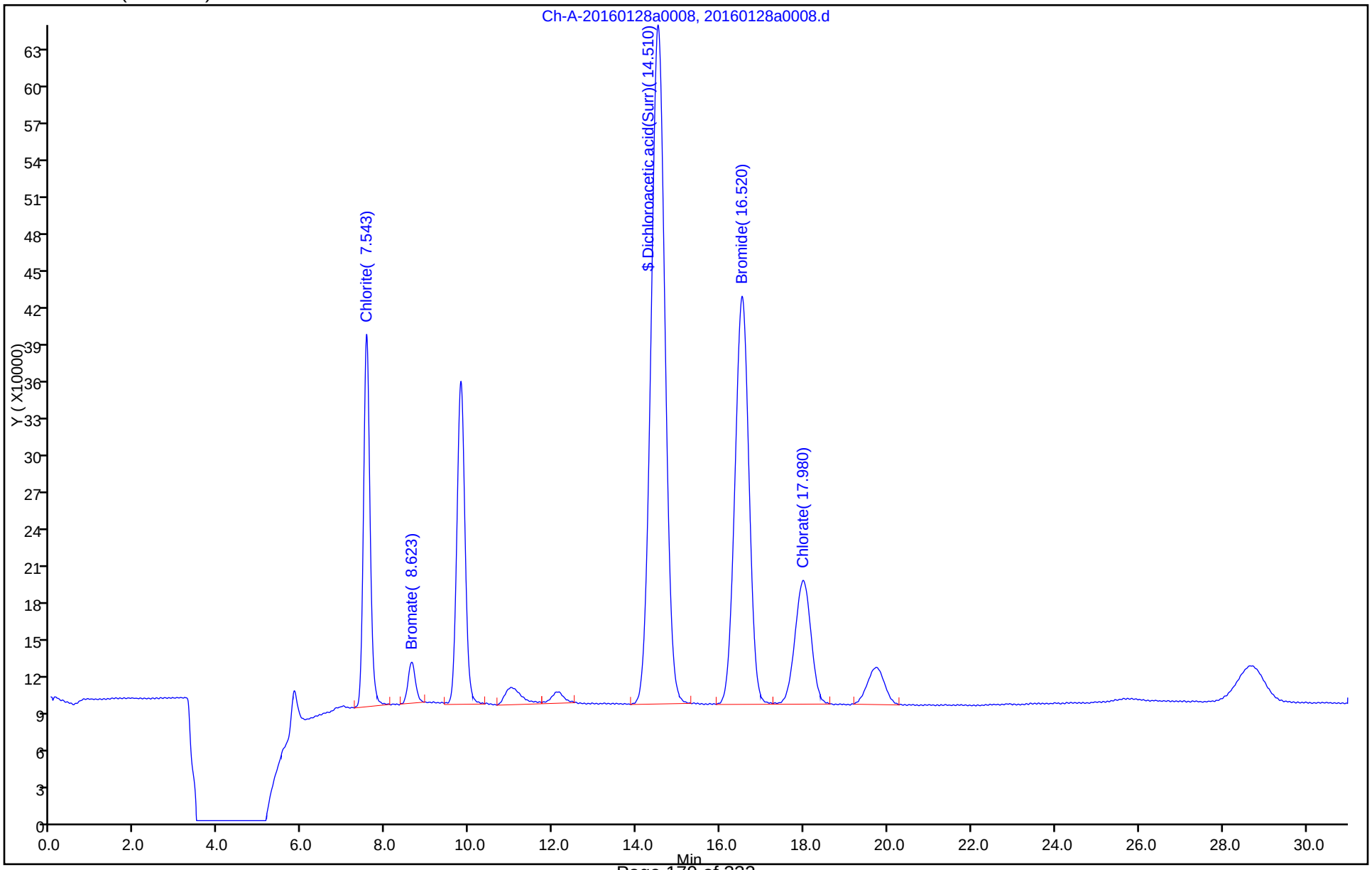
Report Date: 29-Jan-2016 05:10:43 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d

Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7	Operator ID:	irvinstwet3
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



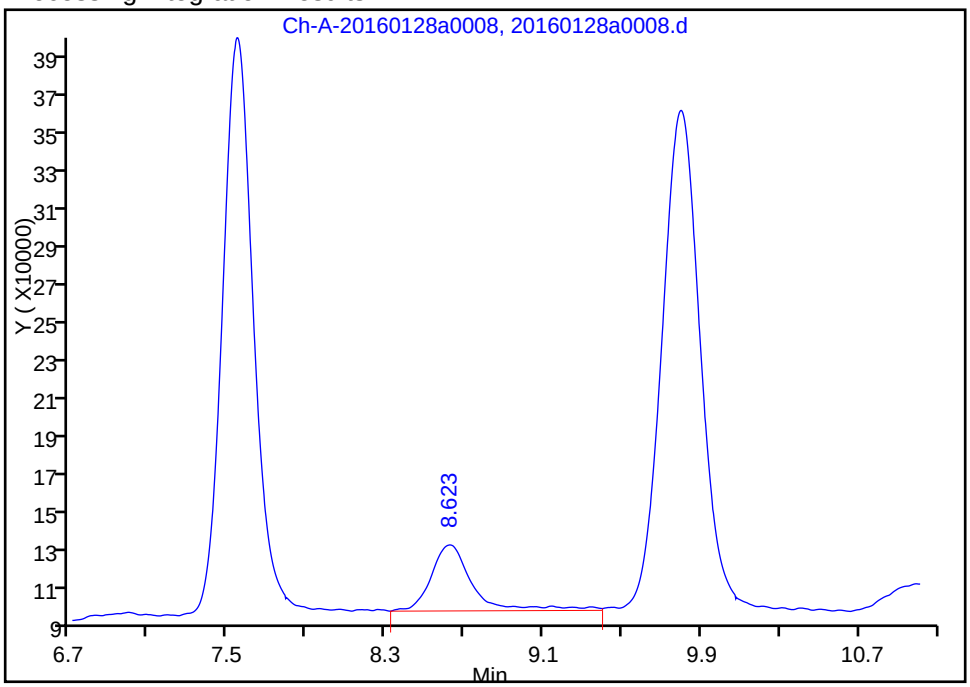
TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0008.d				
Injection Date:	28-Jan-2016 11:30:56	Instrument ID:	IC-7		
Lims ID:	ICV				
Client ID:					
Operator ID:	irvinstwet3	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

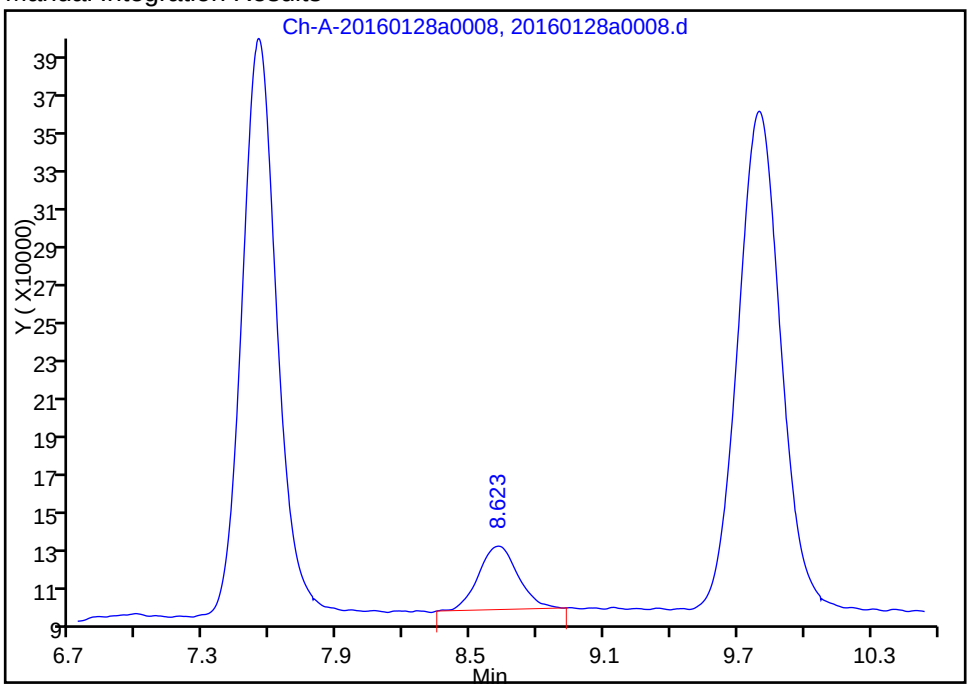
Processing Integration Results

RT: 8.62
Area: 504886
Amount: 34.401166
Amount Units: ug/l



Manual Integration Results

RT: 8.62
Area: 406799
Amount: 27.672709
Amount Units: ug/l



Reviewer: zakhrabovy, 28-Jan-2016 12:06:15
Audit Action: Manually Integrated
Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/14 Calibration Date: 04/26/2016 11:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a014.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15659		53.5	50.1	7.0	15.0
Bromide	Lin		26160		524	500	4.7	15.0
Chlorate	Lin		22624		202	200	1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	13705		1050	994	5.4	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/14 Calibration Date: 04/26/2016 11:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a014.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.25	7.64	8.79
Bromide	15.16	14.00	16.10
Chlorate	16.22	15.42	17.04
Dichloroacetic acid(Surr)	13.33	13.48	15.51

Form VII 300.1B

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a014.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	26-Apr-2016 11:27:53	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-014				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	26-Apr-2016 12:26:02	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK003				
First Level Reviewer: zakhrabovy		Date:	26-Apr-2016 12:25:56		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.310	7.267	0.043	5663785	NC	NC	
3 Bromate	8.250	8.213	0.037	783730	50.1	53.5	
4 Bromide	15.160	15.050	0.110	13080188	500.0	523.6	
$ 6 Dichloroacetic acid(Surr)	13.327	15.160	-1.833	13618669	993.7	1047.3	
2 Chlorate	16.220	16.230	-0.010	4524788	200.0	202.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

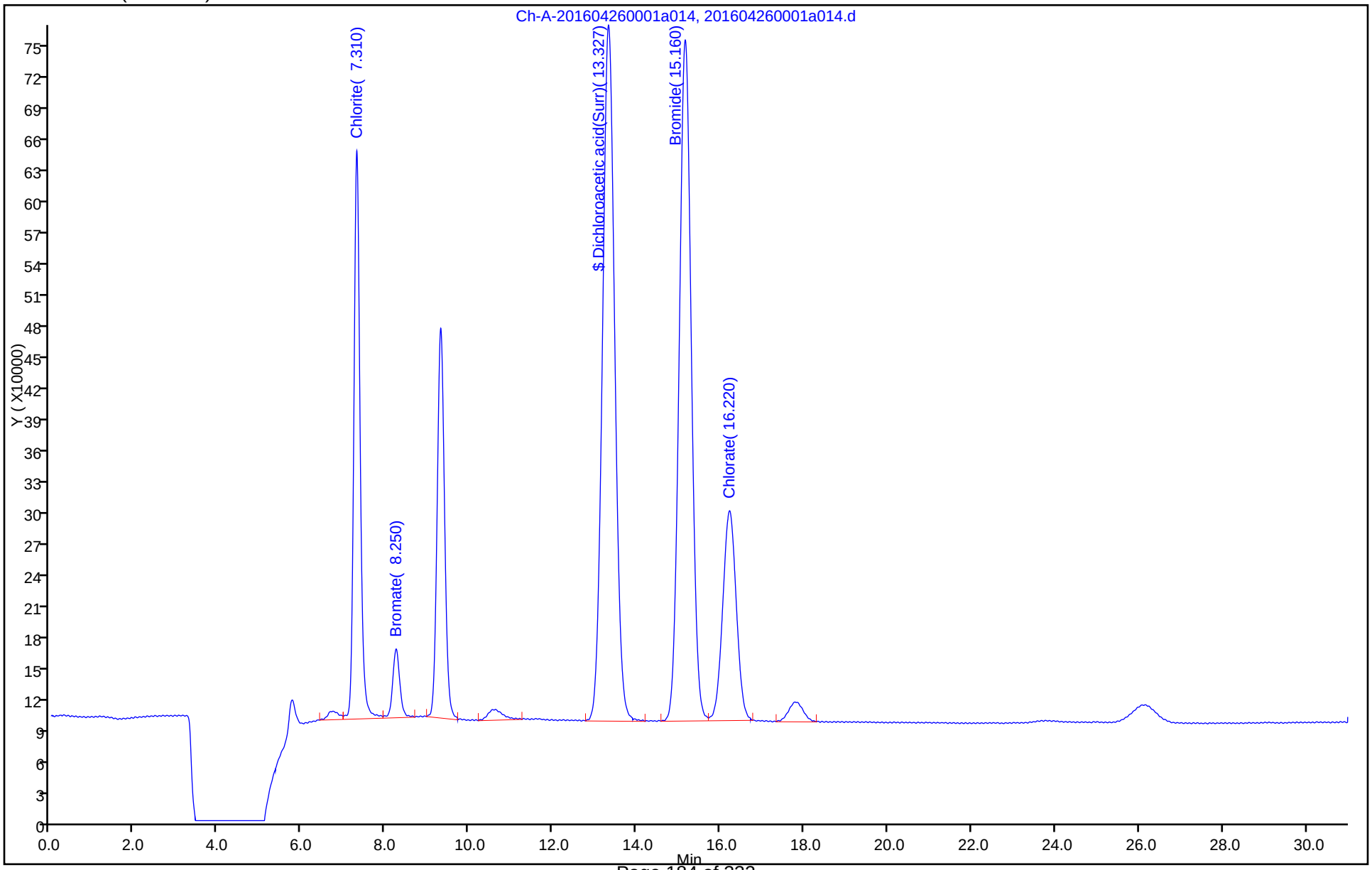
Report Date: 26-Apr-2016 12:26:03 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a014.d

Injection Date:	26-Apr-2016 11:27:53	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/26 Calibration Date: 04/26/2016 18:06

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a026.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15061		25.6	25.0	2.4	15.0
Bromide	Lin		25894		256	250	2.3	15.0
Chlorate	Lin		22702		101	100	0.6	15.0
Dichloroacetic acid(Surr)	Ave	13004	13922		1060	994	7.1	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/26 Calibration Date: 04/26/2016 18:06

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a026.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.25	7.64	8.79
Bromide	15.13	14.00	16.10
Chlorate	16.20	15.42	17.04
Dichloroacetic acid(Surr)	13.32	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a026.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	26-Apr-2016 18:06:02	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-026				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 05:14:27	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	27-Apr-2016 04:40:08		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.303	7.267	0.036	2865901	NC	NC	
3 Bromate	8.247	8.213	0.034	376898	25.0	25.6	
4 Bromide	15.130	15.050	0.080	6473613	250.0	255.9	
$ 6 Dichloroacetic acid(Surr)	13.320	15.160	-1.840	13834823	993.7	1063.9	
2 Chlorate	16.200	16.230	-0.030	2270233	100.0	100.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

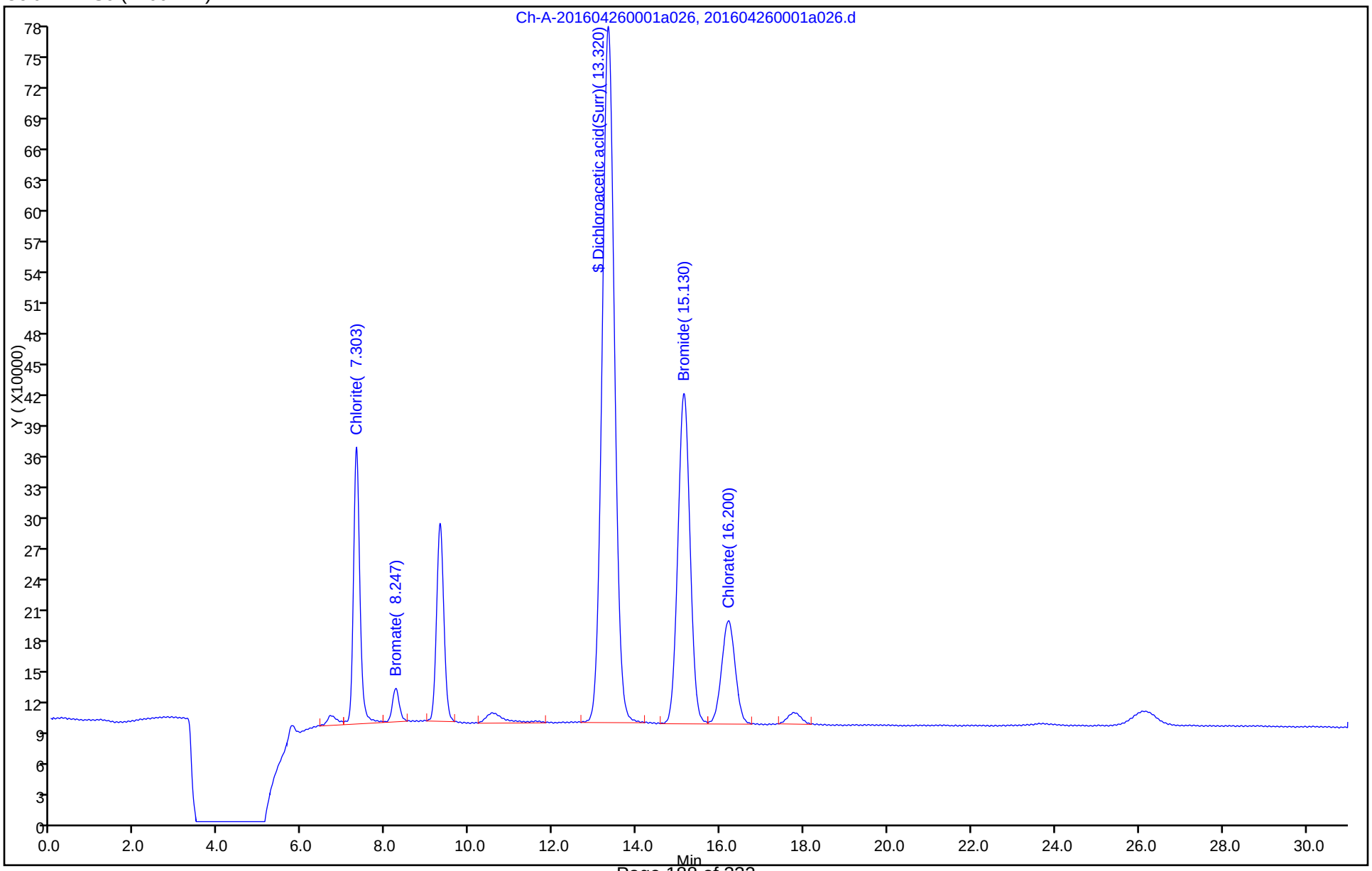
Report Date: 27-Apr-2016 05:14:27 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a026.d

Injection Date:	26-Apr-2016 18:06:02	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/50 Calibration Date: 04/27/2016 10:02

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a050.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14848		25.3	25.0	0.9	15.0
Bromide	Lin		26122		258	250	3.3	15.0
Chlorate	Lin		22821		101	100	1.1	15.0
Dichloroacetic acid(Surr)	Ave	13004	13874		1060	994	6.7	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/50 Calibration Date: 04/27/2016 10:02

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a050.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.35	7.64	8.79
Bromide	15.27	14.00	16.10
Chlorate	16.35	15.42	17.04
Dichloroacetic acid(Surr)	13.47	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a050.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	27-Apr-2016 10:02:33	ALS Bottle#:	0	Worklist Smp#:	50
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-050				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 11:14:29	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 27-Apr-2016 11:14:28

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.407	7.267	0.140	2773459	NC	NC	
3 Bromate	8.353	8.213	0.140	371574	25.0	25.3	
4 Bromide	15.270	15.050	0.220	6530598	250.0	258.2	
$ 6 Dichloroacetic acid(Surr)	13.473	15.160	-1.687	13787023	993.7	1060.2	
2 Chlorate	16.350	16.230	0.120	2282053	100.0	101.1	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

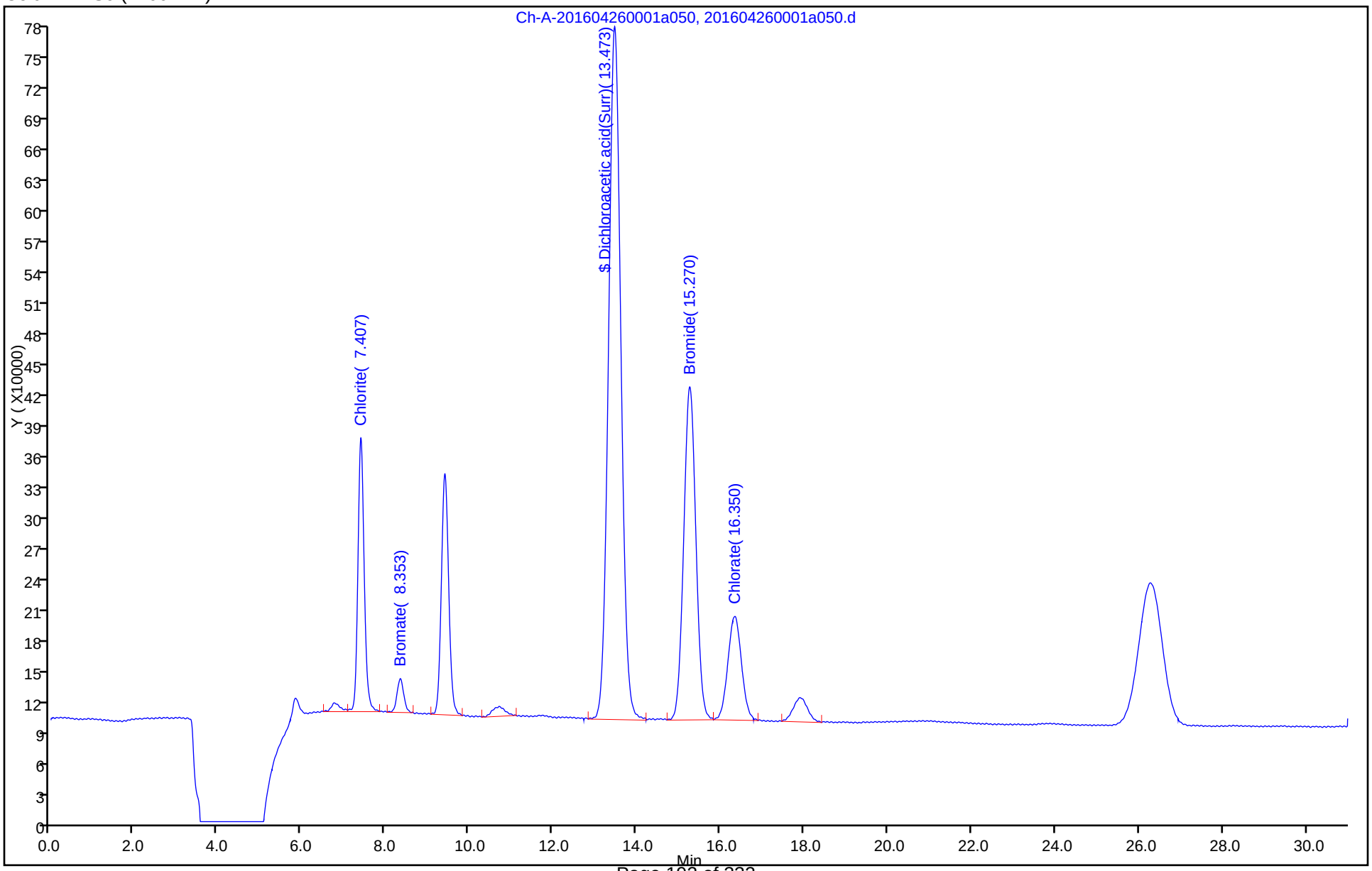
Report Date: 27-Apr-2016 11:14:29 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a050.d

Injection Date:	27-Apr-2016 10:02:33	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	50
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/61 Calibration Date: 04/27/2016 16:07

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a061.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14419		49.3	50.1	-1.6	15.0
Bromide	Lin		26109		523	500	4.5	15.0
Chlorate	Lin		22704		203	200	1.4	15.0
Dichloroacetic acid(Surr)	Ave	13004	13469		1030	994	3.6	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-326441/61 Calibration Date: 04/27/2016 16:07

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a061.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.36	7.64	8.79
Bromide	15.25	14.00	16.10
Chlorate	16.30	15.42	17.04
Dichloroacetic acid(Surr)	13.44	13.48	15.51

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a061.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	27-Apr-2016 16:07:32	ALS Bottle#:	0	Worklist Smp#:	61
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-061				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Sublist:	chrom-300.1_C7*sub6				
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	29-Apr-2016 08:59:30	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK008				

First Level Reviewer: zakhrabovy Date: 29-Apr-2016 08:59:30

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.417	7.267	0.150	5687564	NC	NC	
3 Bromate	8.363	8.213	0.150	721658	50.1	49.3	M
4 Bromide	15.247	15.050	0.197	13054332	500.0	522.6	
$ 6 Dichloroacetic acid(Surr)	13.443	15.160	-1.717	13383996	993.7	1029.2	
2 Chlorate	16.303	16.230	0.073	4540820	200.0	202.7	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

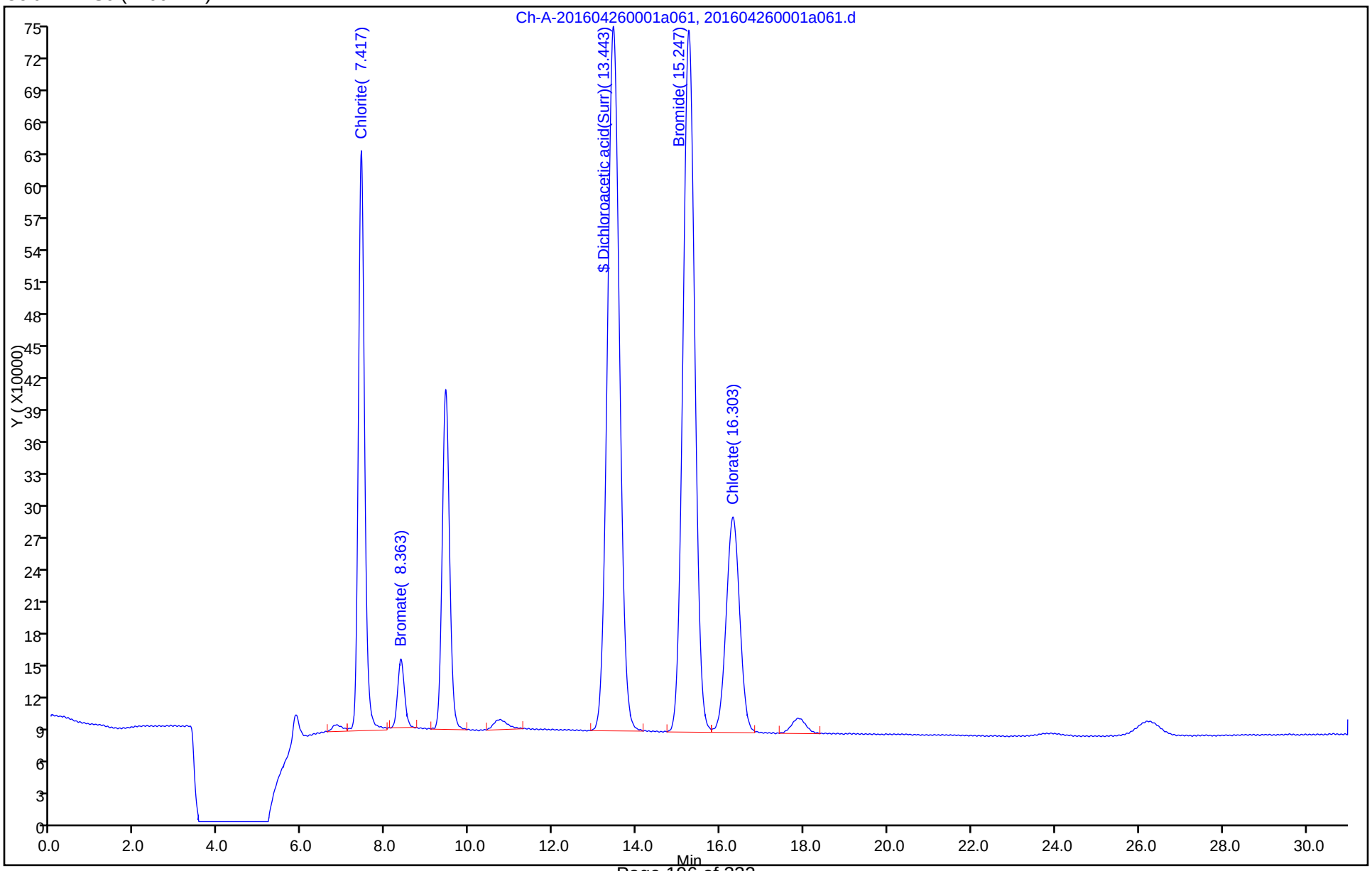
Report Date: 29-Apr-2016 08:59:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a061.d

Injection Date:	27-Apr-2016 16:07:32	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCV			Worklist Smp#:	61
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

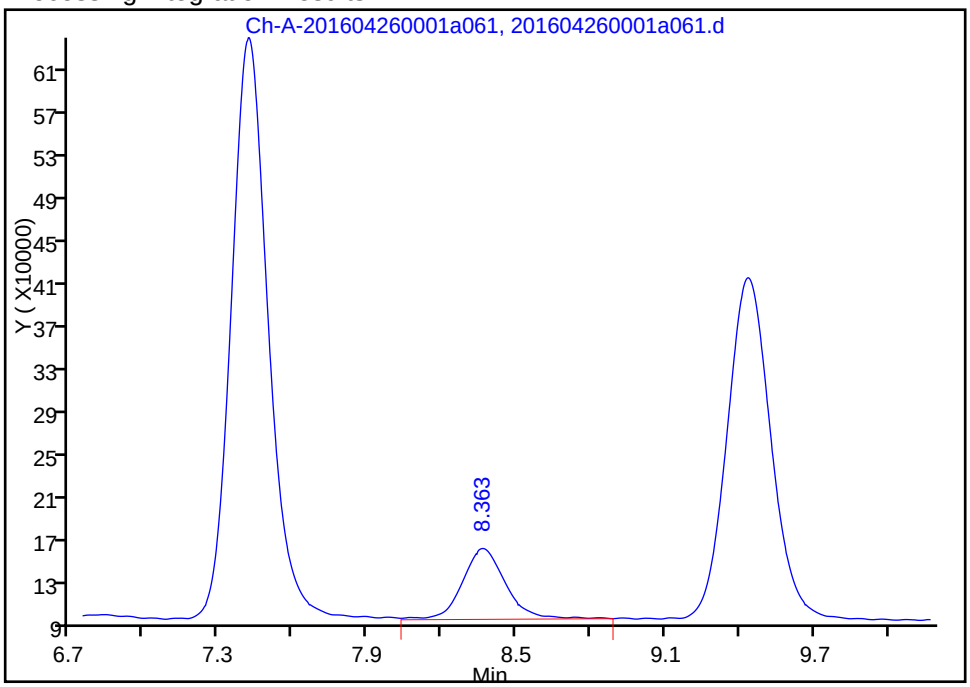
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a061.d				
Injection Date:	27-Apr-2016 16:07:32	Instrument ID:	IC-7		
Lims ID:	CCV				
Client ID:					
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	61
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

3 Bromate, CAS: 15541-45-4

Signal: 1

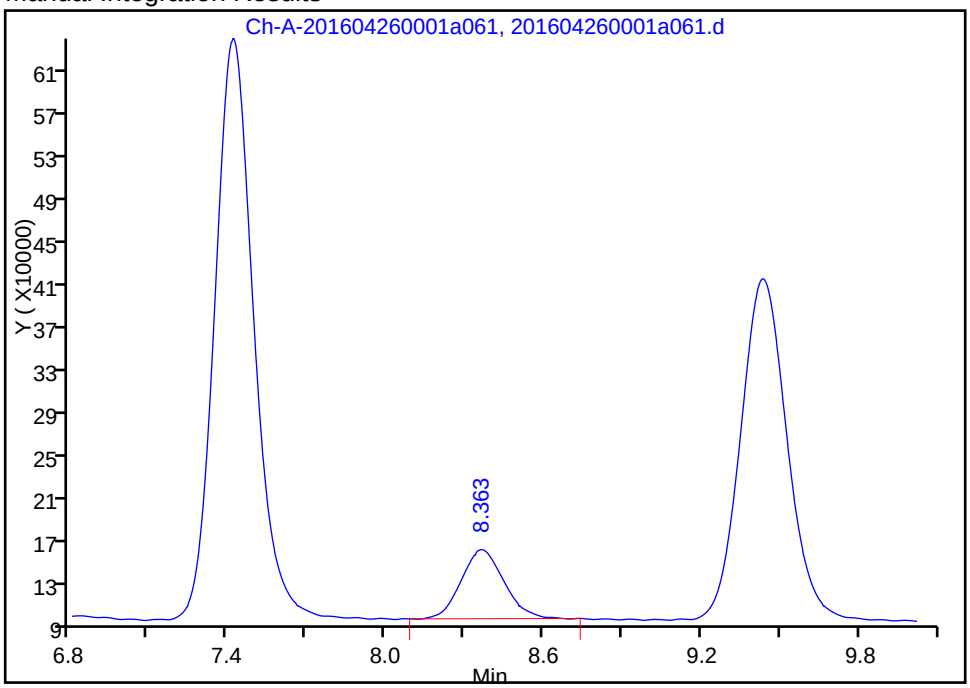
Processing Integration Results

RT: 8.36
Area: 802122
Amount: 54.790612
Amount Units: ug/l



Manual Integration Results

RT: 8.36
Area: 721658
Amount: 49.271037
Amount Units: ug/l



Reviewer: zakhrabovy, 29-Apr-2016 08:59:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-326441/3
Matrix: Water
Lab File ID: 201604260001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 03:32
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	108		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a003.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	26-Apr-2016 03:32:15	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-003				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	26-Apr-2016 11:16:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK003				
First Level Reviewer: zakhrabovy		Date:	26-Apr-2016 05:22:47		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.397	13.370	0.027	13973234	993.7	1074.6	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

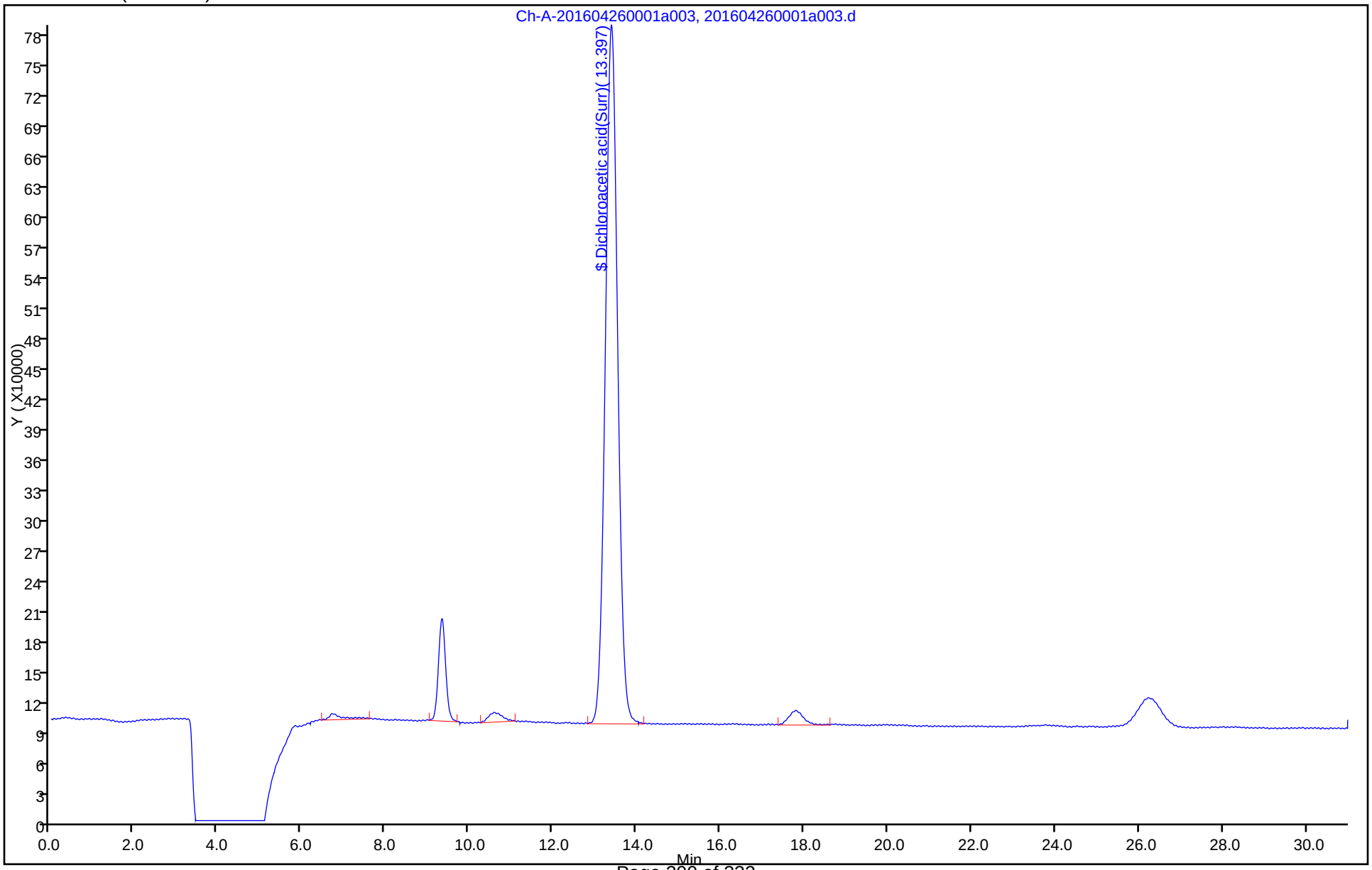
Report Date: 26-Apr-2016 11:18:17 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a003.d

Injection Date:	26-Apr-2016 03:32:15	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MB			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/15
Matrix: Water
Lab File ID: 201604260001a015.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 12:01
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	108		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a015.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	26-Apr-2016 12:01:04	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-015				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	26-Apr-2016 12:34:41	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK003				
First Level Reviewer: zakhrabovy		Date:	26-Apr-2016 12:34:41		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.340	15.160	-1.820	13945120	993.7	1072.4	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

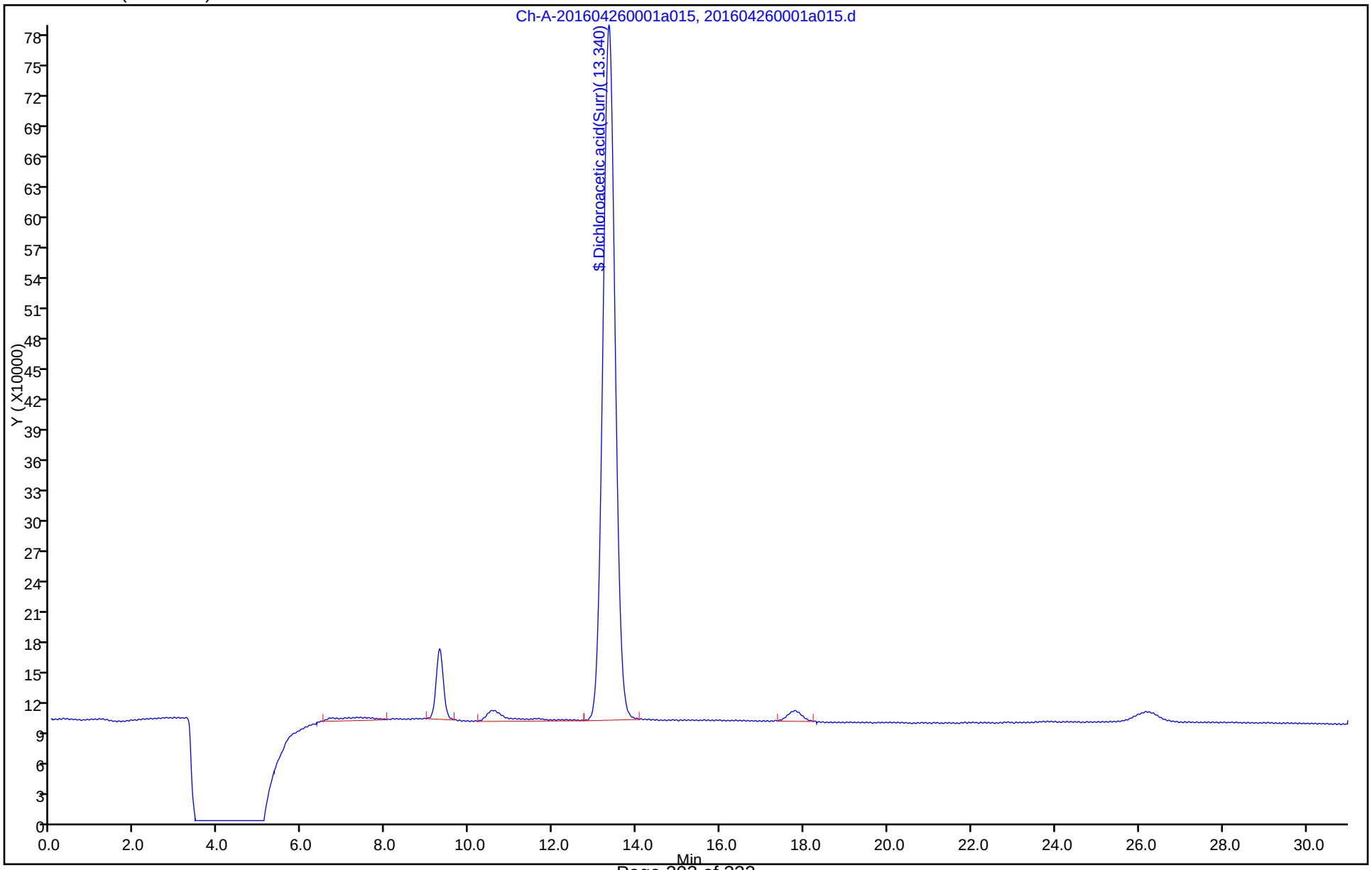
Report Date: 26-Apr-2016 12:34:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a015.d

Injection Date:	26-Apr-2016 12:01:04	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/27
Matrix: Water
Lab File ID: 201604260001a027.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 18:39
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a027.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	26-Apr-2016 18:39:13	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-027				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 05:03:39	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	27-Apr-2016 04:40:17		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.320	15.160	-1.840	13777876	993.7	1059.5	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

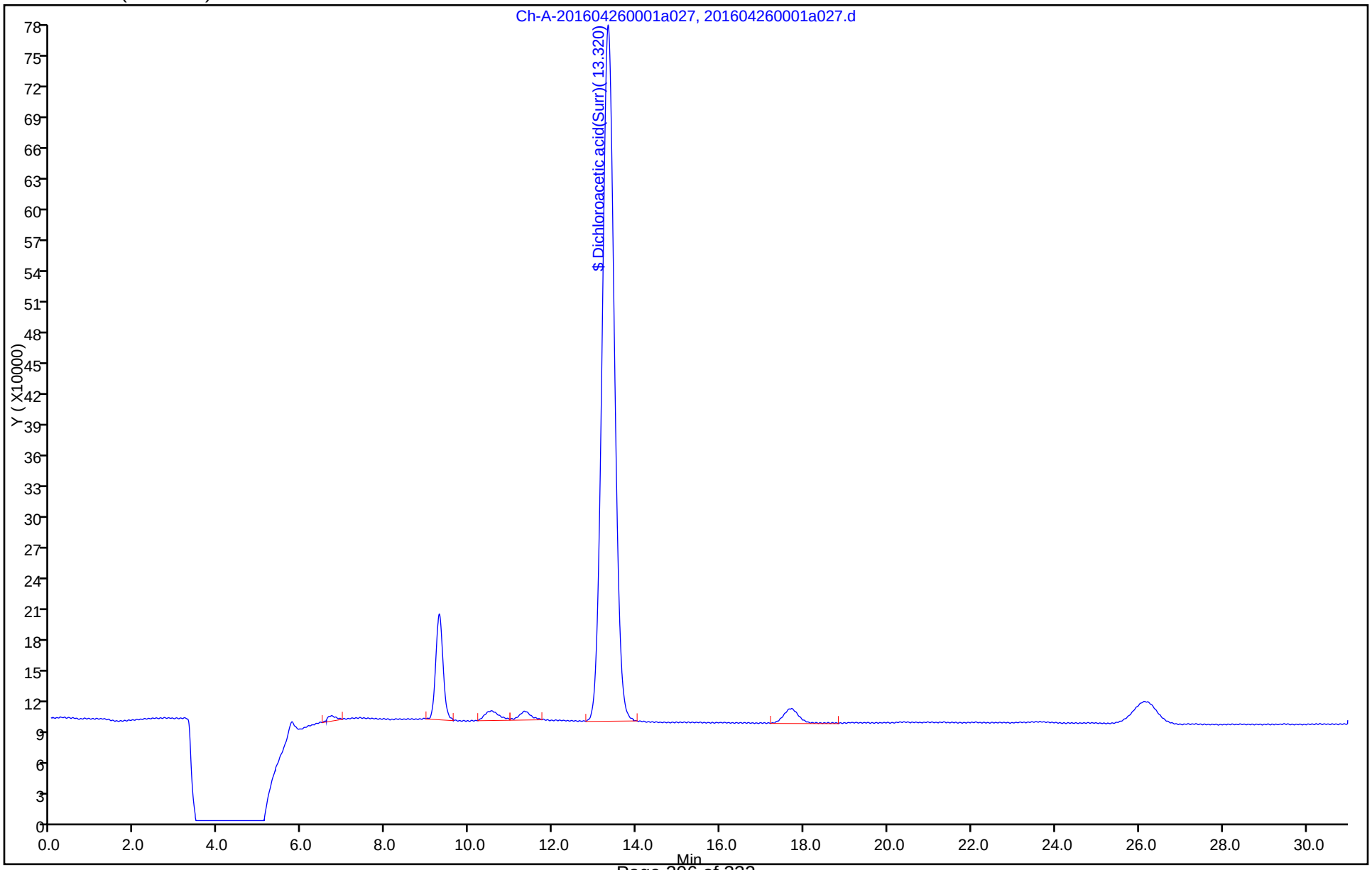
Report Date: 27-Apr-2016 05:03:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a027.d

Injection Date:	26-Apr-2016 18:39:13	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/51
Matrix: Water
Lab File ID: 201604260001a051.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 10:35
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	108		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a051.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	27-Apr-2016 10:35:44	ALS Bottle#:	0	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-051				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 11:14:29	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	27-Apr-2016 11:14:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	6.770	7.267	-0.497	58122		NC	
$ 1 Dichloroacetic acid	13.487	13.833	-0.346	13963792		NC	
$ 6 Dichloroacetic acid(Surr)	13.487	15.160	-1.673	13963792	993.7	1073.8	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

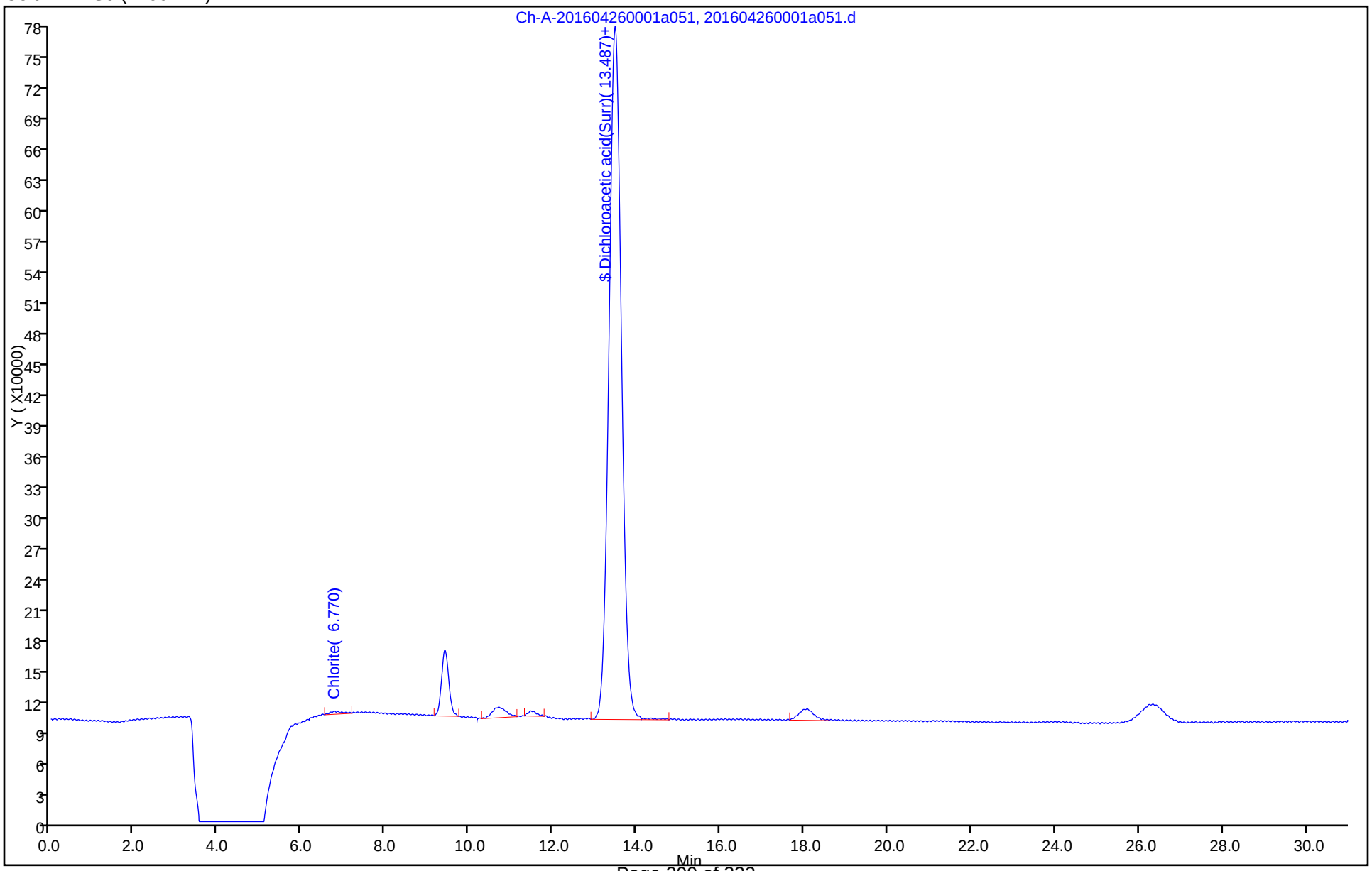
Report Date: 27-Apr-2016 11:14:36 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a051.d

Injection Date:	27-Apr-2016 10:35:44	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	51
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/62
Matrix: Water
Lab File ID: 201604260001a062.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 16:40
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a062.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 27-Apr-2016 16:40:42 ALS Bottle#: 0 Worklist Smp#: 62
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 440-0072281-062
Misc. Info.: Study: 72281 Channel A: I/F Serial#, 7230273507
Operator ID: IRVINSTWET4 Instrument ID: IC-7

Method: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m
Limit Group: IC-300.1_28D
Method Label: 300.1
Last Update: 29-Apr-2016 08:59:41 Calib Date: 28-Jan-2016 10:53:53
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d

Column 1 : AS9 (4.00 mm) Det: Ch-A-20110816009
Process Host: XAWRK008

First Level Reviewer: zakhrabovy Date: 29-Apr-2016 08:59:41

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 6 Dichloroacetic acid(Surr)	13.447	15.160	-1.713	13585355	993.7	1044.7	

Reagents:

WCDCA_00032 Amount Added: 10.00 Units: uL Run Reagent

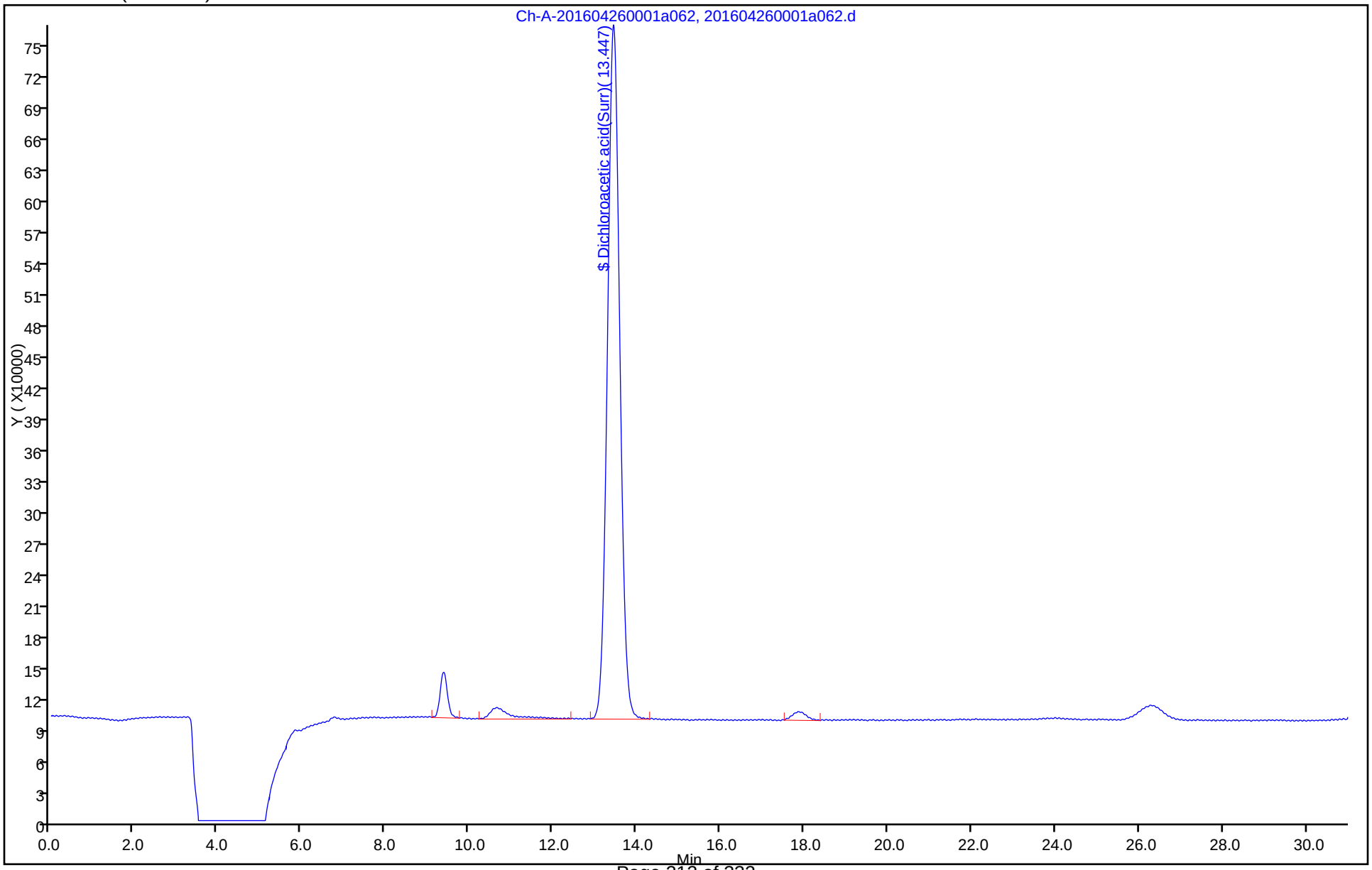
Report Date: 29-Apr-2016 08:59:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a062.d

Injection Date:	27-Apr-2016 16:40:42	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	CCB			Worklist Smp#:	62
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-326441/2
Matrix: Water
Lab File ID: 201604260001a002.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 02:59
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	101		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a002.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	26-Apr-2016 02:59:04	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-002				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	26-Apr-2016 11:16:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK003				
First Level Reviewer: zakhrabovy		Date:	26-Apr-2016 05:22:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.343	7.267	0.076	2842655	NC	NC	
3 Bromate	8.273	8.213	0.060	381145	25.0	25.9	
$ 6 Dichloroacetic acid(Surr)	13.400	13.370	0.030	13617834	993.7	1047.2	
4 Bromide	15.140	15.050	0.090	6575853	250.0	260.0	
2 Chlorate	16.233	16.230	0.003	2272128	100.0	100.7	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

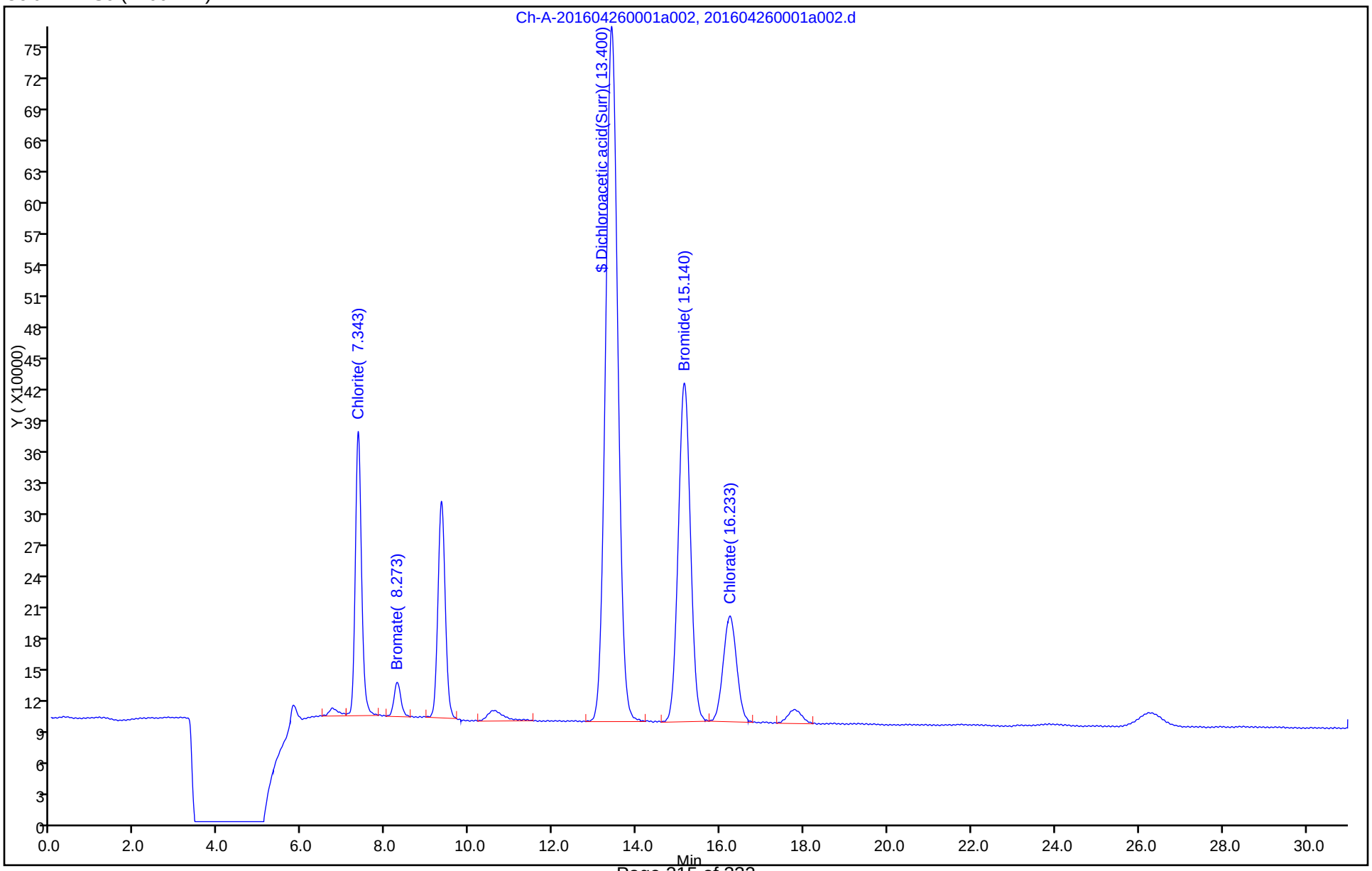
WC3001LCS_00034	Amount Added: 125.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 26-Apr-2016 11:18:15 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a002.d				
Injection Date:	26-Apr-2016 02:59:04	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	LCS			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-326441/1
Matrix: Water
Lab File ID: 201604260001a001.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 02:25
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.5	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a001.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	26-Apr-2016 02:25:54	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 440-0072281-001				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	26-Apr-2016 11:16:07	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK003				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.397	7.267	0.130	615097	NC	NC	
3 Bromate	8.337	8.213	0.124	76275	5.01	5.00	
$ 6 Dichloroacetic acid(Surr)	13.497	13.370	0.127	13828659	993.7	1063.4	
$ 1 Dichloroacetic acid	13.497	13.833	-0.336	13828659		NC	
4 Bromide	15.203	15.050	0.153	1389738	50.0	49.8	
2 Chlorate	16.317	16.230	0.087	467718	20.0	19.5	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

WC3001LCS_00034	Amount Added: 25.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

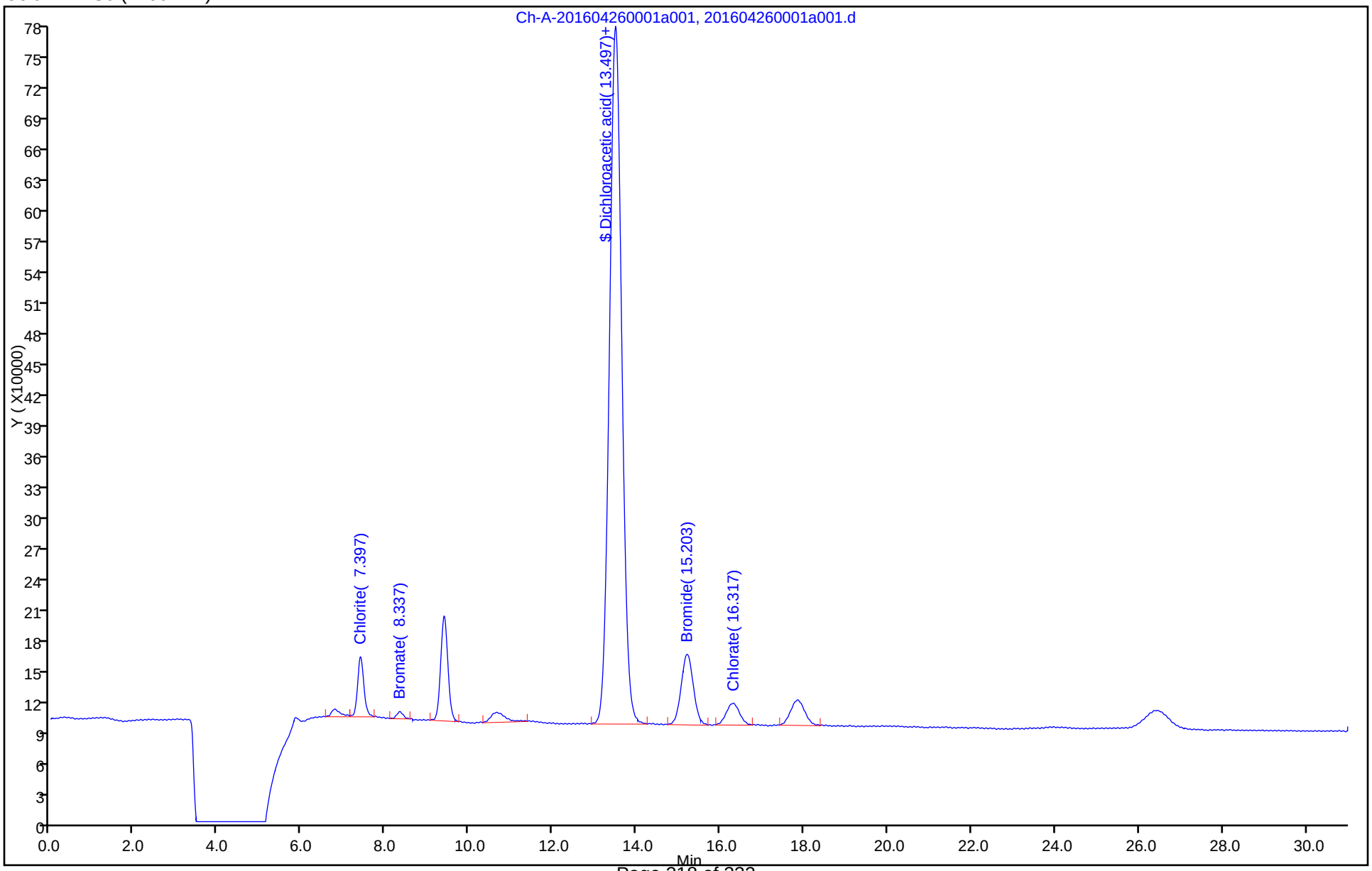
Report Date: 26-Apr-2016 11:18:11 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a001.d

Injection Date:	26-Apr-2016 02:25:54	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	MRL			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420 MS
Lab Sample ID: 440-145066-5 MS
Matrix: Water
Lab File ID: 201604260001a020.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 14:46
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	14300		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a020.d				
Lims ID:	440-145066-A-5 MS				
Client ID:	MW-04-20160420				
Sample Type:	MS				
Inject. Date:	26-Apr-2016 14:46:57	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072281-020				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 04:37:26	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				
First Level Reviewer: zakhrabovy		Date:	27-Apr-2016 04:37:32		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Bromide	15.250	15.050	0.200	315461	10.0	6.27	7
$ 6 Dichloroacetic acid(Surr)	13.423	15.160	-1.737	13538635	9.94	1041.1	
2 Chlorate	16.317	16.230	0.087	3221995	4.00	143.4	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

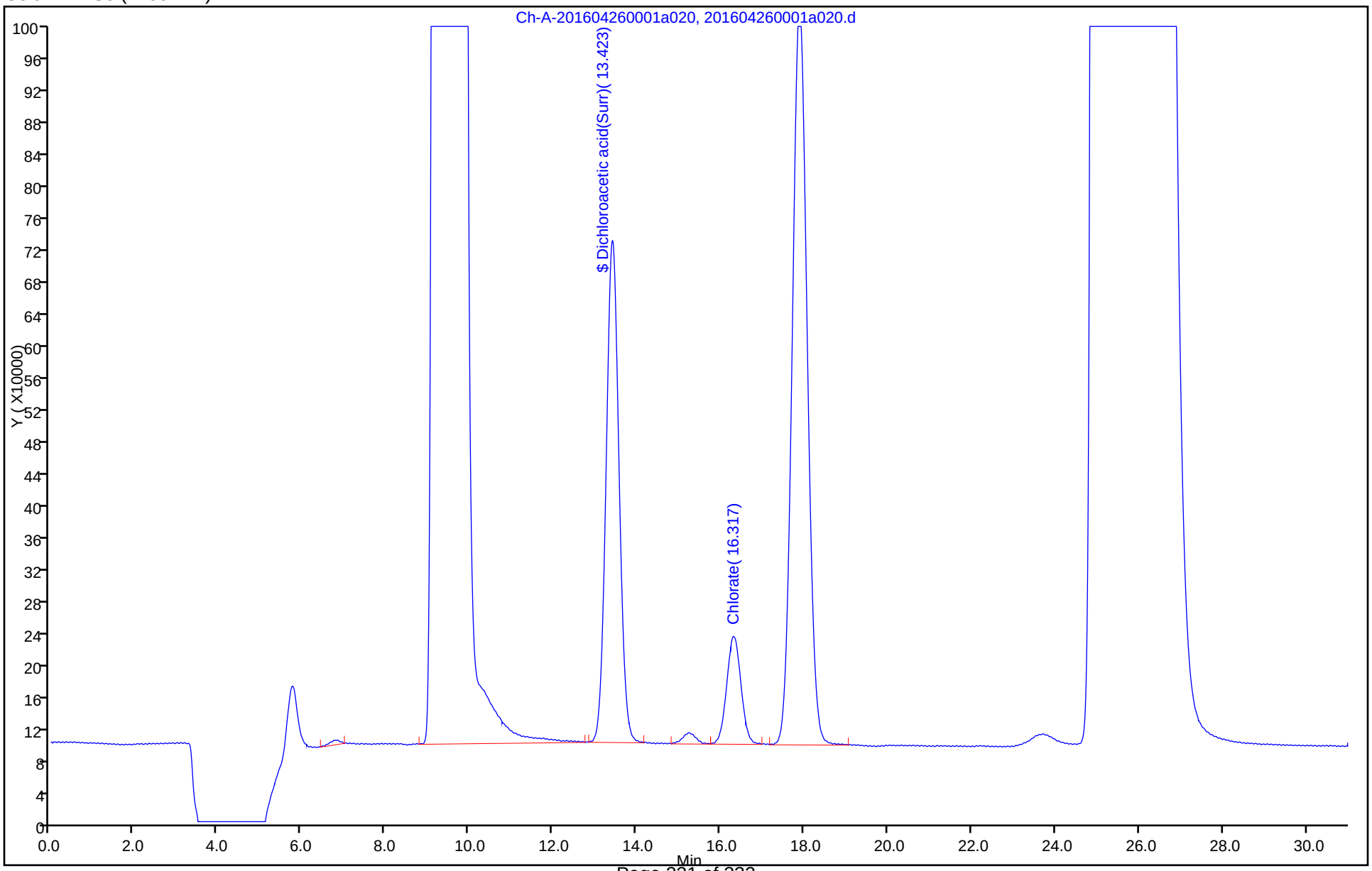
WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 27-Apr-2016 04:37:32 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a020.d				
Injection Date:	26-Apr-2016 14:46:57	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-A-5 MS			Worklist Smp#:	20
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145296-A-3 MS
Matrix: Water
Lab File ID: 201604260001a017.d
Analysis Method: 300.1B
Date Collected: 04/25/2016 07:40
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 13:07
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	414		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a017.d				
Lims ID:	440-145296-A-3 MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	26-Apr-2016 13:07:25	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072281-017				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	27-Apr-2016 04:35:42	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK005	

First Level Reviewer: zakhrabovy Date: 27-Apr-2016 04:35:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.283	7.267	0.016	2523916	NC	NC	M
3 Bromate	8.240	8.213	0.027	295603	25.0	20.0	M
4 Bromide	15.127	15.050	0.077	8378716	250.0	333.1	
$ 6 Dichloroacetic acid(Surr)	13.340	15.160	-1.820	13623063	496.9	1047.6	
2 Chlorate	16.190	16.230	-0.040	4633198	100.0	206.9	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

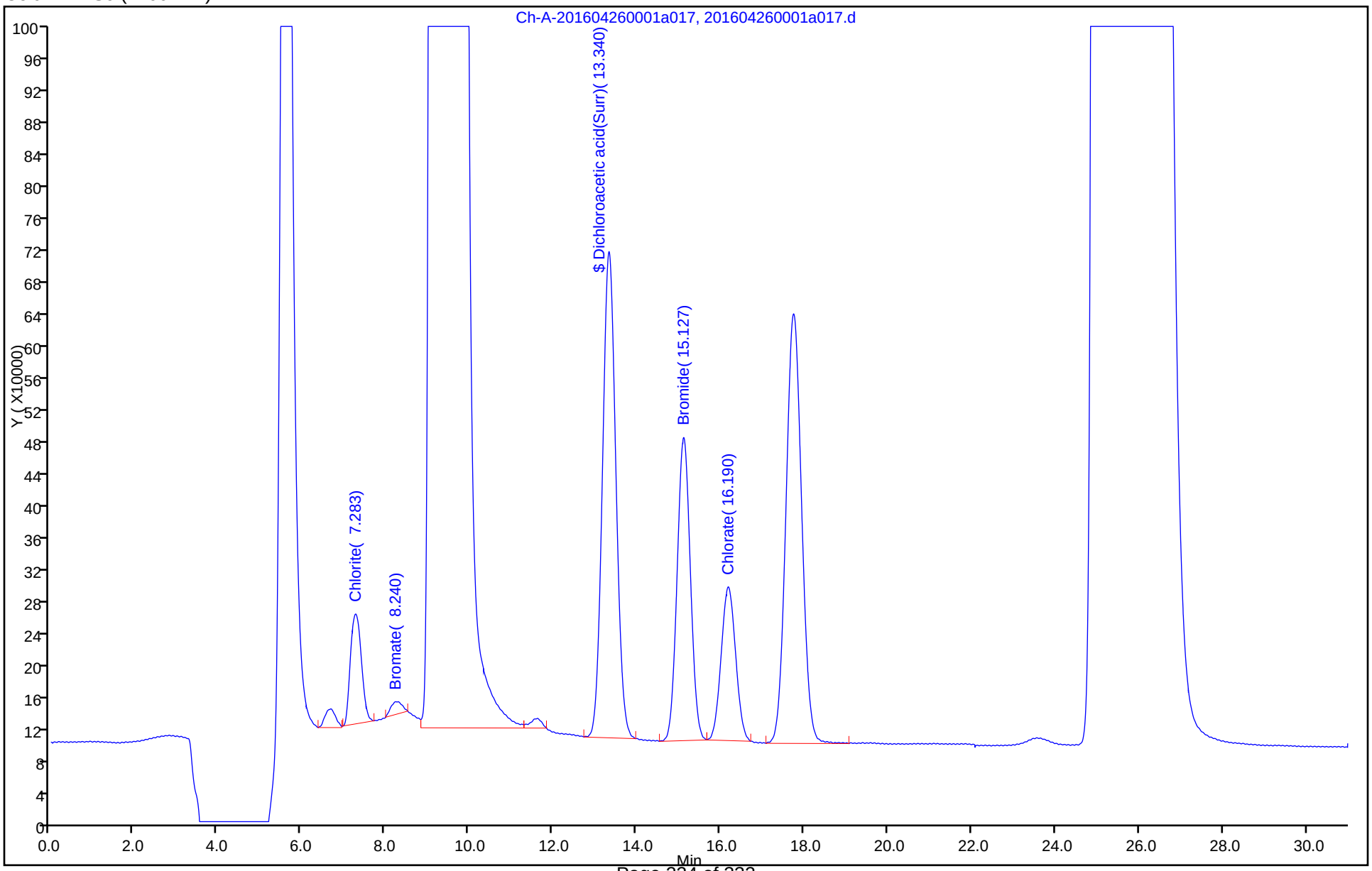
Report Date: 27-Apr-2016 04:35:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a017.d

Injection Date:	26-Apr-2016 13:07:25	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145296-A-3 MS			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420 MSD
Lab Sample ID: 440-145066-5 MSD
Matrix: Water
Lab File ID: 201604260001a021.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 15:20
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	14100		2000	1000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a021.d				
Lims ID:	440-145066-A-5 MSD				
Client ID:	MW-04-20160420				
Sample Type:	MSD				
Inject. Date:	26-Apr-2016 15:20:08	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	#: 001 Name: 440-0072281-021				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		
Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m				
Limit Group:	IC-300.1_28D				
Method Label:	300.1				
Last Update:	27-Apr-2016 04:37:26	Calib Date:	28-Jan-2016 10:53:53		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d				
Column 1 :	AS9 (4.00 mm)		Det: Ch-A-20110816009		
Process Host:	XAWRK005				

First Level Reviewer: zakhrabovy Date: 27-Apr-2016 04:37:26

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Bromide	15.183	15.050	0.133	273168	10.0	4.56	7
$ 6 Dichloroacetic acid(Surr)	13.387	15.160	-1.773	13410197	9.94	1031.3	
2 Chlorate	16.267	16.230	0.037	3165561	4.00	140.9	M

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 500.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

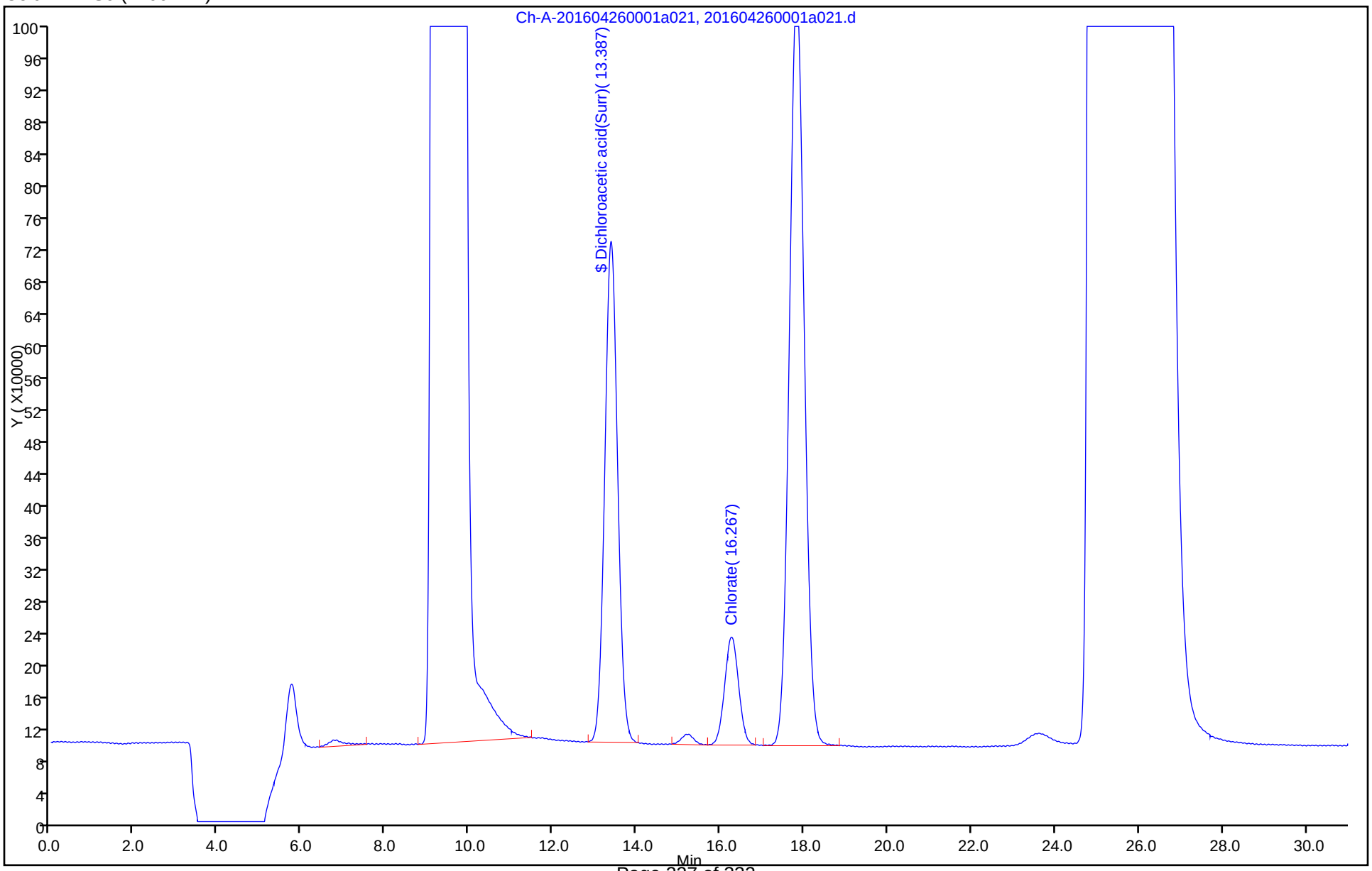
Report Date: 27-Apr-2016 04:37:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a021.d

Injection Date:	26-Apr-2016 15:20:08	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145066-A-5 MSD			Worklist Smp#:	21
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



Manual Integration/User Assign Peak Report

TestAmerica Irvine

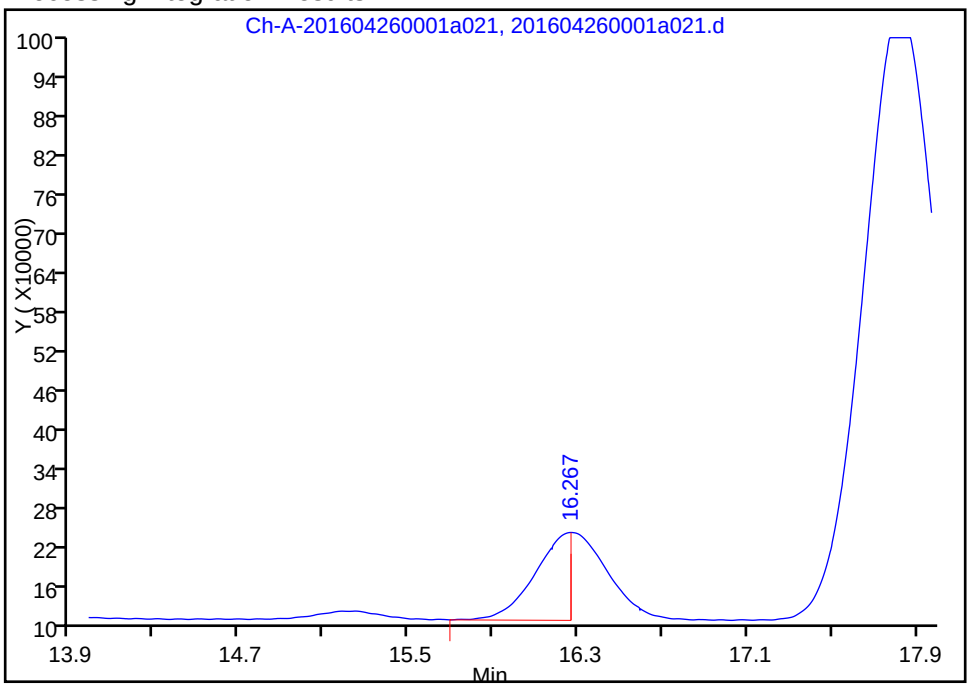
Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a021.d				
Injection Date:	26-Apr-2016 15:20:08	Instrument ID:	IC-7		
Lims ID:	440-145066-A-5 MSD				
Client ID:	MW-04-20160420				
Operator ID:	IRVINSTWET4	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Method:	300.1_C7	Limit Group:	IC-300.1_28D		
Column:	AS9 (4.00 mm)	Detector	Ch-A-20110816009		

2 Chlorate, CAS: 7790-93-4

Signal: 1

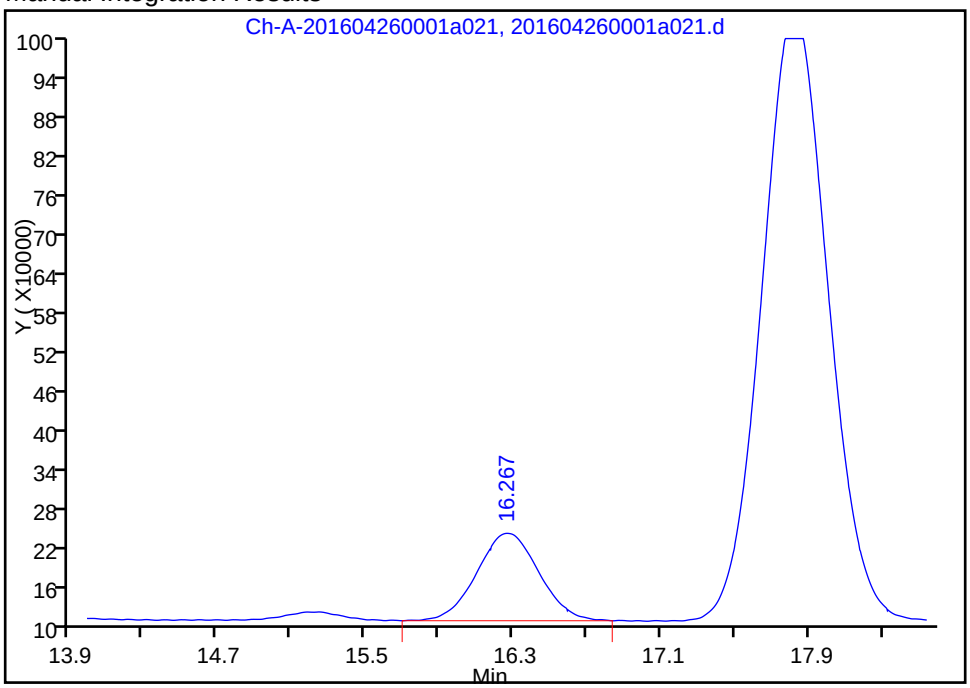
Processing Integration Results

RT: 16.27
Area: 1551815
Amount: 68.243725
Amount Units: ug/l



Manual Integration Results

RT: 16.27
Area: 3165561
Amount: 140.8579
Amount Units: ug/l



Reviewer: zakhrabovy, 27-Apr-2016 04:37:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145296-A-3 MSD
Matrix: Water
Lab File ID: 201604260001a018.d
Analysis Method: 300.1B
Date Collected: 04/25/2016 07:40
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 13:40
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	421		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a018.d				
Lims ID:	440-145296-A-3 MSD				
Client ID:					
Sample Type:	MSD				
Inject. Date:	26-Apr-2016 13:40:36	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	2.0000		
Sample Info:	#: 001 Name: 440-0072281-018				
Misc. Info.:	Study: 72281 Channel A: I/F Serial#, 7230273507				
Operator ID:	IRVINSTWET4	Instrument ID:	IC-7		

Method:	\\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\300.1_C7.m		
Limit Group:	IC-300.1_28D		
Method Label:	300.1		
Last Update:	27-Apr-2016 04:36:21	Calib Date:	28-Jan-2016 10:53:53
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC7\20160128-68747.b\20160128a0007.d		

Column 1 :	AS9 (4.00 mm)	Det: Ch-A-20110816009
Process Host:	XAWRK005	

First Level Reviewer: zakhrabovy Date: 27-Apr-2016 04:36:21

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
5 Chlorite	7.310	7.267	0.043	2610690	NC	NC	M
3 Bromate	8.287	8.213	0.074	299134	25.0	20.3	M
4 Bromide	15.163	15.050	0.113	8591628	250.0	341.7	
$ 6 Dichloroacetic acid(Surr)	13.370	15.160	-1.790	13766276	496.9	1058.6	
2 Chlorate	16.237	16.230	0.007	4710830	100.0	210.4	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

WC3001LCS_00034	Amount Added: 250.00	Units: uL	
WCDCA_00032	Amount Added: 10.00	Units: uL	Run Reagent

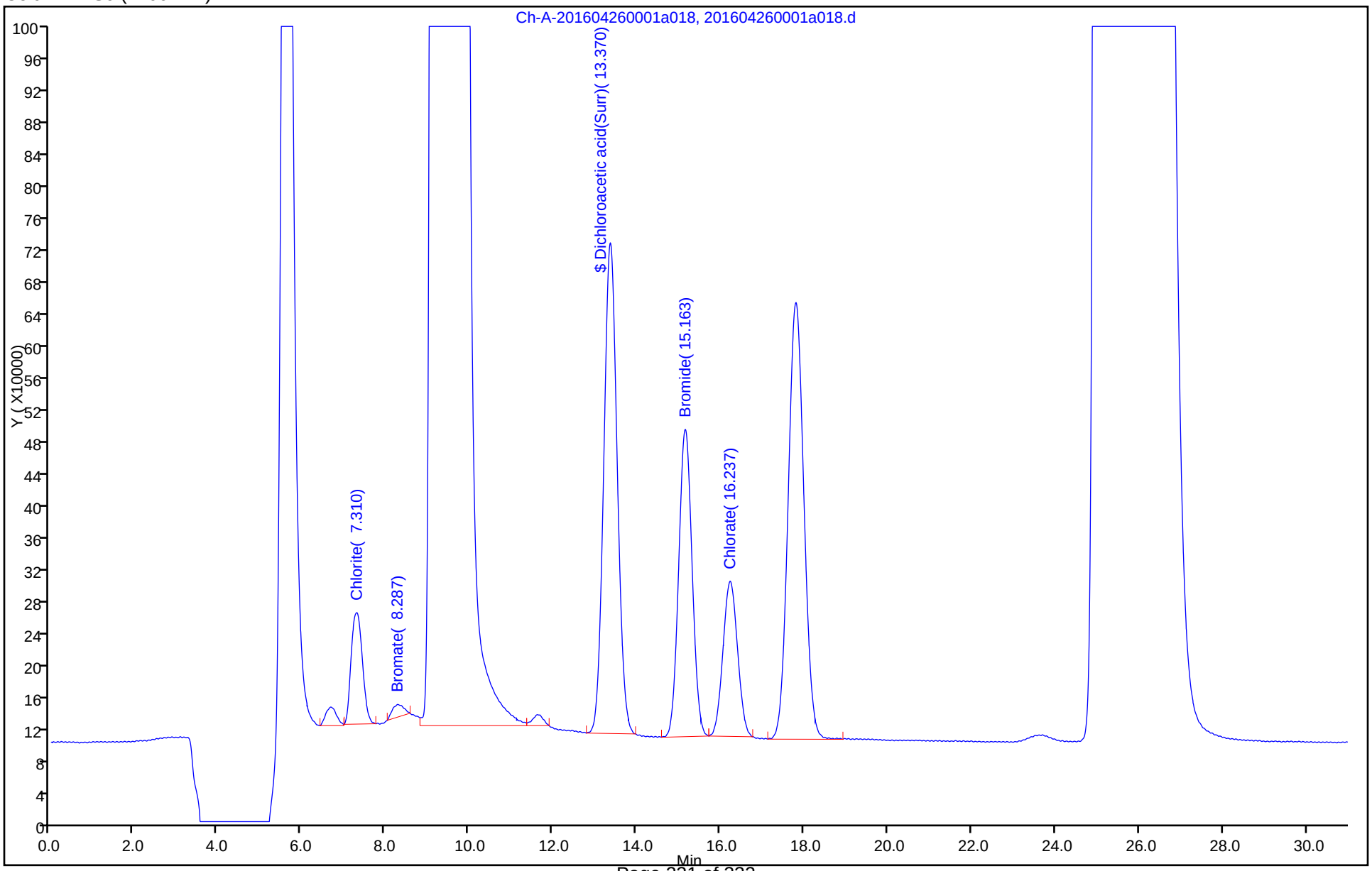
Report Date: 27-Apr-2016 04:36:22 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC7\20160426-72281.b\201604260001a018.d

Injection Date:	26-Apr-2016 13:40:36	Instrument ID:	IC-7	Operator ID:	IRVINSTWET4
Lims ID:	440-145296-A-3 MSD			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	0
Method:	300.1_C7	Limit Group:	IC-300.1_28D		

Column: AS9 (4.00 mm)



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		01/28/2016 07:34	1		AS9-HC 4(mm)
STD0 440-308526/2 IC		01/28/2016 08:07	1	20160128a0002.d	AS9-HC 4(mm)
STD1 440-308526/3 IC		01/28/2016 08:41	1	20160128a0003.d	AS9-HC 4(mm)
STD2 440-308526/4 IC		01/28/2016 09:14	1	20160128a0004.d	AS9-HC 4(mm)
STD3 440-308526/5 IC		01/28/2016 09:47	1	20160128a0005.d	AS9-HC 4(mm)
STD4 440-308526/6 IC		01/28/2016 10:20	1	20160128a0006.d	AS9-HC 4(mm)
STD5 440-308526/7 IC		01/28/2016 10:53	1	20160128a0007.d	AS9-HC 4(mm)
ICV 440-308526/8		01/28/2016 11:30	1	20160128a0008.d	AS9-HC 4(mm)
ICB 440-308526/9		01/28/2016 12:04	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 12:37	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:10	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:43	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:16	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:50	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:23	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:56	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 16:29	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 17:02	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 18:42	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 19:15	5		AS9-HC 4(mm)
CCV 440-308526/23		01/28/2016 19:48	1		AS9-HC 4(mm)
CCB 440-308526/24		01/28/2016 20:21	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 20:54	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 21:28	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 22:01	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:20	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:53	1		AS9-HC 4(mm)
CCV 440-308526/35		01/29/2016 02:26	1		AS9-HC 4(mm)
CCB 440-308526/36		01/29/2016 02:59	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 03:33	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 04:09	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:01	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:34	10		AS9-HC 4(mm)
CCV 440-308526/47		01/29/2016 09:08	1		AS9-HC 4(mm)
CCB 440-308526/48		01/29/2016 09:41	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 10:14	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:20	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:54	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 12:27	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:00	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:33	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:06	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:39	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 15:13	10		AS9-HC 4(mm)
CCV 440-308526/59		01/29/2016 15:46	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 440-308526/60		01/29/2016 16:19	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/26/2016 02:25

Analysis Batch Number: 326441 End Date: 04/27/2016 16:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
MRL 440-326441/1		04/26/2016 02:25	1	201604260001a001.d	AS9-HC 4(mm)
LCS 440-326441/2		04/26/2016 02:59	1	201604260001a002.d	AS9-HC 4(mm)
MB 440-326441/3		04/26/2016 03:32	1	201604260001a003.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 04:05	500		AS9-HC 4(mm)
ZZZZZ		04/26/2016 04:38	500		AS9-HC 4(mm)
ZZZZZ		04/26/2016 07:02	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 07:35	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 08:08	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 08:41	1		AS9-HC 4(mm)
ZZZZZ		04/26/2016 09:15	2		AS9-HC 4(mm)
ZZZZZ		04/26/2016 09:48	2		AS9-HC 4(mm)
ZZZZZ		04/26/2016 10:21	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 10:54	10000		AS9-HC 4(mm)
CCV 440-326441/14		04/26/2016 11:27	1	201604260001a014.d	AS9-HC 4(mm)
CCB 440-326441/15		04/26/2016 12:01	1	201604260001a015.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 12:34	1		AS9-HC 4(mm)
440-145296-A-3 MS		04/26/2016 13:07	2	201604260001a017.d	AS9-HC 4(mm)
440-145296-A-3 MSD		04/26/2016 13:40	2	201604260001a018.d	AS9-HC 4(mm)
440-145066-5		04/26/2016 14:13	100	201604260001a019.d	AS9-HC 4(mm)
440-145066-5 MS		04/26/2016 14:46	100	201604260001a020.d	AS9-HC 4(mm)
440-145066-5 MSD		04/26/2016 15:20	100	201604260001a021.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 15:53	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 16:26	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 16:59	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 17:32	10		AS9-HC 4(mm)
CCV 440-326441/26		04/26/2016 18:06	1	201604260001a026.d	AS9-HC 4(mm)
CCB 440-326441/27		04/26/2016 18:39	1	201604260001a027.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 19:12	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 19:45	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 20:18	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 20:51	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 21:25	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 21:58	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 22:31	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 23:04	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 23:37	100		AS9-HC 4(mm)
ZZZZZ		04/27/2016 00:11	100		AS9-HC 4(mm)
CCV 440-326441/38		04/27/2016 00:44	1		AS9-HC 4(mm)
CCB 440-326441/39		04/27/2016 01:17	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 01:50	100		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/26/2016 02:25

Analysis Batch Number: 326441 End Date: 04/27/2016 16:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/27/2016 02:56	10		AS9-HC 4(mm)
ZZZZZ		04/27/2016 03:30	500		AS9-HC 4(mm)
ZZZZZ		04/27/2016 04:03	500		AS9-HC 4(mm)
ZZZZZ		04/27/2016 05:42	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 06:34	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 07:09	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 08:11	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 08:44	5		AS9-HC 4(mm)
CCV 440-326441/50		04/27/2016 10:02	1	201604260001a050.d	AS9-HC 4(mm)
CCB 440-326441/51		04/27/2016 10:35	1	201604260001a051.d	AS9-HC 4(mm)
ZZZZZ		04/27/2016 11:08	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 11:42	100		AS9-HC 4(mm)
440-145066-3		04/27/2016 12:15	5	201604260001a054.d	AS9-HC 4(mm)
440-145066-4		04/27/2016 12:48	5	201604260001a055.d	AS9-HC 4(mm)
ZZZZZ		04/27/2016 13:21	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 13:54	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 14:27	5		AS9-HC 4(mm)
440-145066-2		04/27/2016 15:34	5	201604260001a060.d	AS9-HC 4(mm)
CCV 440-326441/61		04/27/2016 16:07	1	201604260001a061.d	AS9-HC 4(mm)
CCB 440-326441/62		04/27/2016 16:40	1	201604260001a062.d	AS9-HC 4(mm)

300.1B

Method 314

Perchlorate (IC) by Method 314

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_2.d

Lab ID: LCS 440-327943/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	24.5	98	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_5.d

Lab ID: MRL 440-327943/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Perchlorate	4.00	3.73 J	93	75-125	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_11.d

Lab ID: 440-145066-5 MS Client ID: MW-04-20160420 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	25.0	8700	8620	-280	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_12.d

Lab ID: 440-145066-5 MSD Client ID: MW-04-20160420 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Perchlorate	25.0	8700	62	1	20	80-120	4

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_4.d

Lab ID: INF 440-327943/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	25.0	22.8	91	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab File ID: 20160503_3.d Lab Sample ID: MB 440-327943/3

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 05/03/2016 10:00

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-327943/2	20160503_2.d	05/03/2016 09:43
	CCB 440-327943/1003	20160503_3-CCB.d	05/03/2016 10:00
MW-04-20160420	440-145066-5	20160503_10.d	05/03/2016 12:18
MW-04-20160420 MS	440-145066-5 MS	20160503_11.d	05/03/2016 12:45
MW-04-20160420 MSD	440-145066-5 MSD	20160503_12.d	05/03/2016 13:02
MW-11-20160420	440-145066-2	20160503_13.d	05/03/2016 13:19
MW-05-20160420	440-145066-3	20160503_14.d	05/03/2016 13:36
MW-18-20160420	440-145066-4	20160503_15.d	05/03/2016 13:53
	CCB 440-327943/17	20160503_17.d	05/03/2016 14:26

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-11-20160420
Lab Sample ID: 440-145066-2
Matrix: Water
Lab File ID: 20160503_13.d
Analysis Method: 314.0
Date Collected: 04/20/2016 08:35
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 13:19
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	24		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_13.d				
Lims ID:	440-145066-C-2				
Client ID:	MW-11-20160420				
Sample Type:	Client				
Inject. Date:	03-May-2016 13:19:00	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-013				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

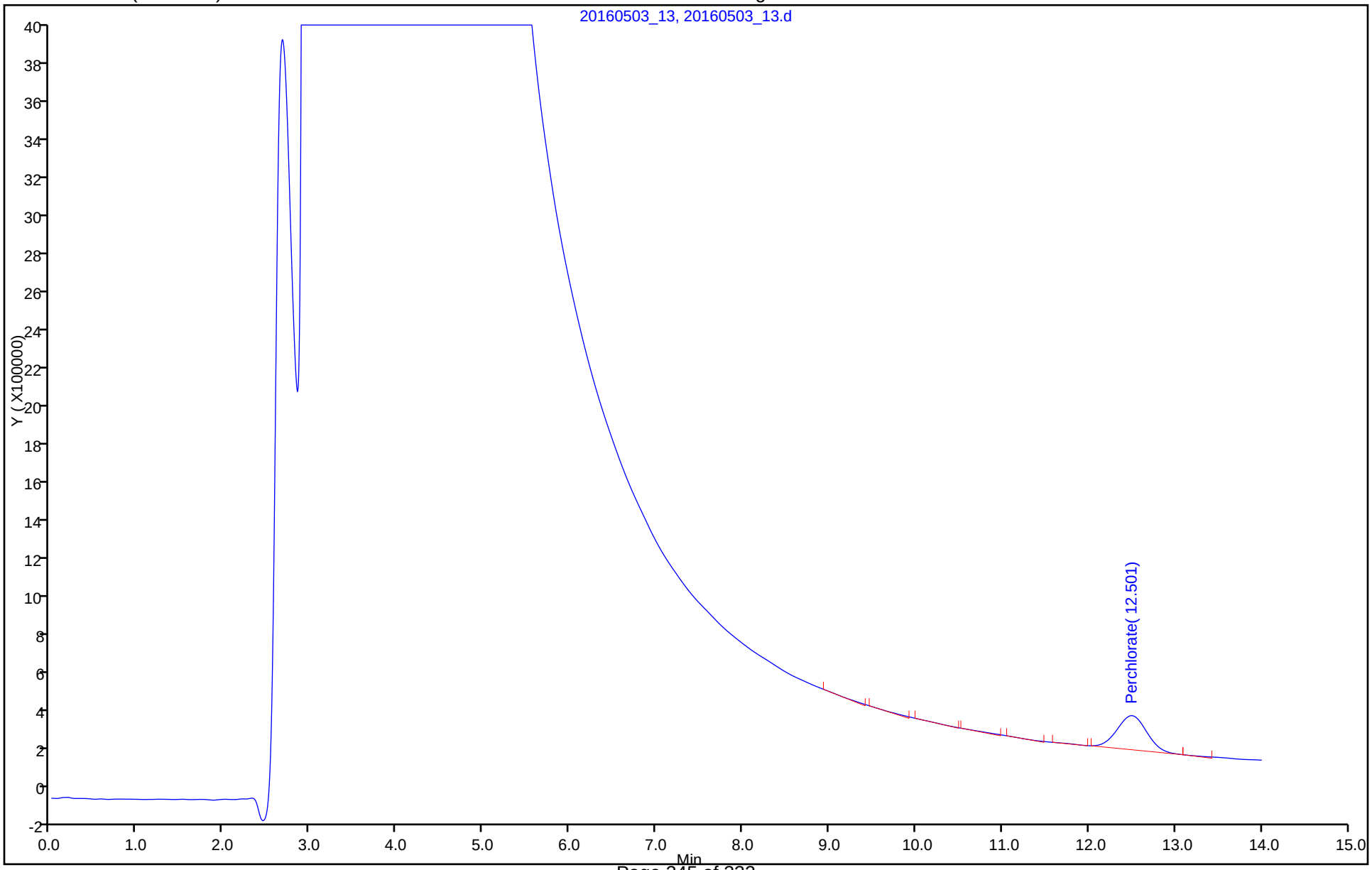
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.501	12.547	-0.046	4198597	23.6	

Report Date: 03-May-2016 14:31:12 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_13.d				
Injection Date:	03-May-2016 13:19:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-145066-C-2	Lab Sample ID:	440-145066-2	Worklist Smp#:	13
Client ID:	MW-11-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-05-20160420
Lab Sample ID: 440-145066-3
Matrix: Water
Lab File ID: 20160503_14.d
Analysis Method: 314.0
Date Collected: 04/20/2016 10:15
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 13:36
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	14		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_14.d				
Lims ID:	440-145066-C-3				
Client ID:	MW-05-20160420				
Sample Type:	Client				
Inject. Date:	03-May-2016 13:36:00	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-014				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.524	12.547	-0.023	2425496	13.7	

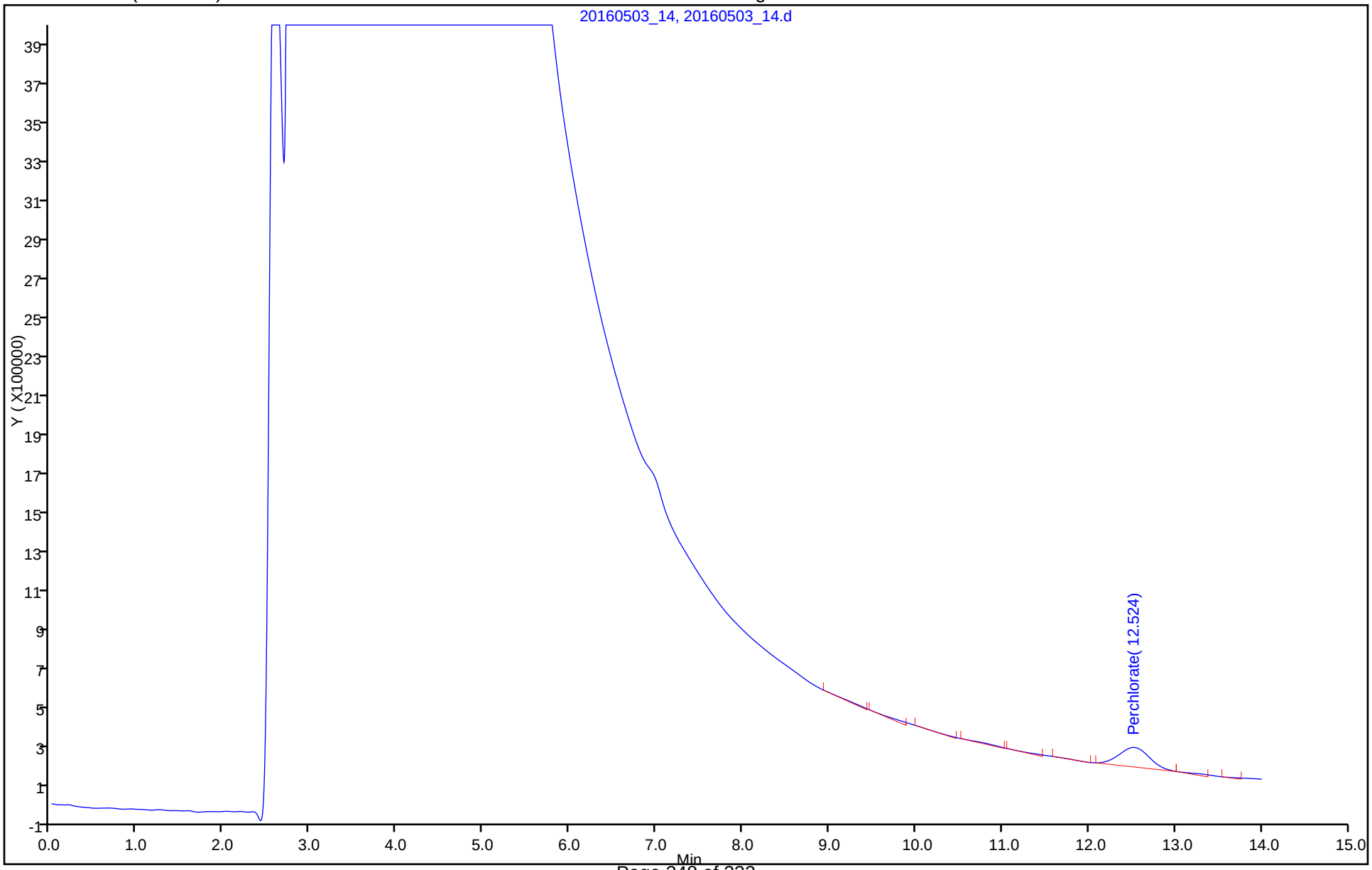
Report Date: 03-May-2016 14:31:13 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_14.d

Injection Date:	03-May-2016 13:36:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-145066-C-3	Lab Sample ID:	440-145066-3	Worklist Smp#:	14
Client ID:	MW-05-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-18-20160420
Lab Sample ID: 440-145066-4
Matrix: Water
Lab File ID: 20160503_15.d
Analysis Method: 314.0
Date Collected: 04/20/2016 12:10
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 13:53
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	3.4	J	4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_15.d				
Lims ID:	440-145066-C-4				
Client ID:	MW-18-20160420				
Sample Type:	Client				
Inject. Date:	03-May-2016 13:53:00	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-015				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.464	12.547	-0.083	621313	3.35	

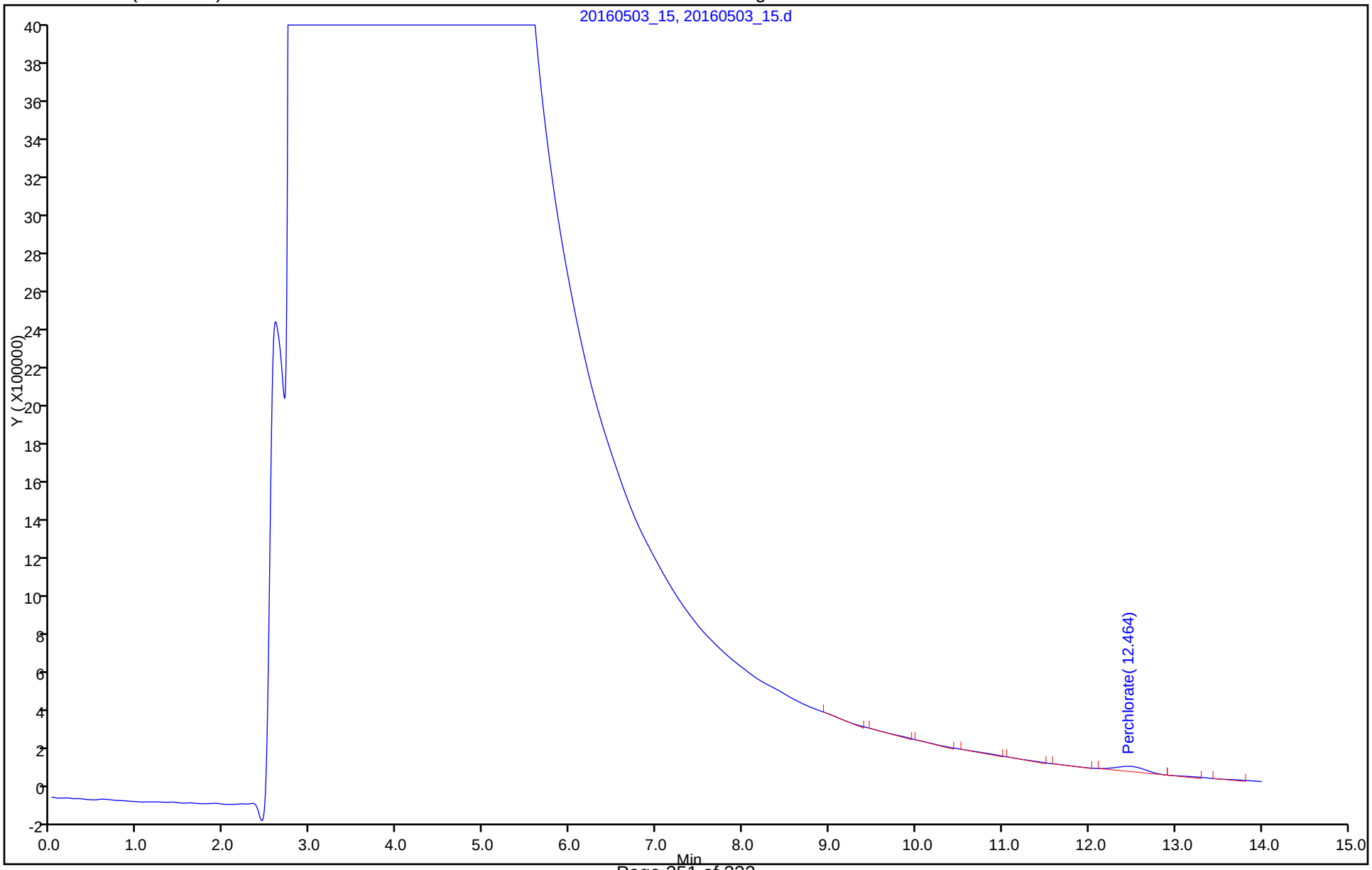
Report Date: 03-May-2016 14:31:14 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_15.d

Injection Date:	03-May-2016 13:53:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-145066-C-4	Lab Sample ID:	440-145066-4	Worklist Smp#:	15
Client ID:	MW-18-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420
Lab Sample ID: 440-145066-5
Matrix: Water
Lab File ID: 20160503_10.d
Analysis Method: 314.0
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 12:18
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8700		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_10.d				
Lims ID:	440-145066-C-5				
Client ID:	MW-04-20160420				
Sample Type:	Client				
Inject. Date:	03-May-2016 12:18:00	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072598-010				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

First Level Reviewer: hoangch Date: 03-May-2016 12:39:12

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
2 Perchlorate	12.581	12.547	0.034	16294238	86.9	M

QC Flag Legend

Review Flags

M - Manually Integrated

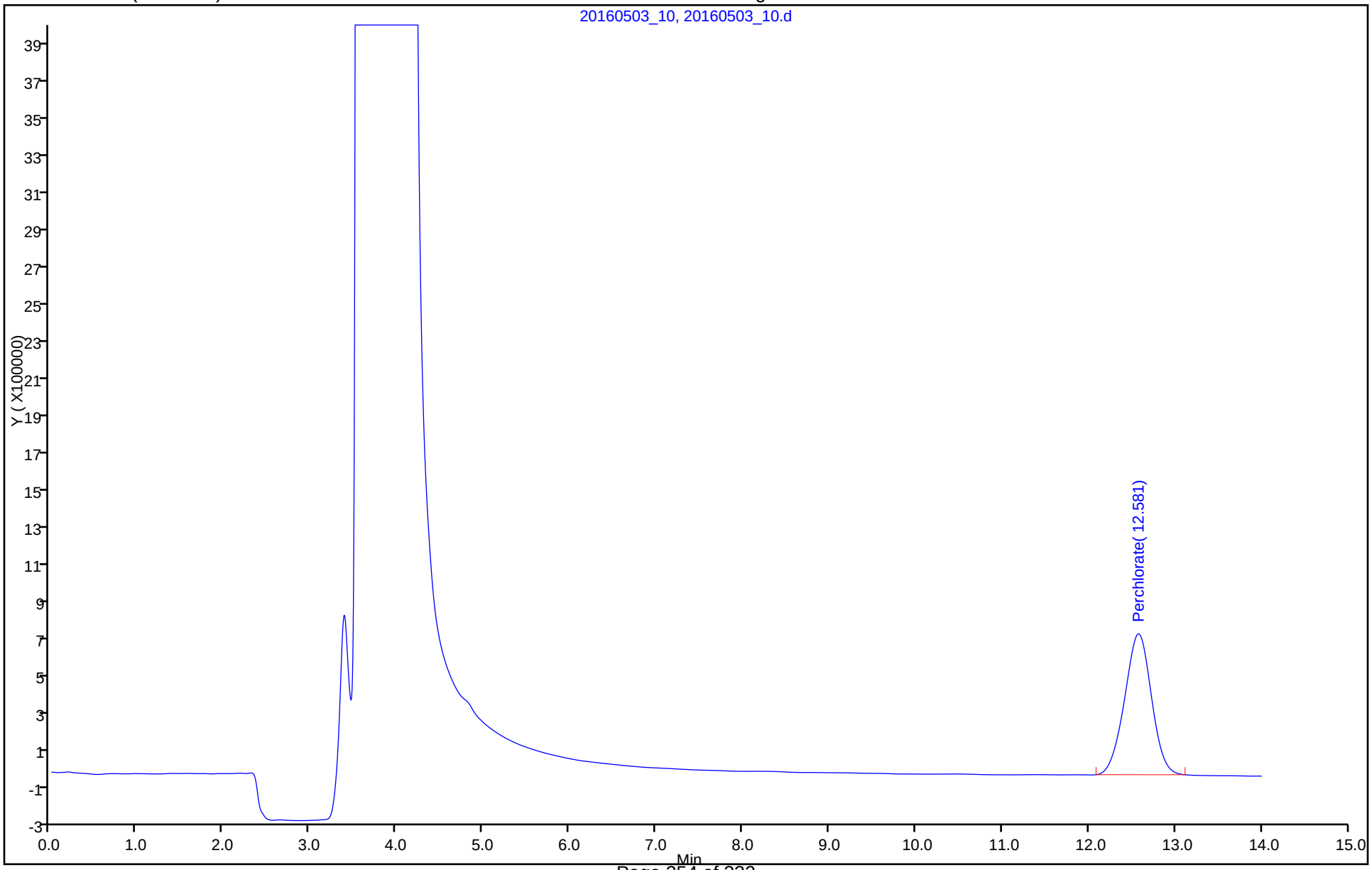
Report Date: 03-May-2016 14:31:10 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_10.d

Injection Date:	03-May-2016 12:18:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-145066-C-5	Lab Sample ID:	440-145066-5	Worklist Smp#:	10
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



Manual Integration/User Assign Peak Report

TestAmerica Irvine

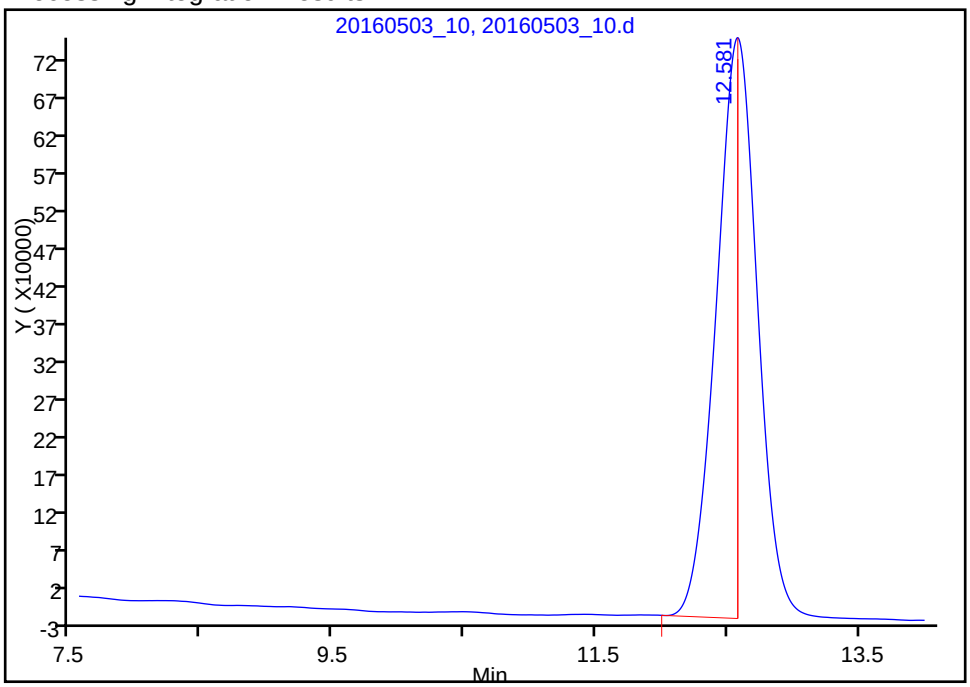
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_10.d				
Injection Date:	03-May-2016 12:18:00	Instrument ID:	IC-25		
Lims ID:	440-145066-C-5	Lab Sample ID:	440-145066-5		
Client ID:	MW-04-20160420				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

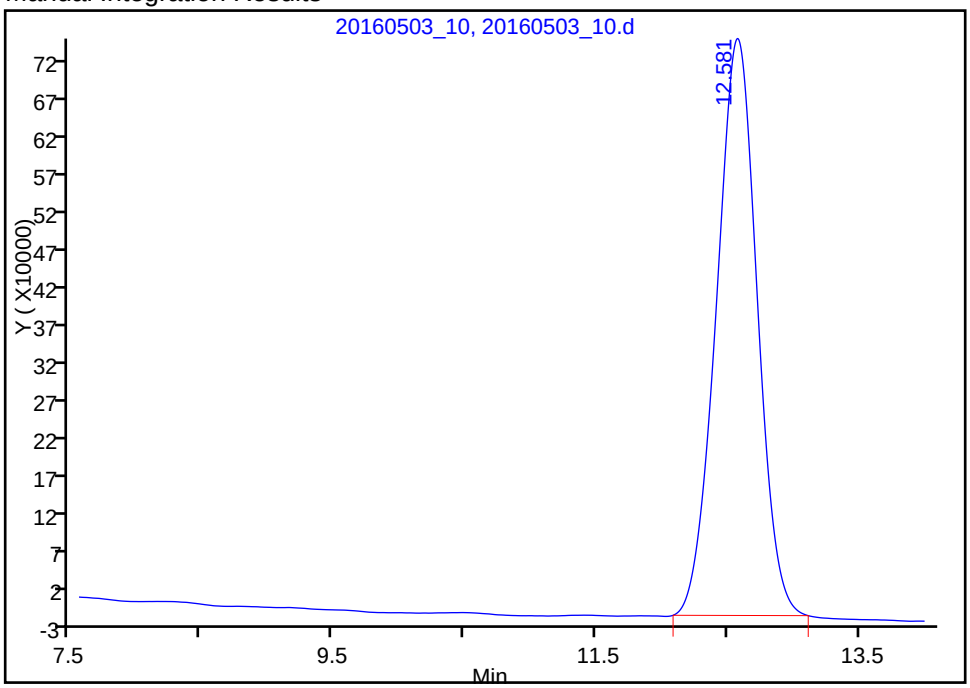
Processing Integration Results

RT: 12.58
Area: 8516306
Amount: 47.038257
Amount Units: ug/l



Manual Integration Results

RT: 12.58
Area: 16294238
Amount: 86.859230
Amount Units: ug/l



Reviewer: hoangch, 03-May-2016 12:39:12

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Perchlorate	12.640	12.654	12.647	12.651	12.621	12.594	12.571				12.008 - 13.272	12.625

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Perchlorate	201999 176880	208422 181735	193440 189815	178617	Qua	43397.2609	171899.532	174.932115						1.0000		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-145066-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perchlorate	Qua	201999 9086740	416844 18981540	773758	1786170	4421988	1.00 50.0	2.00 100	4.00	10.0	25.0

Curve Type Legend:

Qua = Quadratic

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d				
Lims ID:	std2				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	22-Apr-2016 15:16:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:54	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:23		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.640	12.640	0.000	201999	1.00	0.9218	

Reagents:

WCCLO41st-10_00001 Amount Added: 10.00 Units: uL

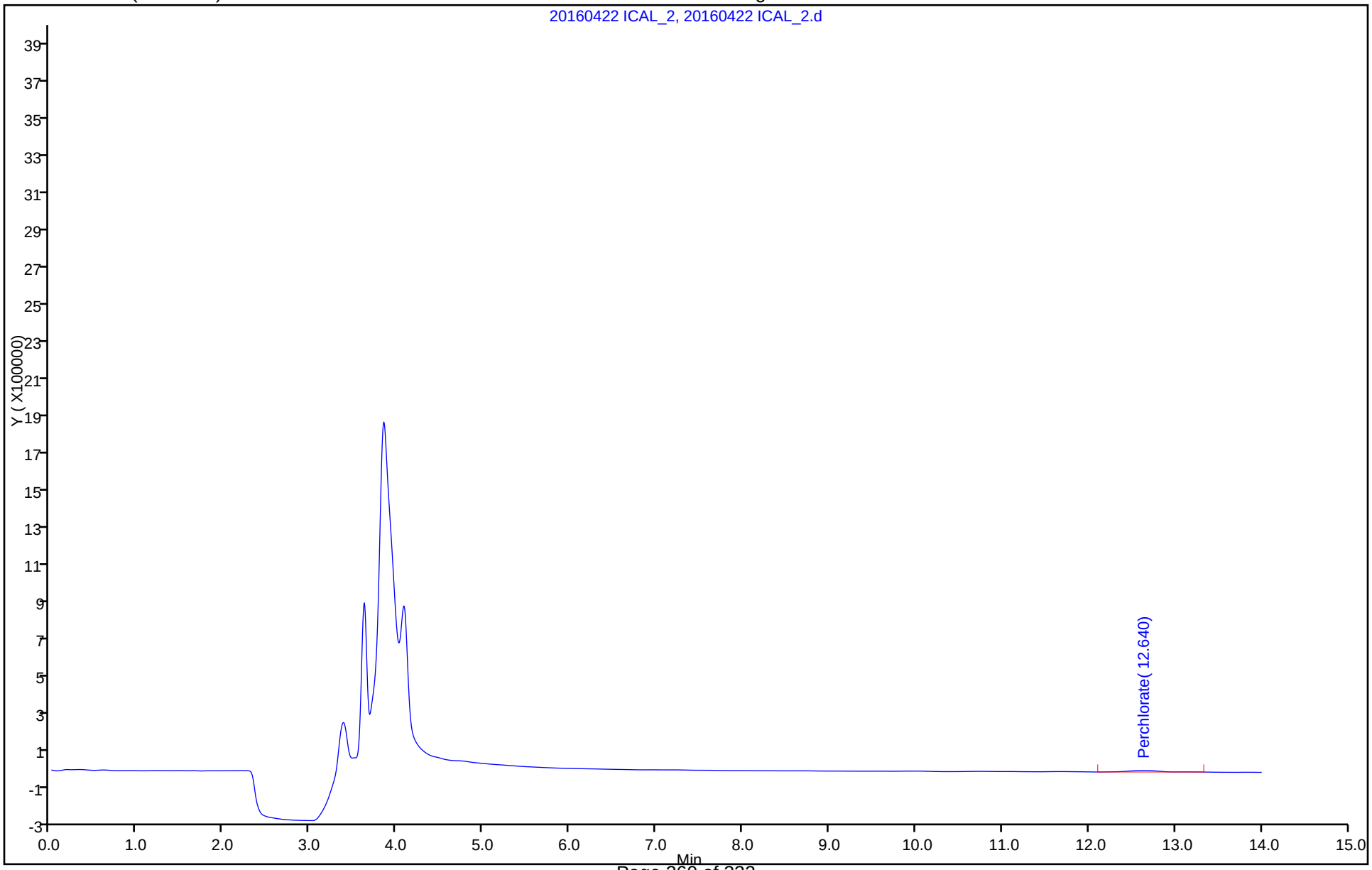
Report Date: 25-Apr-2016 05:36:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_2.d

Injection Date:	22-Apr-2016 15:16:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std2			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d				
Lims ID:	std3				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	22-Apr-2016 15:33:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.654	12.640	0.014	416844	2.00	2.17	

Reagents:

WCCLO41st-10_00001 Amount Added: 20.00 Units: uL

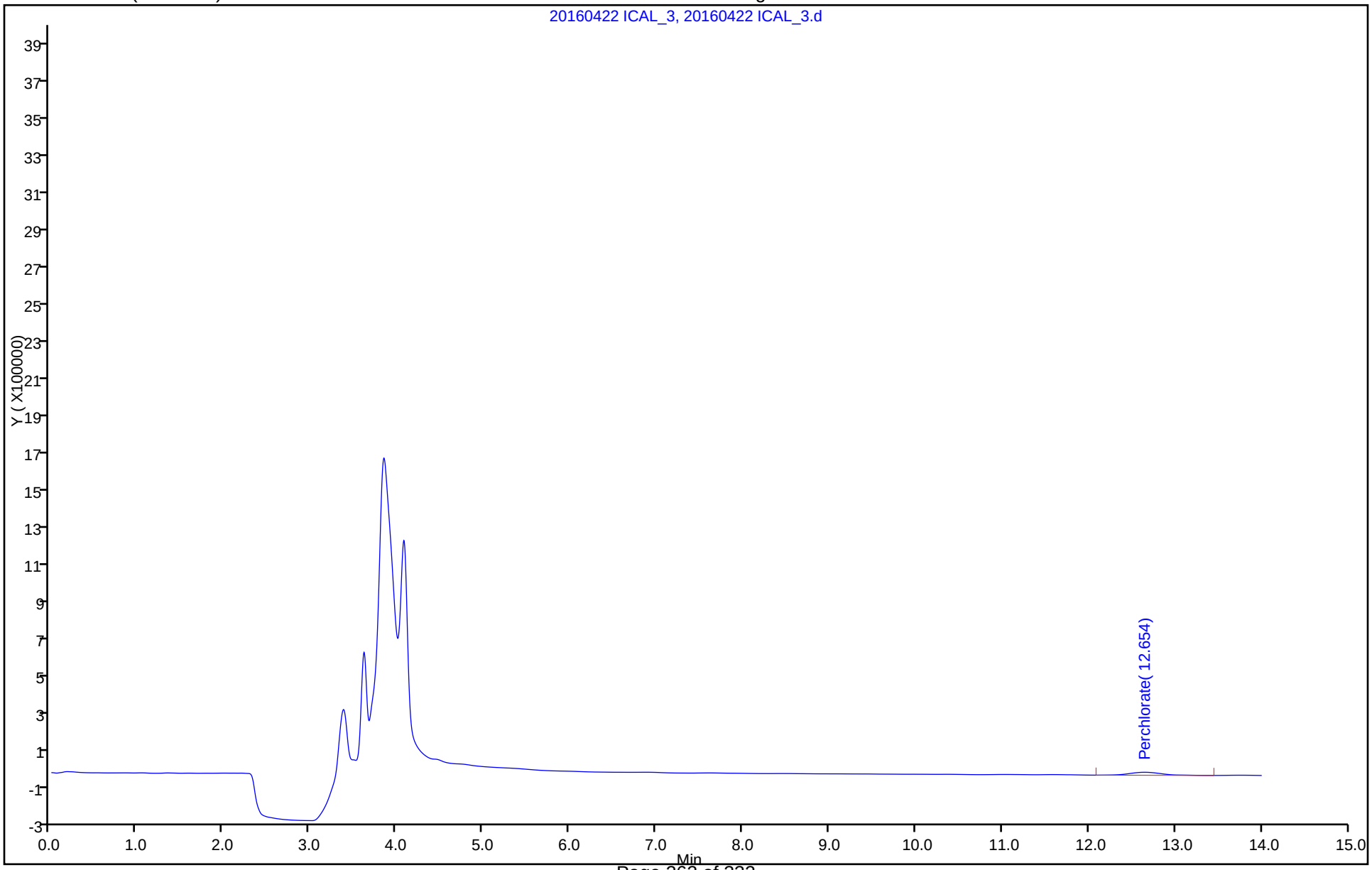
Report Date: 25-Apr-2016 05:36:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_3.d

Injection Date:	22-Apr-2016 15:33:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std3			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d				
Lims ID:	std4				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	22-Apr-2016 15:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:55	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:33:49		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.647	12.640	0.007	773758	4.00	4.23	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

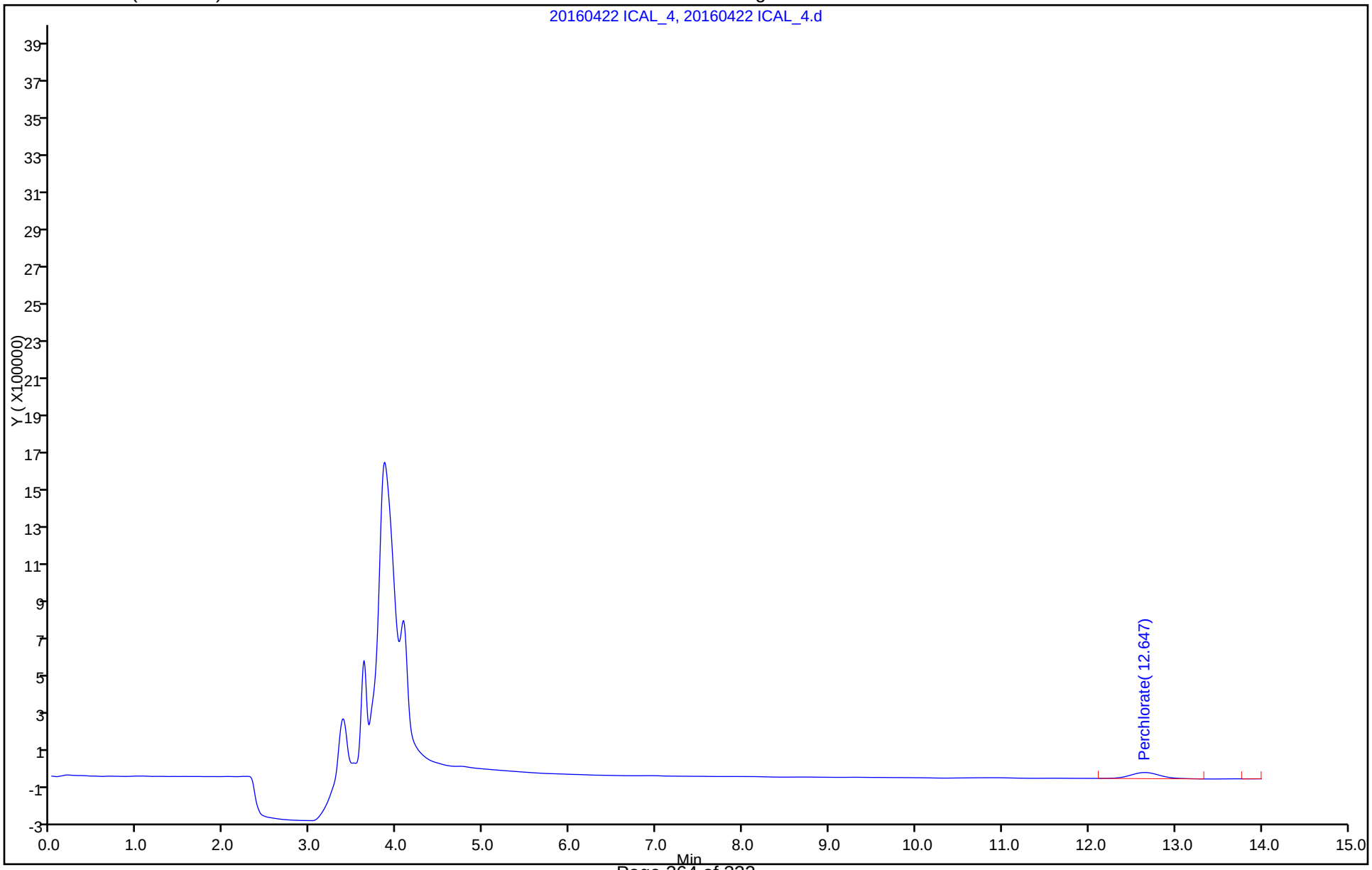
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_4.d

Injection Date:	22-Apr-2016 15:50:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std4			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d				
Lims ID:	std5				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	22-Apr-2016 16:07:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:02		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.651	12.640	0.011	1786170	10.0	10.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 100.00 Units: uL

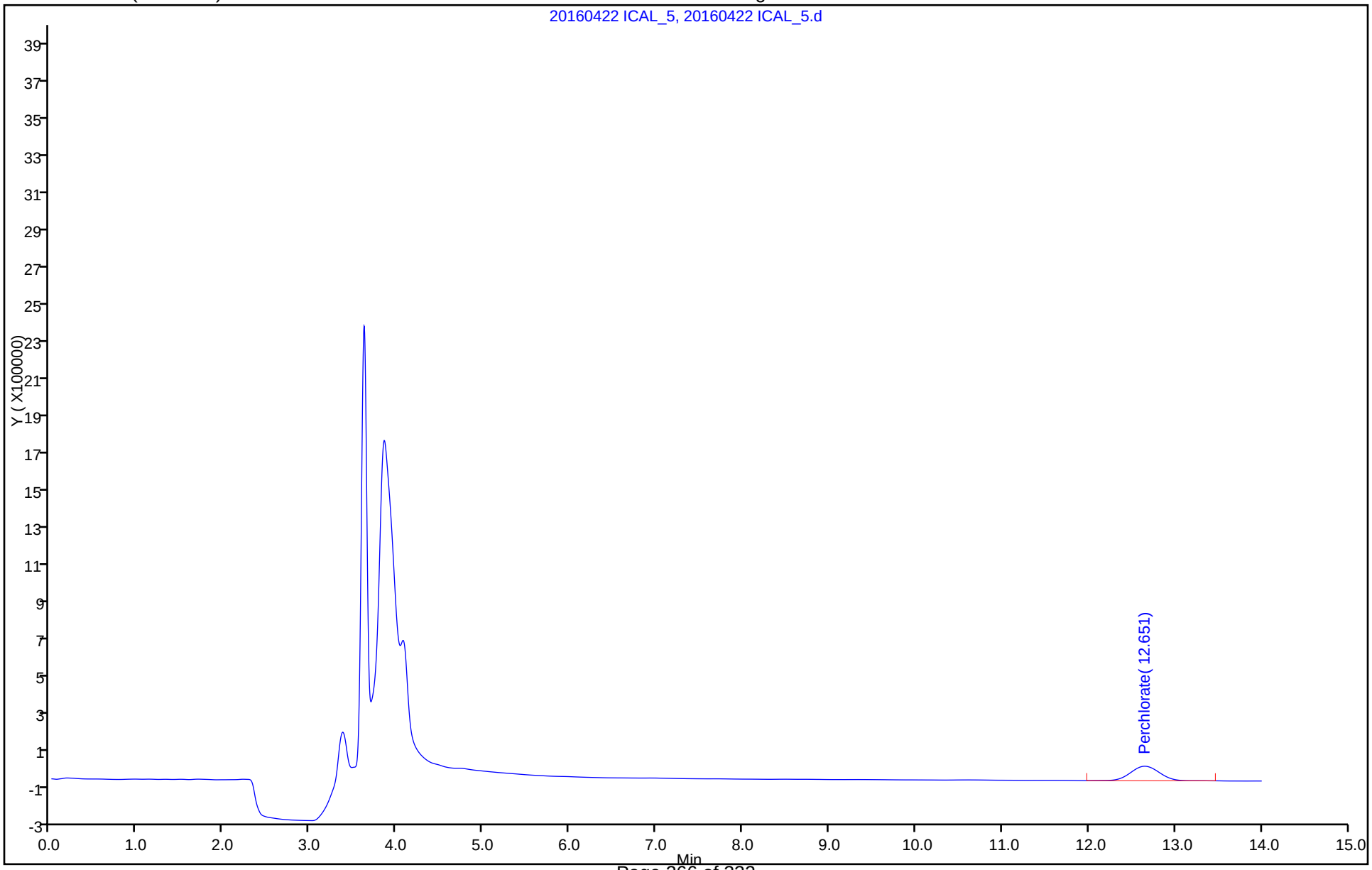
Report Date: 25-Apr-2016 05:36:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_5.d

Injection Date:	22-Apr-2016 16:07:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std5			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d				
Lims ID:	std6				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	22-Apr-2016 16:24:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-006				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:56	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:15		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.621	12.640	-0.019	4421988	25.0	24.8	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

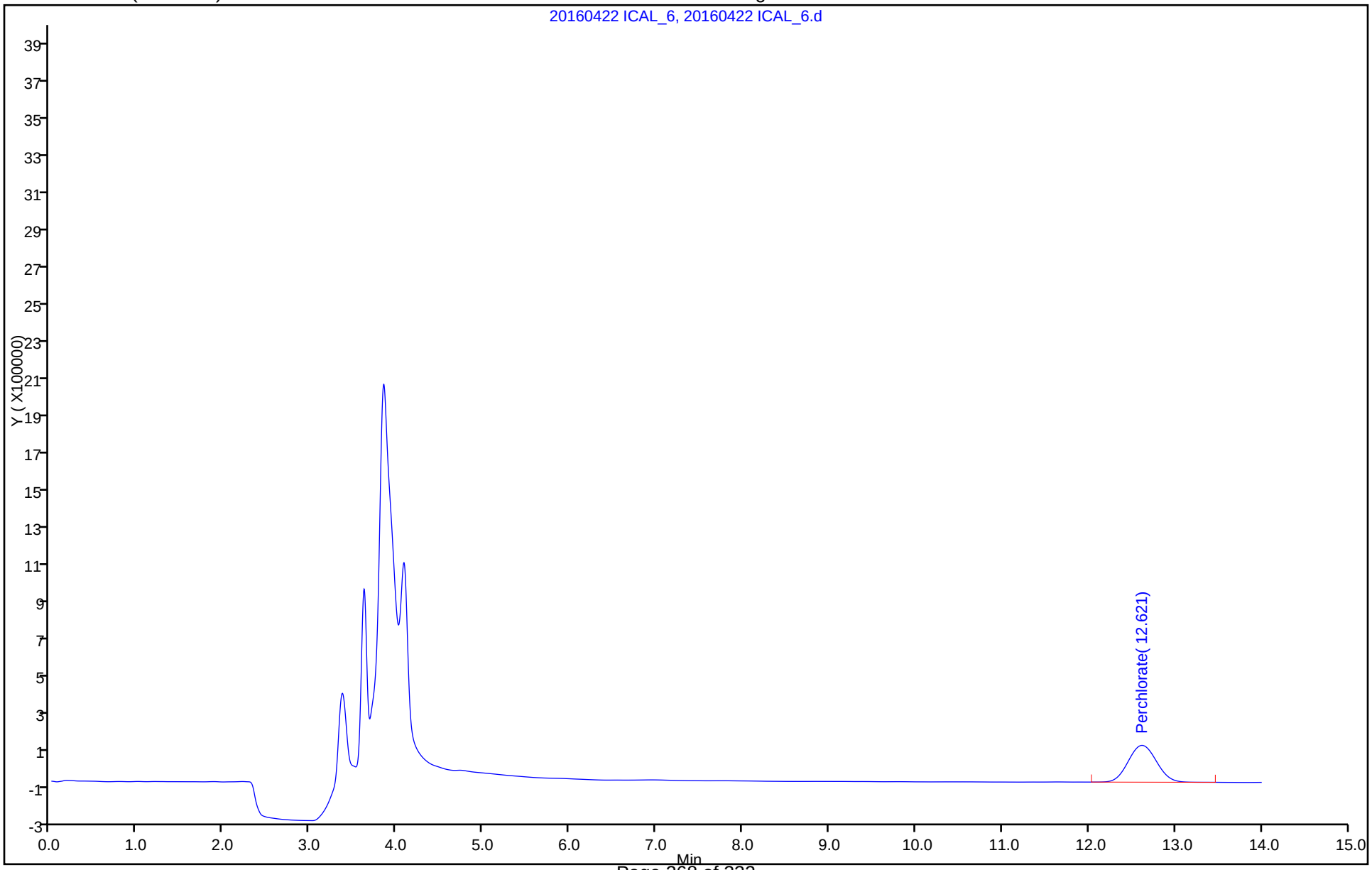
Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_6.d

Injection Date:	22-Apr-2016 16:24:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	std6			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d				
Lims ID:	std7				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	22-Apr-2016 16:41:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-007				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:57	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:26		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.594	12.640	-0.046	9086740	50.0	50.1	

Reagents:

WCCLO41st-10_00001 Amount Added: 500.00 Units: uL

Report Date: 25-Apr-2016 05:36:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_7.d

Injection Date: 22-Apr-2016 16:41:00 Instrument ID: IC-25 Operator ID:

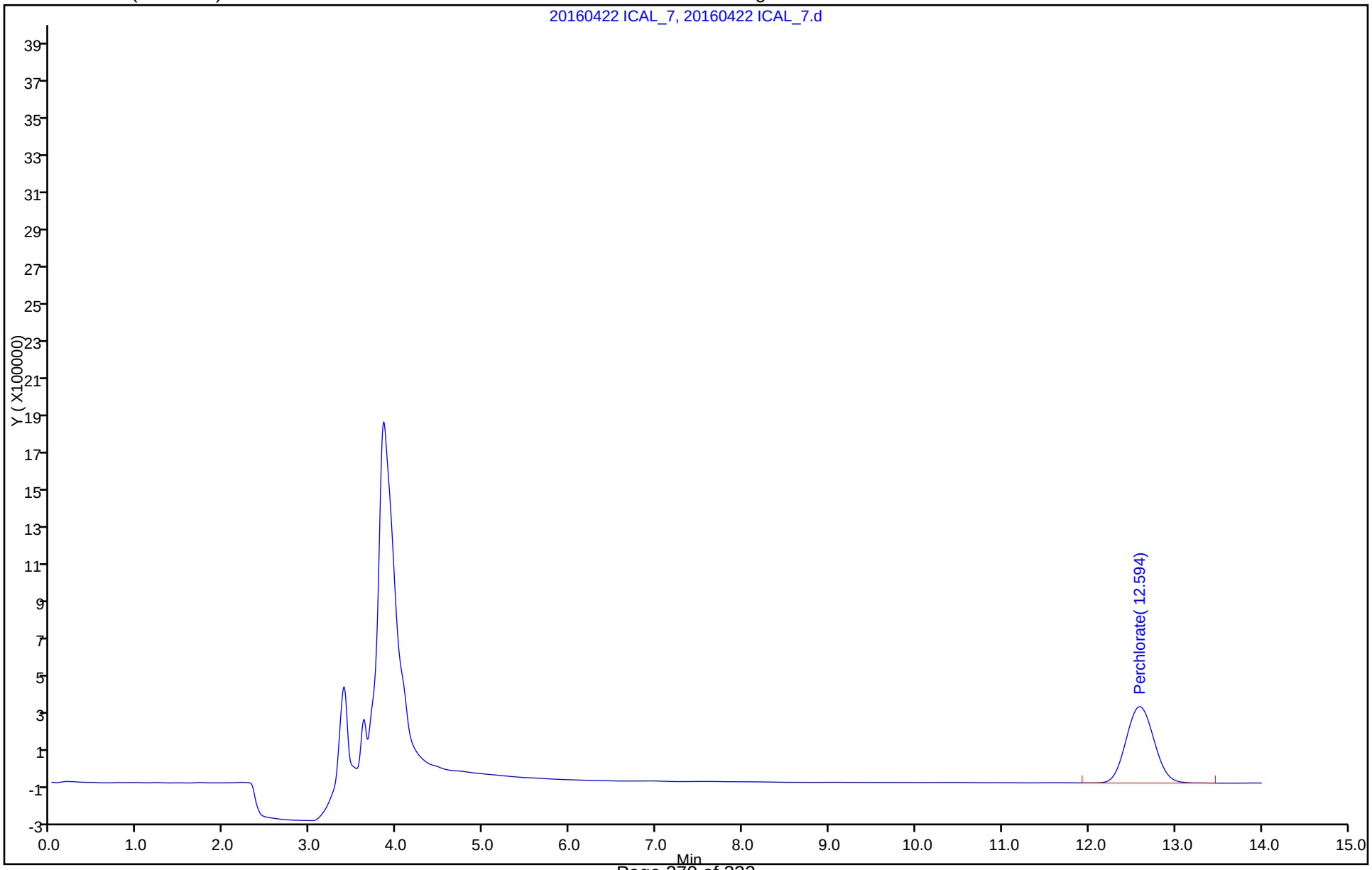
Lims ID: std7 Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Lims ID:	std8				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	22-Apr-2016 16:58:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072202-008				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	25-Apr-2016 05:36:58	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK009				
First Level Reviewer: hoangch		Date:	25-Apr-2016 05:34:38		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.571	12.640	-0.069	18981540	100.0	100.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 1000.00 Units: uL

Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Injection Date: 22-Apr-2016 16:58:00 Instrument ID: IC-25 Operator ID:

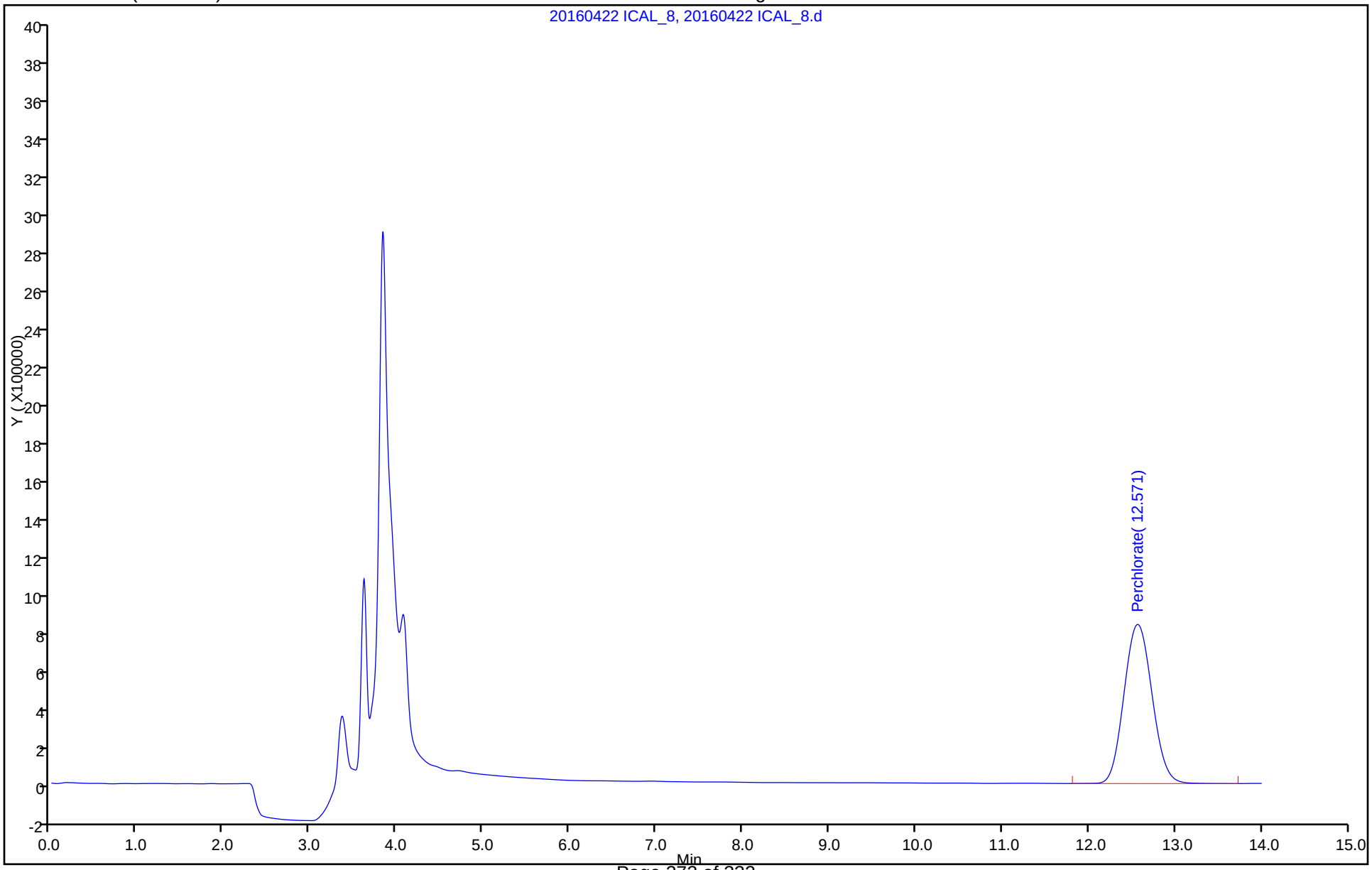
Lims ID: std8 Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				49.8	50.0	100	90-110

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.58	12.01	13.27

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 22-Apr-2016 17:14:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 440-0072202-009
Misc. Info.: ch
Operator ID: Instrument ID: IC-25
Sublist:

Method: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\314_25perchlorate.m
Limit Group: IC-314
Method Label: PERCHLORATE
Last Update: 25-Apr-2016 05:36:58 Calib Date: 22-Apr-2016 16:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d

Column 1 : AS16 (4.00 mm) Det: Ch-A-20111003029
Process Host: XAWRK009

First Level Reviewer: hoangch Date: 25-Apr-2016 05:34:50

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.581	12.640	-0.059	9029765	50.0	49.8	

Reagents:

WCCLO4ICV10_00019 Amount Added: 500.00 Units: uL

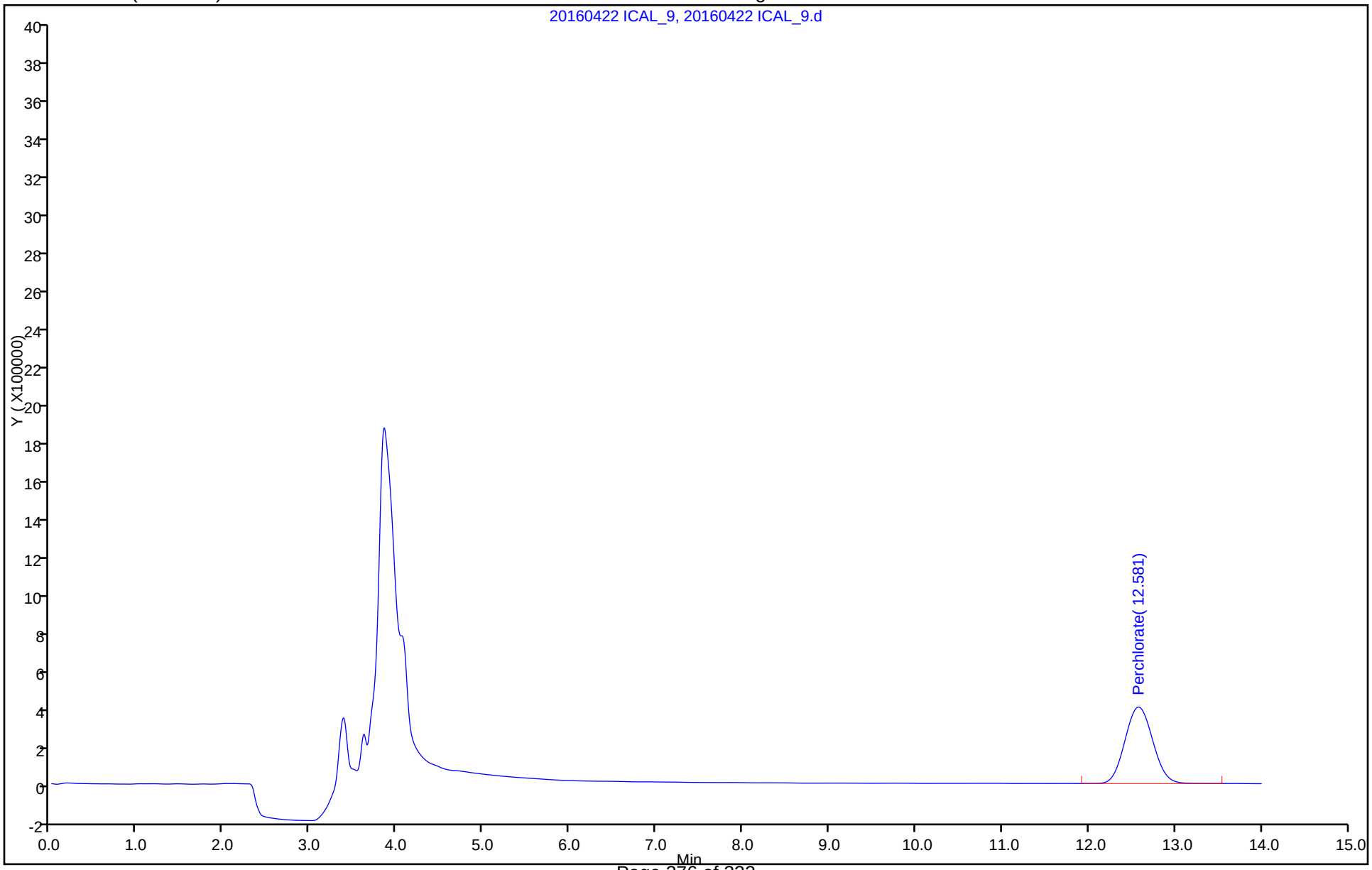
Report Date: 25-Apr-2016 05:36:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_9.d

Injection Date:	22-Apr-2016 17:14:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	icv			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-327943/1002 Calibration Date: 05/03/2016 09:43

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_2-CCV.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.5	25.0	98	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-327943/1002 Calibration Date: 05/03/2016 09:43

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_2-CCV.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.49	11.92	13.18

Form VII 314.0

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_2-CCV.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	03-May-2016 09:43:00	ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

First Level Reviewer: hoangch Date: 03-May-2016 14:29:43

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.494	12.547	-0.053	4351582	25.0	24.5	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 03-May-2016 14:30:59 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_2-CCV.d

Injection Date: 03-May-2016 09:43:00 Instrument ID: IC-25 Operator ID:

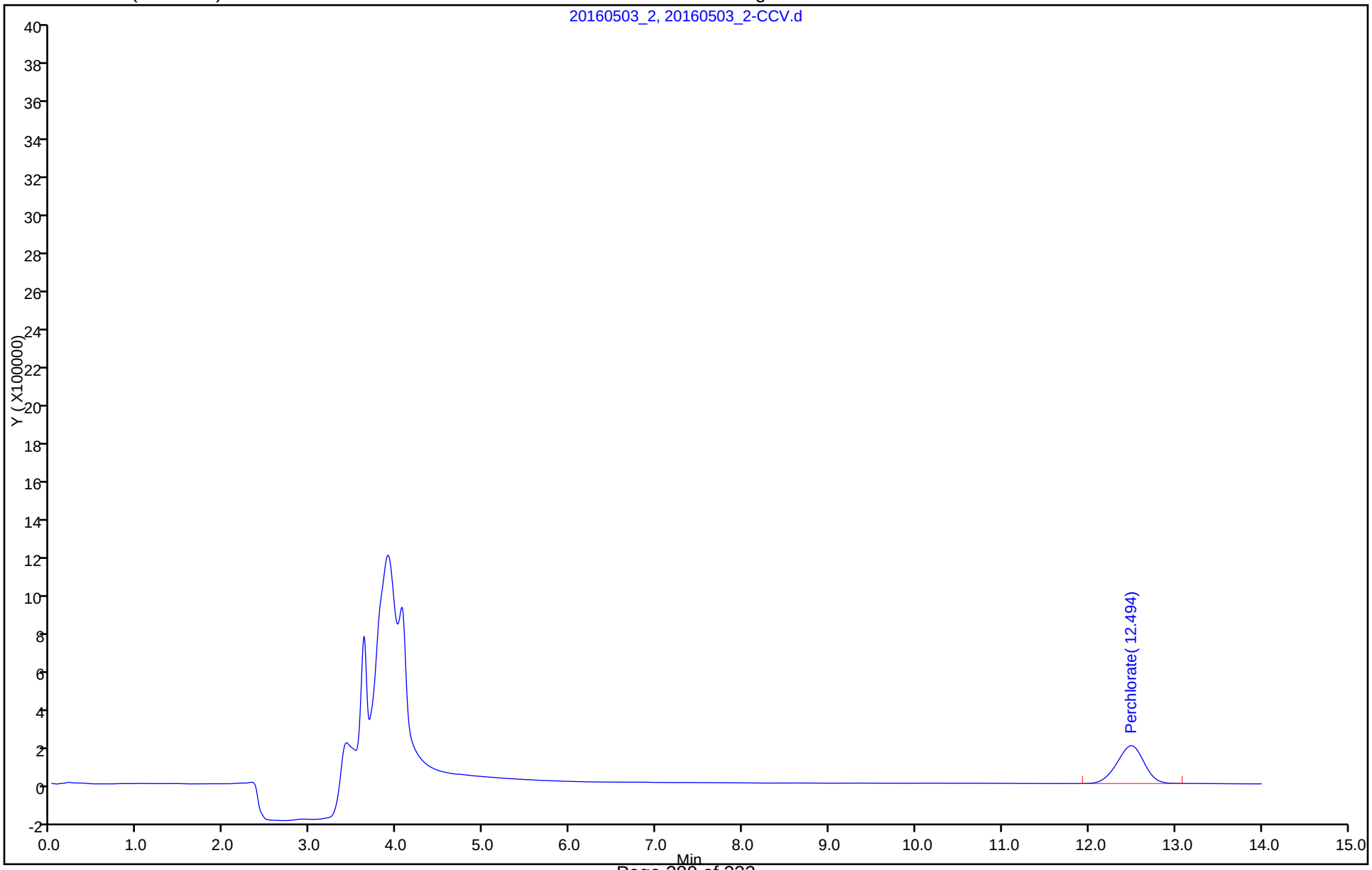
Lims ID: CCV Worklist Smp#: 1002

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Laboratories

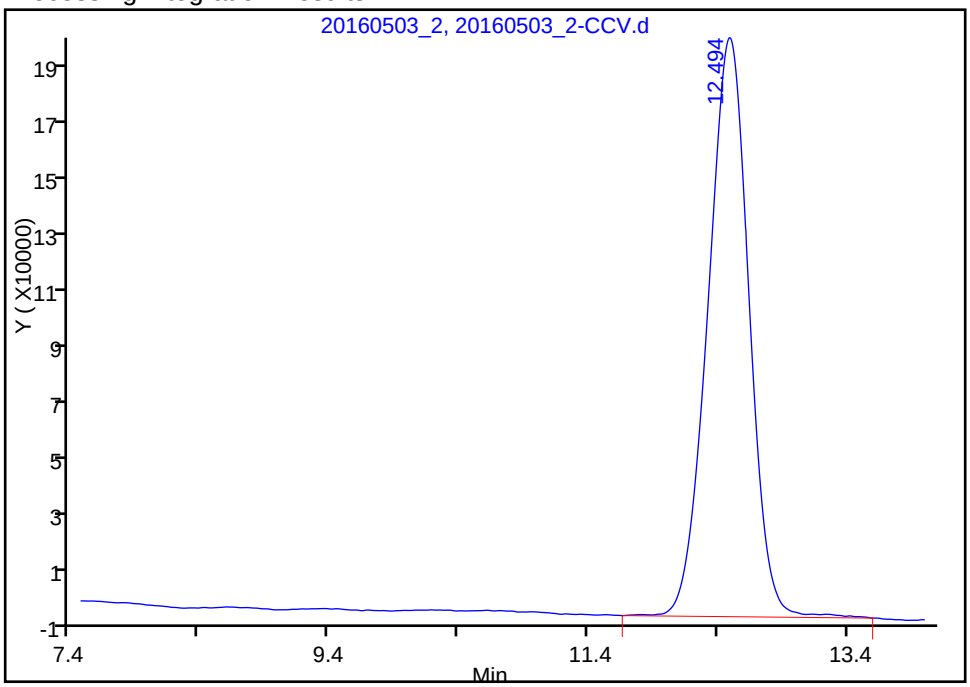
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_2-CCV.d				
Injection Date:	03-May-2016 09:43:00	Instrument ID:	IC-25		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1002
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

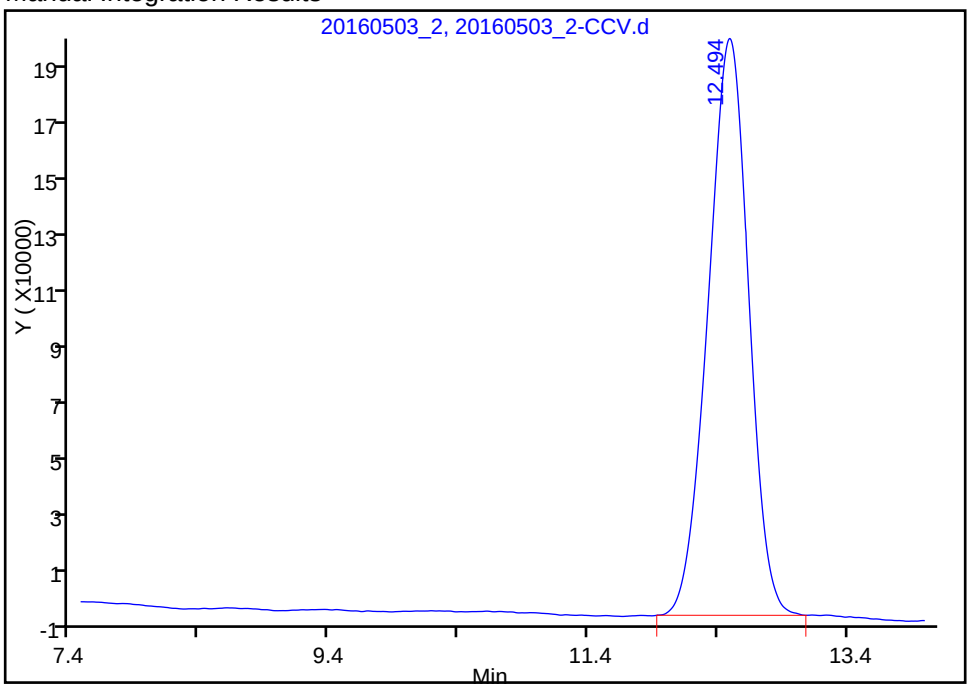
Processing Integration Results

RT: 12.49
Area: 4433742
Amount: 24.908785
Amount Units: ug/l



Manual Integration Results

RT: 12.49
Area: 4351582
Amount: 24.453693
Amount Units: ug/l



Reviewer: hoangch, 03-May-2016 14:29:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-327943/16 Calibration Date: 05/03/2016 14:10

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_16.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				26.0	25.0	104	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Lab Sample ID: CCV 440-327943/16 Calibration Date: 05/03/2016 14:10

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_16.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.59	11.96	13.22

Form VII 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_16.d				
Lims ID:	ccv 25				
Client ID:					
Sample Type:	CCV				
Inject. Date:	03-May-2016 14:10:00	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-016				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:	chrom-314_25perchlorate*sub1				
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:31:15	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.594	12.594	0.000	4626833	25.0	26.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

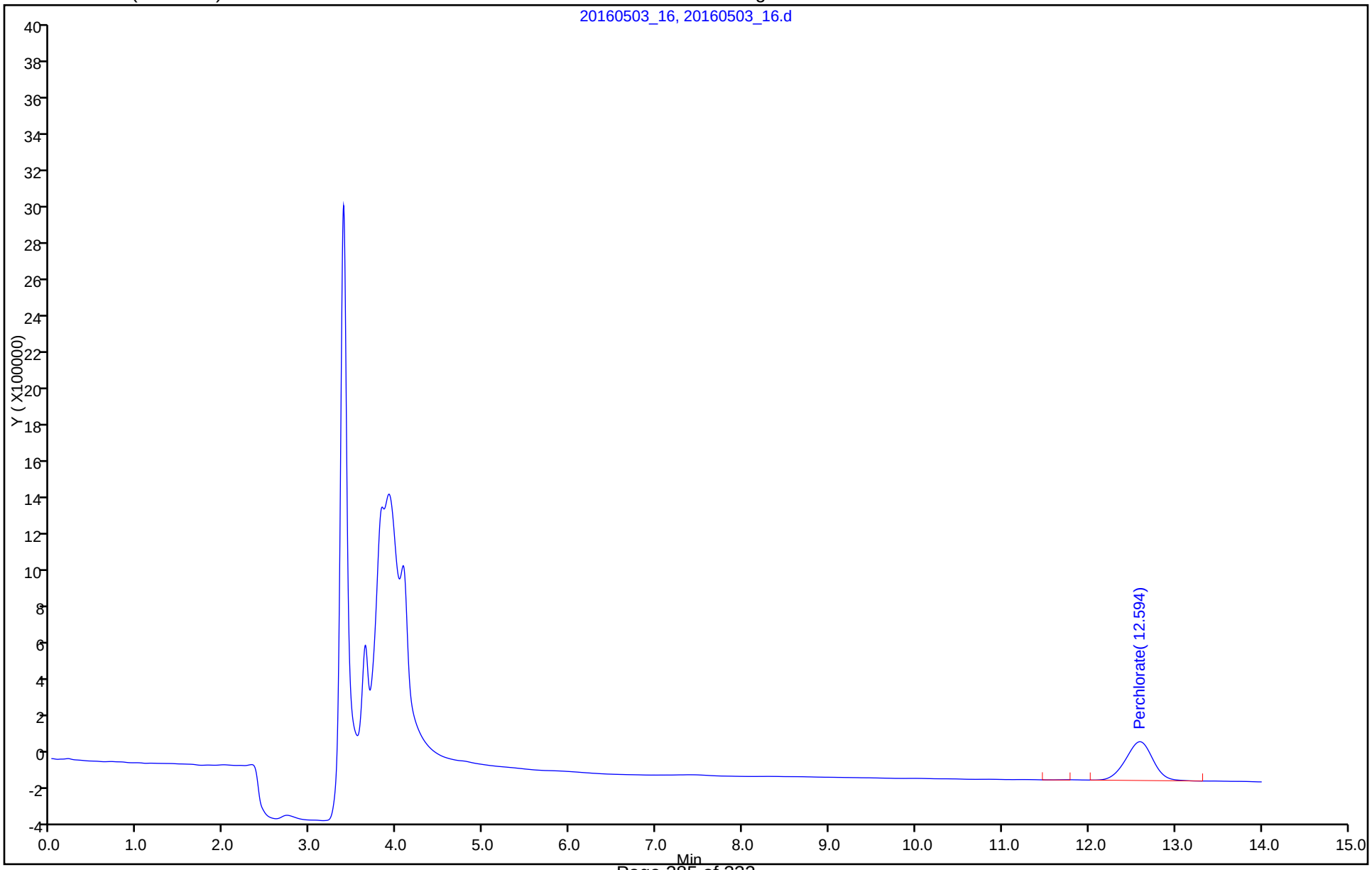
Report Date: 03-May-2016 14:31:15 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_16.d

Injection Date:	03-May-2016 14:10:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	ccv 25			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327943/3
Matrix: Water
Lab File ID: 20160503_3.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 10:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_3.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	03-May-2016 10:00:00	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 14:31:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_3.d

Injection Date: 03-May-2016 10:00:00 Instrument ID: IC-25 Operator ID:

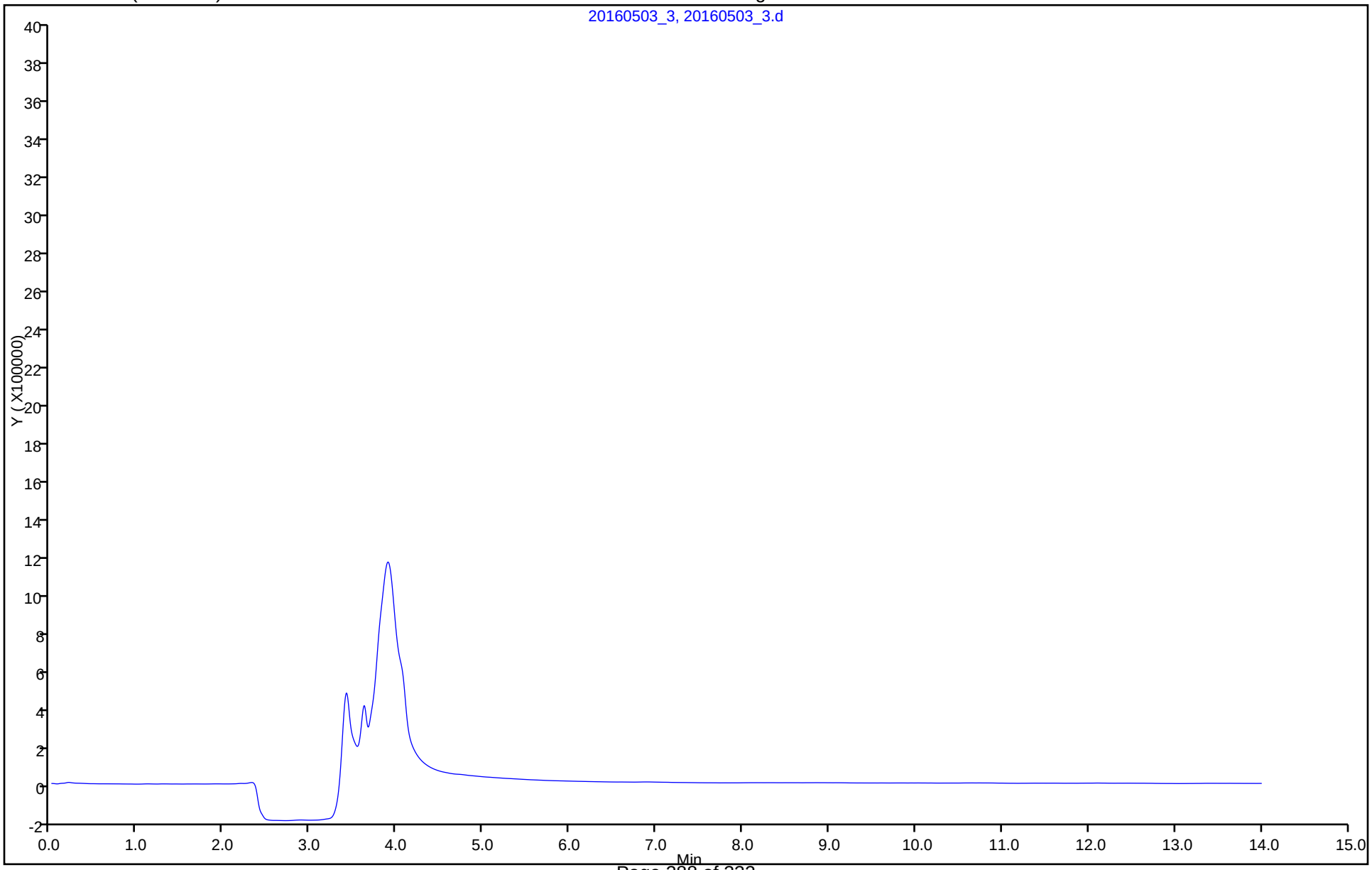
Lims ID: MB Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327943/17
Matrix: Water
Lab File ID: 20160503_17.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 14:26
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_17.d				
Lims ID:	ccb				
Client ID:					
Sample Type:	CCB				
Inject. Date:	03-May-2016 14:26:00	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-017				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 14:31:15	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 14:50:30 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_17.d

Injection Date: 03-May-2016 14:26:00 Instrument ID: IC-25 Operator ID:

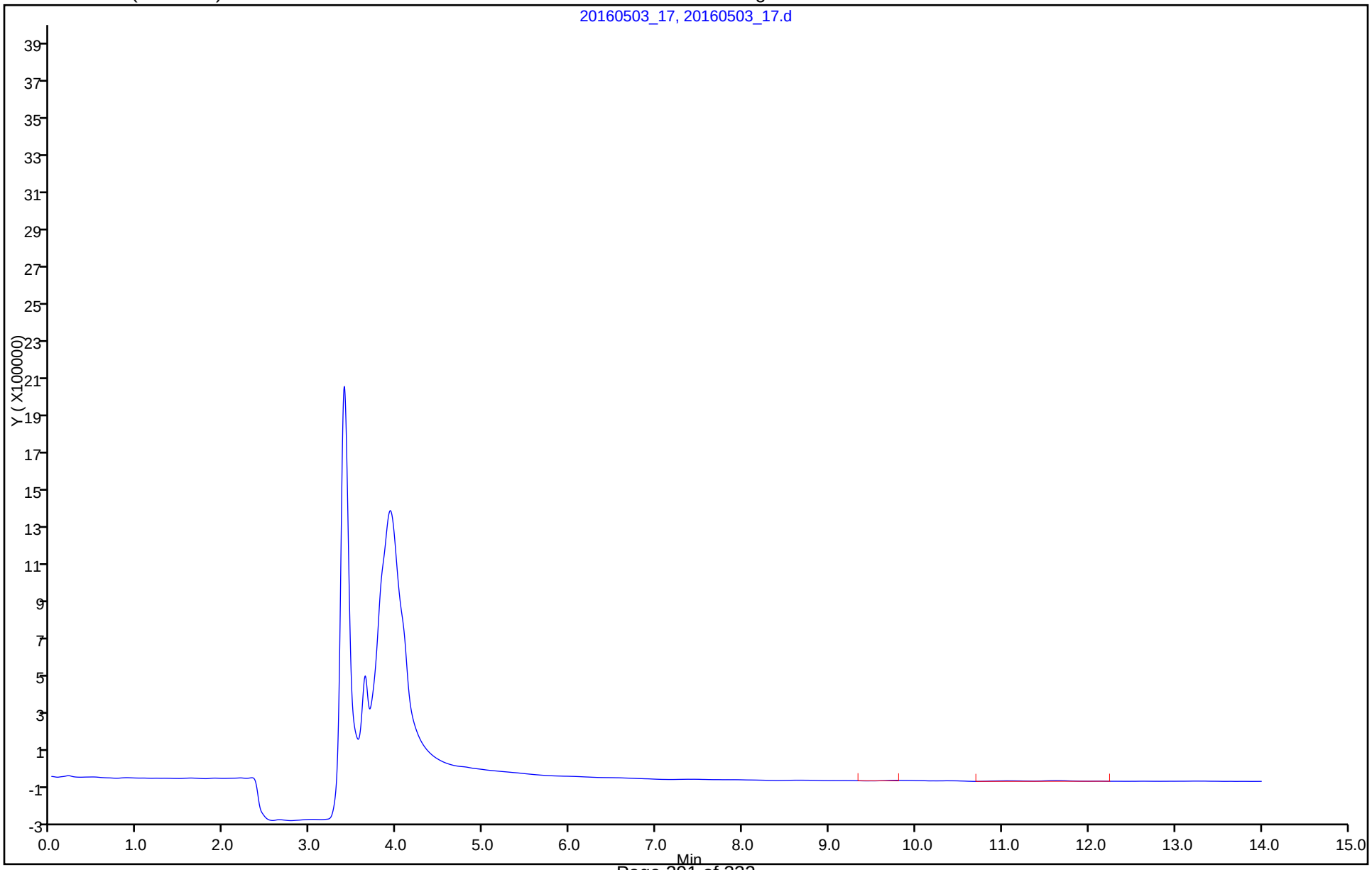
Lims ID: ccb Worklist Smp#: 17

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327943/1003
Matrix: Water
Lab File ID: 20160503_3-CCB.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 10:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

TestAmerica Laboratories
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_3-CCB.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	03-May-2016 10:00:00	ALS Bottle#:	0	Worklist Smp#:	1003
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-003				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-May-2016 14:31:01 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_3-CCB.d

Injection Date: 03-May-2016 10:00:00 Instrument ID: IC-25 Operator ID:

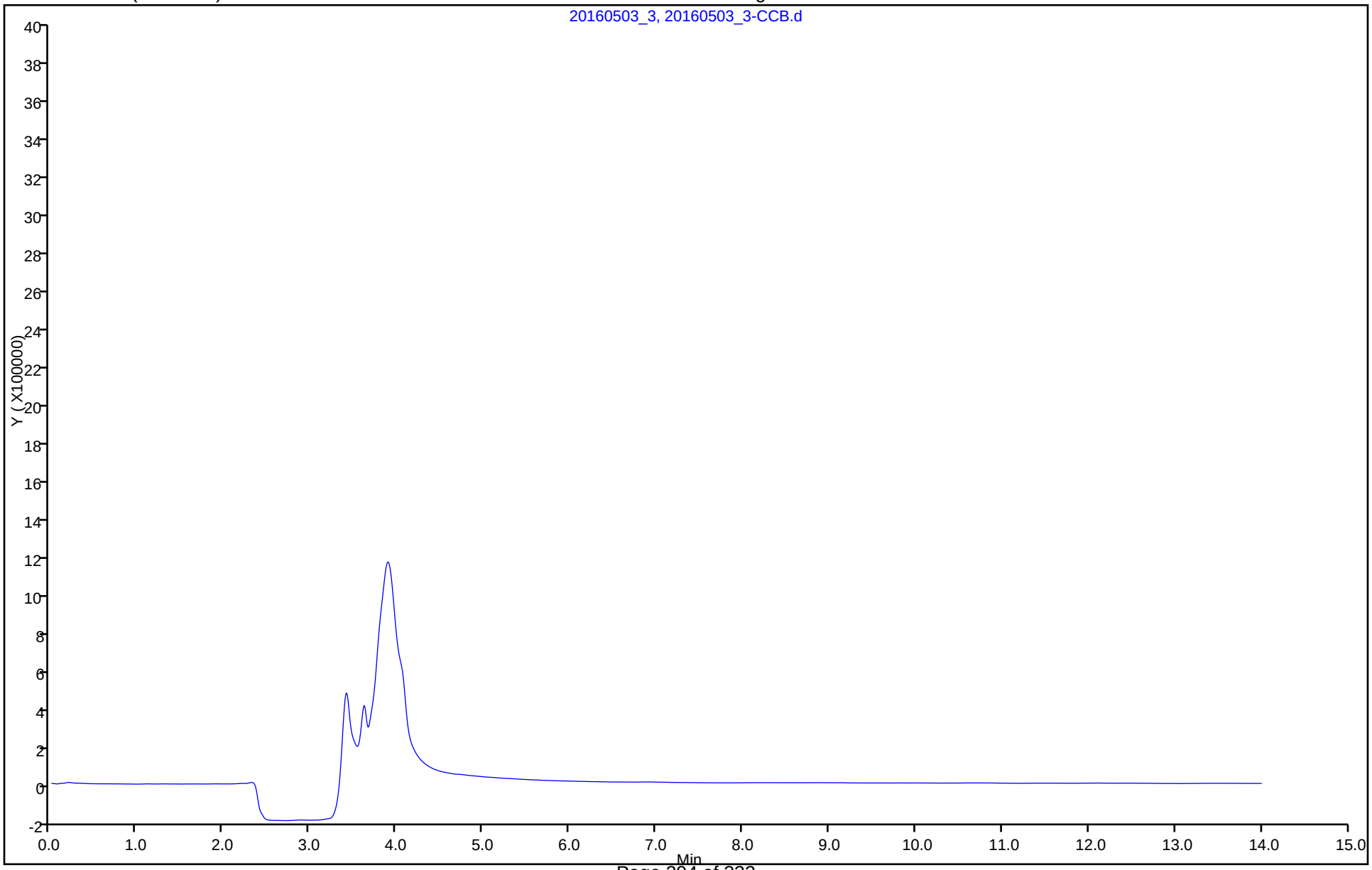
Lims ID: CCB Worklist Smp#: 1003

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327943/2
Matrix: Water
Lab File ID: 20160503_2.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 09:43
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	24.5		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_2.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	03-May-2016 09:43:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-002				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

First Level Reviewer: hoangch Date: 03-May-2016 14:29:43

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.494	12.547	-0.053	4351582	25.0	24.5	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 03-May-2016 14:30:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_2.d

Injection Date: 03-May-2016 09:43:00 Instrument ID: IC-25 Operator ID:

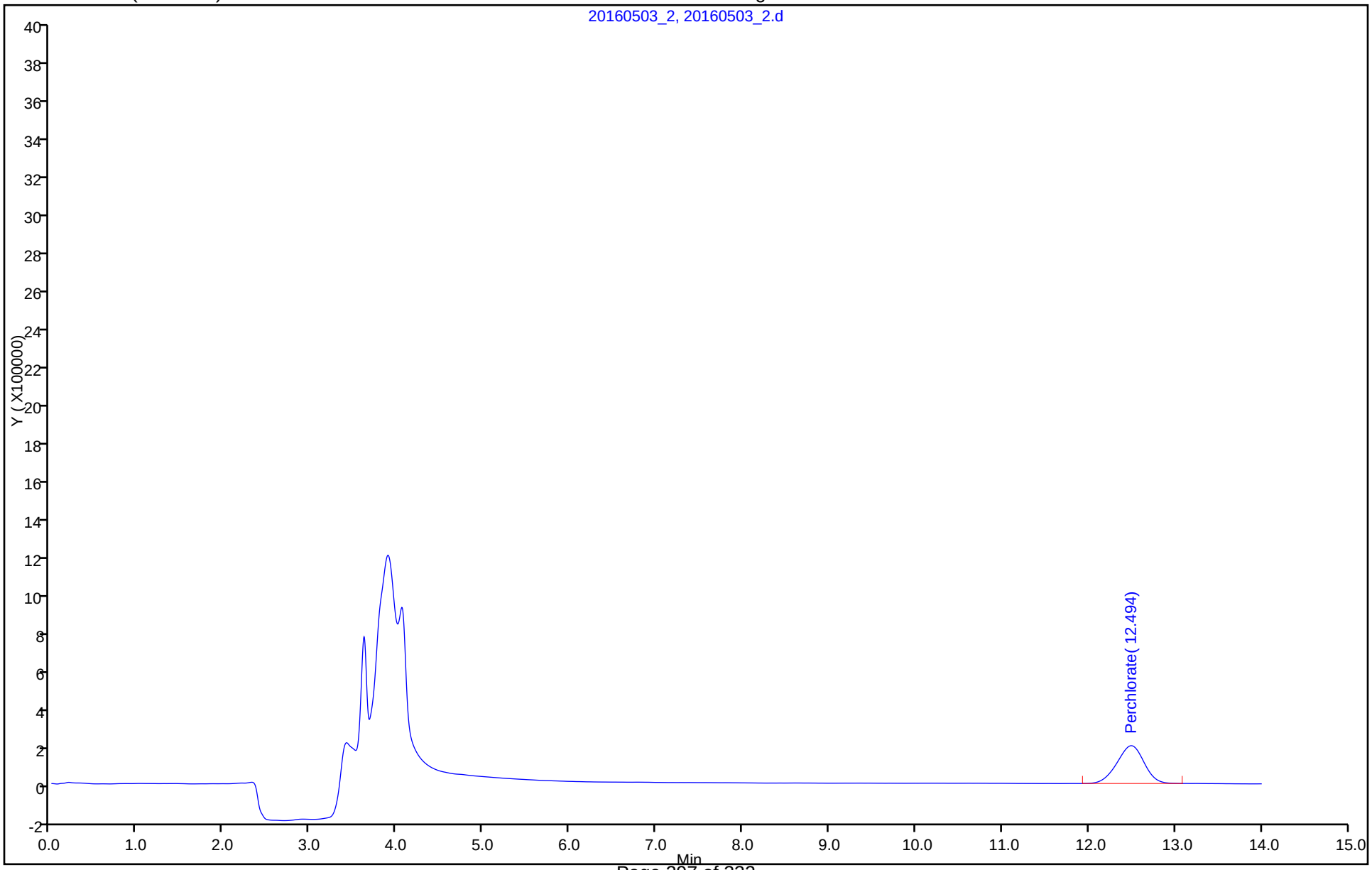
Lims ID: LCS Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine

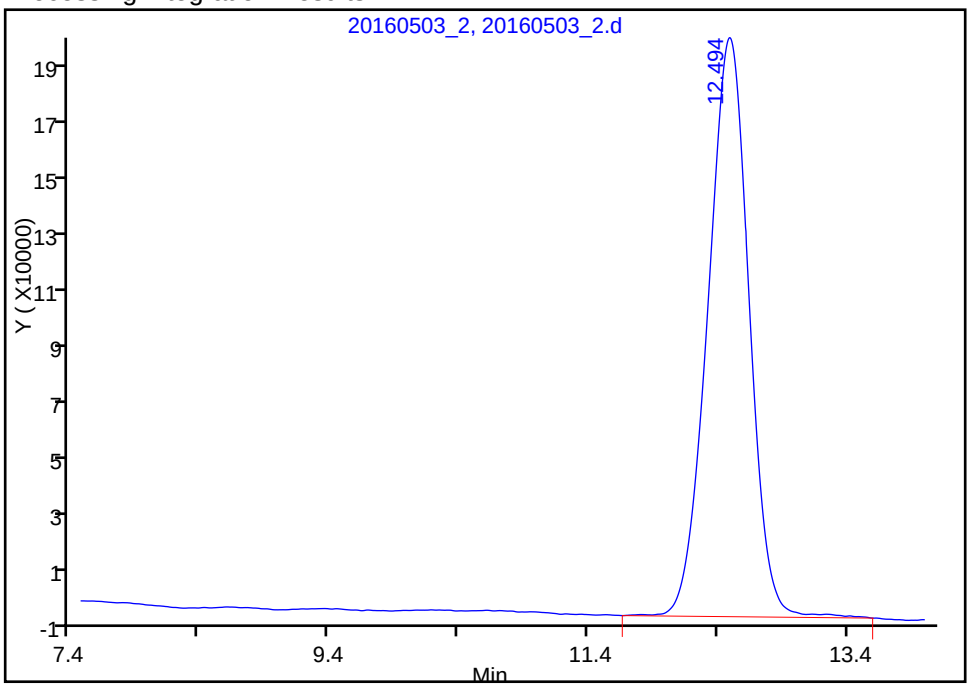
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_2.d				
Injection Date:	03-May-2016 09:43:00	Instrument ID:	IC-25		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

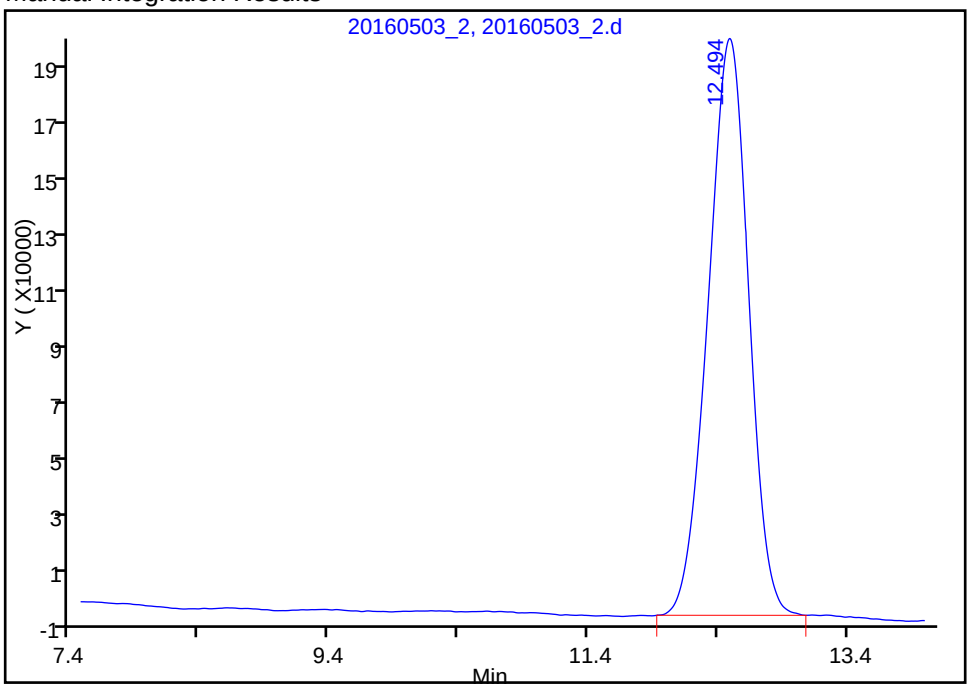
Processing Integration Results

RT: 12.49
Area: 4433742
Amount: 24.908785
Amount Units: ug/l



Manual Integration Results

RT: 12.49
Area: 4351582
Amount: 24.453693
Amount Units: ug/l



Reviewer: hoangch, 03-May-2016 14:29:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-327943/5
Matrix: Water
Lab File ID: 20160503_5.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 10:34
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	3.73	J	4.0	0.95

FORM I 314.0

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_5.d				
Lims ID:	MRL				
Client ID:					
Sample Type:	MRL				
Inject. Date:	03-May-2016 10:34:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-005				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		

Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m		
Limit Group:	IC-314		
Method Label:	PERCHLORATE		
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d		

Column 1 :	AS16 (4.00 mm)	Det: Ch-A-20111003029
Process Host:	XAWRK017	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.501	12.547	-0.046	687557	4.00	3.73	

Reagents:

WCCLO41st-10_00001 Amount Added: 40.00 Units: uL

Report Date: 03-May-2016 14:31:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_5.d

Injection Date: 03-May-2016 10:34:00 Instrument ID: IC-25 Operator ID:

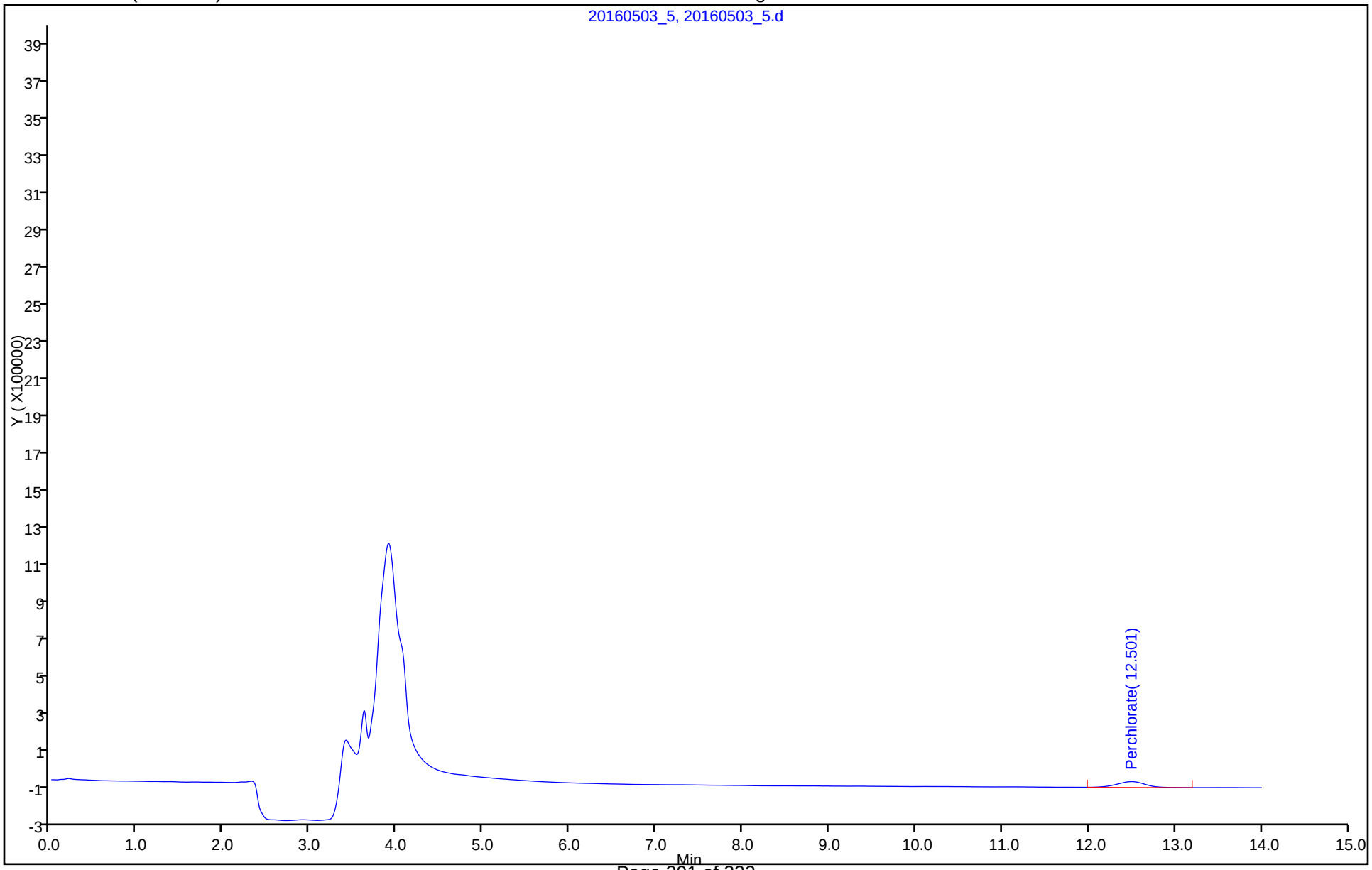
Lims ID: MRL Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID:
Lab Sample ID: INF 440-327943/4
Matrix: Water
Lab File ID: 20160503_4.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 10:17
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	22.8		4.0	0.95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_4.d				
Lims ID:	INF				
Client ID:					
Sample Type:	INF				
Inject. Date:	03-May-2016 10:17:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	440-0072598-004				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Sublist:					
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.390	12.547	-0.157	4048107	25.0	22.8	

Reagents:

WCCLO41st-10_00001 Amount Added: 250.00 Units: uL

Report Date: 03-May-2016 14:31:02 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_4.d

Injection Date: 03-May-2016 10:17:00 Instrument ID: IC-25 Operator ID:

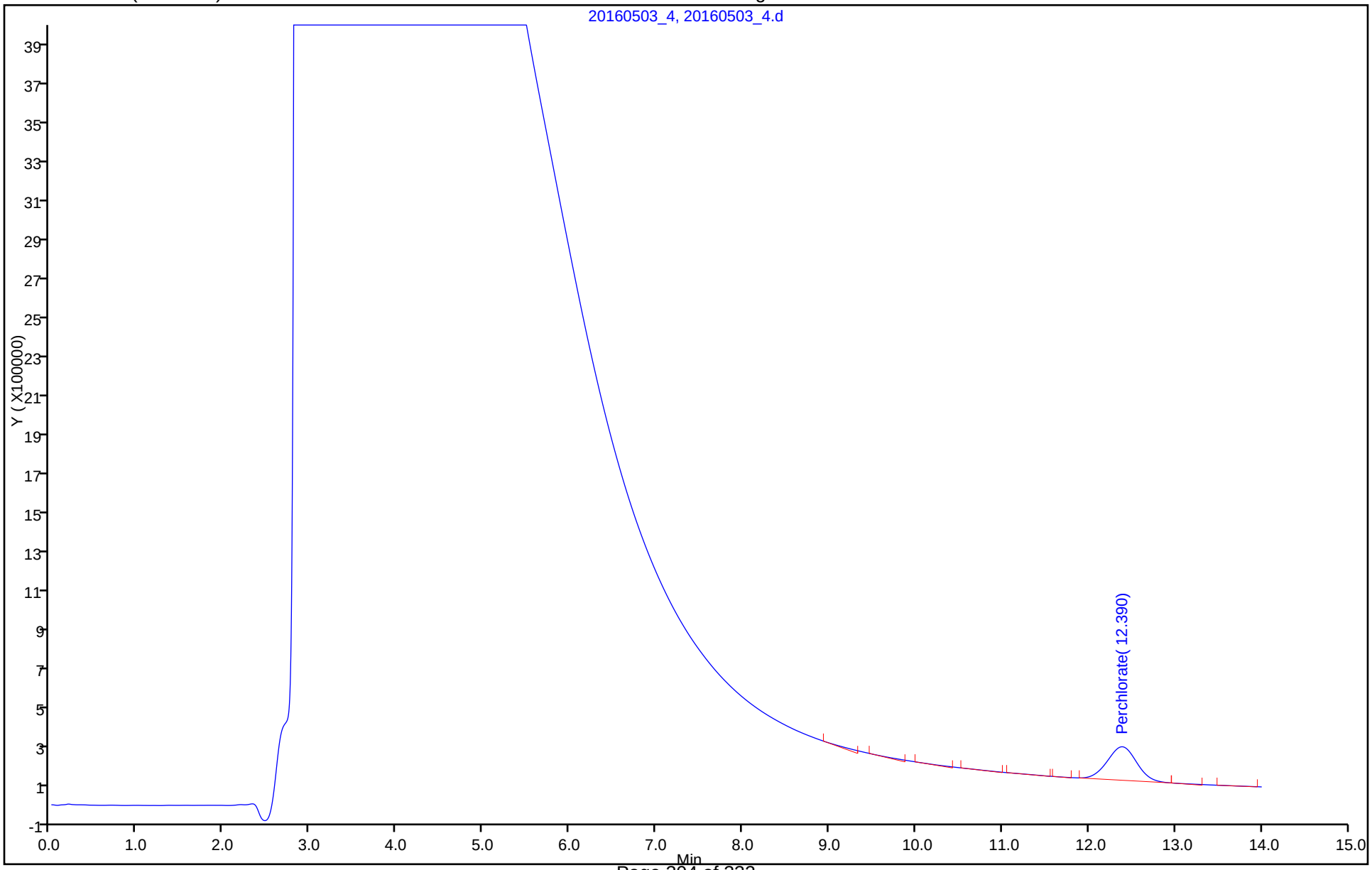
Lims ID: INF Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 314_25perchlorate Limit Group: IC-314

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine | Job No.: 440-145066-1

SDG No.:

Client Sample ID: MW-04-20160420 MS | Lab Sample ID: 440-145066-5 MS

Matrix: Water | Lab File ID: 20160503_11.d

Analysis Method: 314.0 | Date Collected: 04/20/2016 14:00

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 05/03/2016 12:45

Con. Extract Vol.: | Dilution Factor: 100

Injection Volume: 1(uL) | GC Column: AS7 ID: 4(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 327943 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8620		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_11.d				
Lims ID:	440-145066-C-5 MS				
Client ID:	MW-04-20160420				
Sample Type:	MS				
Inject. Date:	03-May-2016 12:45:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072598-011				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

First Level Reviewer: hoangch Date: 03-May-2016 14:30:10

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.537	12.547	-0.010	16152865	0.2500	86.2	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

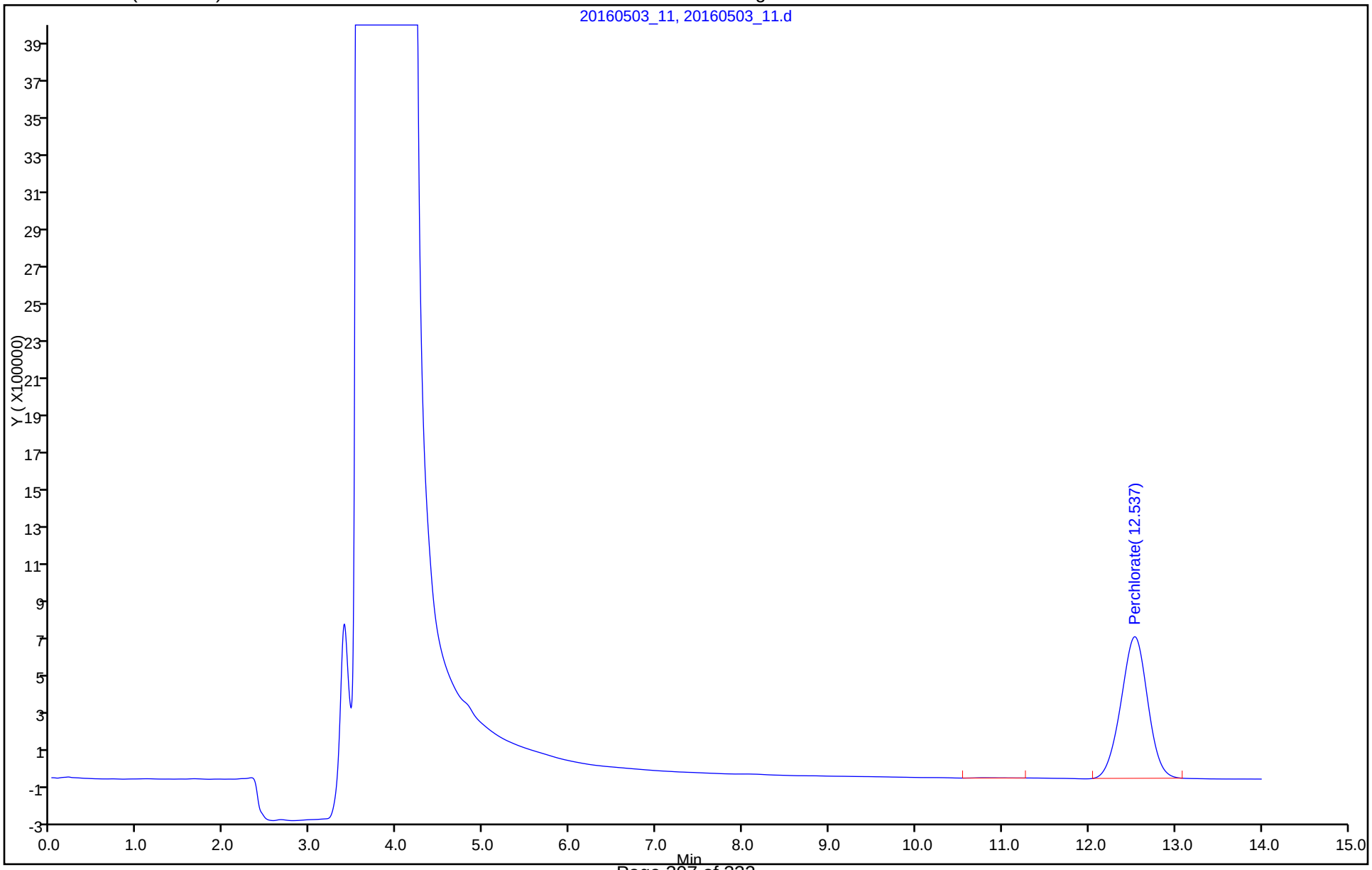
Report Date: 03-May-2016 14:31:10 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_11.d

Injection Date:	03-May-2016 12:45:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-145066-C-5 MS			Worklist Smp#:	11
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



TestAmerica Irvine

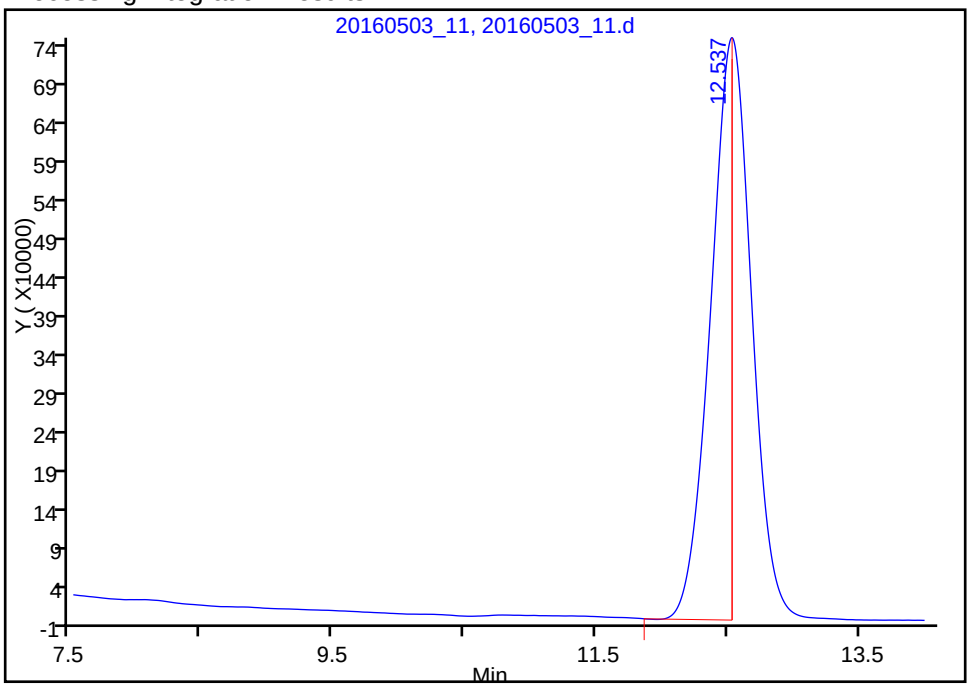
Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_11.d				
Injection Date:	03-May-2016 12:45:00	Instrument ID:	IC-25		
Lims ID:	440-145066-C-5 MS				
Client ID:	MW-04-20160420				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Method:	314_25perchlorate	Limit Group:	IC-314		
Column:	AS16 (4.00 mm)	Detector	Ch-A-20111003029		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

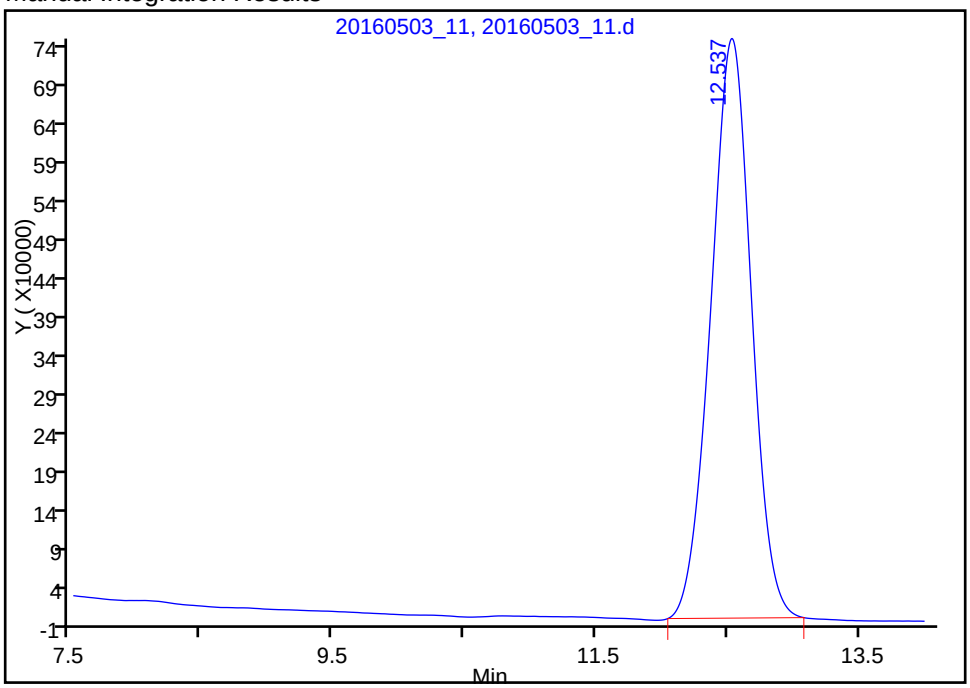
Processing Integration Results

RT: 12.54
Area: 8408844
Amount: 46.467430
Amount Units: ug/l



Manual Integration Results

RT: 12.54
Area: 16152865
Amount: 86.159938
Amount Units: ug/l



Reviewer: hoangch, 03-May-2016 14:30:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG No.:
Client Sample ID: MW-04-20160420 MSD
Lab Sample ID: 440-145066-5 MSD
Matrix: Water
Lab File ID: 20160503_12.d
Analysis Method: 314.0
Date Collected: 04/20/2016 14:00
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 13:02
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	8700		400	95

TestAmerica Irvine
Target Compound Quantitation Report

Data File:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_12.d				
Lims ID:	440-145066-C-5 MSD				
Client ID:	MW-04-20160420				
Sample Type:	MSD				
Inject. Date:	03-May-2016 13:02:00	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	100.0000		
Sample Info:	440-0072598-012				
Misc. Info.:	ch				
Operator ID:		Instrument ID:	IC-25		
Method:	\\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\314_25perchlorate.m				
Limit Group:	IC-314				
Method Label:	PERCHLORATE				
Last Update:	03-May-2016 14:30:10	Calib Date:	22-Apr-2016 16:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Irvine\ChromData\IC25\20160422-72202.b\20160422 ICAL_8.d				
Column 1 :	AS16 (4.00 mm)		Det: Ch-A-20111003029		
Process Host:	XAWRK017				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Perchlorate	12.534	12.547	-0.013	16325348	0.2500	87.0	

Reagents:

WCCLO41st-10_00001 Amount Added: 25.00 Units: uL

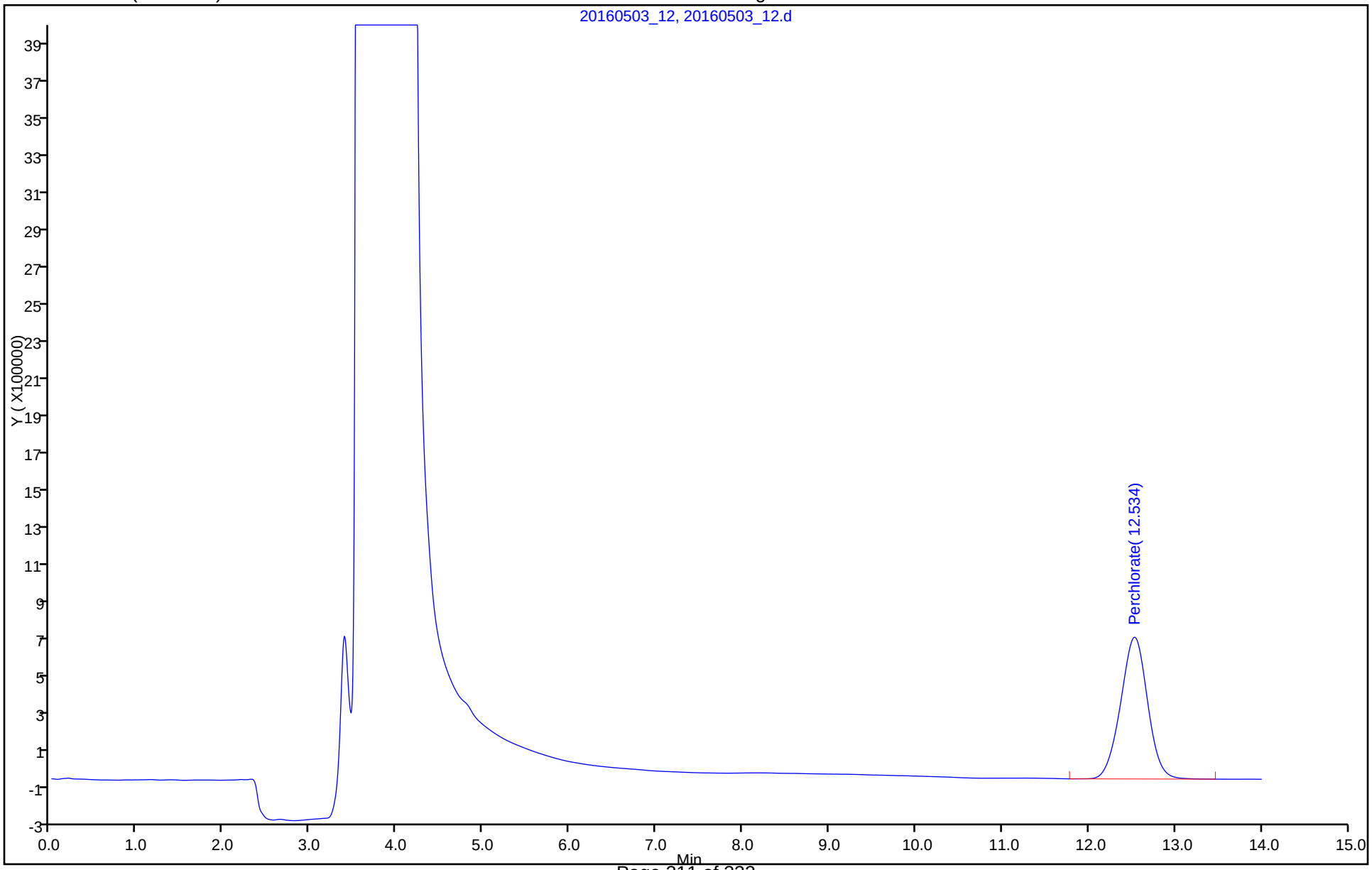
Report Date: 03-May-2016 14:31:11 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Irvine

Data File: \\ChromNA\Irvine\ChromData\IC25\20160503-72598.b\20160503_12.d

Injection Date:	03-May-2016 13:02:00	Instrument ID:	IC-25	Operator ID:	
Lims ID:	440-145066-C-5 MSD			Worklist Smp#:	12
Client ID:	MW-04-20160420				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	314_25perchlorate	Limit Group:	IC-314		

Column: AS16 (4.00 mm) Y Scaling: Method Defined: Set to Absolute Y Value



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/22/2016 15:00

Analysis Batch Number: 325991 End Date: 04/22/2016 17:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 440-325991/1 IC		04/22/2016 15:00	1		AS7 4(mm)
STD2 440-325991/2 IC		04/22/2016 15:16	1	20160422 ICAL 2.d	AS7 4(mm)
STD3 440-325991/3 IC		04/22/2016 15:33	1	20160422 ICAL 3.d	AS7 4(mm)
STD4 440-325991/4 IC		04/22/2016 15:50	1	20160422 ICAL 4.d	AS7 4(mm)
STD5 440-325991/5 IC		04/22/2016 16:07	1	20160422 ICAL 5.d	AS7 4(mm)
STD6 440-325991/6 IC		04/22/2016 16:24	1	20160422 ICAL 6.d	AS7 4(mm)
STD7 440-325991/7 IC		04/22/2016 16:41	1	20160422 ICAL 7.d	AS7 4(mm)
STD8 440-325991/8 IC		04/22/2016 16:58	1	20160422 ICAL 8.d	AS7 4(mm)
ICV 440-325991/9		04/22/2016 17:14	1	20160422 ICAL 9.d	AS7 4(mm)
ZZZZZ		04/22/2016 17:31	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/03/2016 09:27

Analysis Batch Number: 327943 End Date: 05/04/2016 02:20

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/03/2016 09:27	1		AS7 4(mm)
LCS 440-327943/2		05/03/2016 09:43	1	20160503_2.d	AS7 4(mm)
CCV 440-327943/1002		05/03/2016 09:43	1	20160503_2-CCV.d	AS7 4(mm)
MB 440-327943/3		05/03/2016 10:00	1	20160503_3.d	AS7 4(mm)
CCB 440-327943/1003		05/03/2016 10:00	1	20160503_3-CCB.d	AS7 4(mm)
INF 440-327943/4		05/03/2016 10:17	1	20160503_4.d	AS7 4(mm)
MRL 440-327943/5		05/03/2016 10:34	1	20160503_5.d	AS7 4(mm)
ZZZZZ		05/03/2016 11:05	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:22	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:39	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:57	10		AS7 4(mm)
440-145066-5		05/03/2016 12:18	100	20160503_10.d	AS7 4(mm)
440-145066-5 MS		05/03/2016 12:45	100	20160503_11.d	AS7 4(mm)
440-145066-5 MSD		05/03/2016 13:02	100	20160503_12.d	AS7 4(mm)
440-145066-2		05/03/2016 13:19	1	20160503_13.d	AS7 4(mm)
440-145066-3		05/03/2016 13:36	1	20160503_14.d	AS7 4(mm)
440-145066-4		05/03/2016 13:53	1	20160503_15.d	AS7 4(mm)
CCV 440-327943/16		05/03/2016 14:10	1	20160503_16.d	AS7 4(mm)
CCB 440-327943/17		05/03/2016 14:26	1	20160503_17.d	AS7 4(mm)
ZZZZZ		05/03/2016 14:43	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:00	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:17	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:34	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:51	50000		AS7 4(mm)
ZZZZZ		05/03/2016 16:08	50000		AS7 4(mm)
CCV 440-327943/24		05/03/2016 16:24	1		AS7 4(mm)
CCB 440-327943/25		05/03/2016 16:41	1		AS7 4(mm)
ZZZZZ		05/03/2016 17:04	10		AS7 4(mm)
ZZZZZ		05/03/2016 17:20	1000		AS7 4(mm)
ZZZZZ		05/03/2016 17:37	100		AS7 4(mm)
ZZZZZ		05/03/2016 17:54	100		AS7 4(mm)
ZZZZZ		05/03/2016 18:11	100		AS7 4(mm)
ZZZZZ		05/03/2016 18:28	100		AS7 4(mm)
ZZZZZ		05/03/2016 18:45	10000		AS7 4(mm)
ZZZZZ		05/03/2016 19:02	10000		AS7 4(mm)
CCV 440-327943/34		05/03/2016 19:18	1		AS7 4(mm)
CCB 440-327943/35		05/03/2016 19:35	1		AS7 4(mm)
ZZZZZ		05/03/2016 19:52	1		AS7 4(mm)
ZZZZZ		05/03/2016 20:09	1		AS7 4(mm)
ZZZZZ		05/03/2016 20:26	1		AS7 4(mm)
ZZZZZ		05/03/2016 20:43	5		AS7 4(mm)
ZZZZZ		05/03/2016 21:00	5		AS7 4(mm)
ZZZZZ		05/03/2016 21:17	5		AS7 4(mm)
ZZZZZ		05/03/2016 21:34	5		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/03/2016 09:27

Analysis Batch Number: 327943 End Date: 05/04/2016 02:20

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/03/2016 21:50	5		AS7 4(mm)
ZZZZZ		05/03/2016 22:07	1		AS7 4(mm)
ZZZZZ		05/03/2016 22:24	1		AS7 4(mm)
CCV 440-327943/46		05/03/2016 22:41	1		AS7 4(mm)
CCB 440-327943/47		05/03/2016 22:58	1		AS7 4(mm)
ZZZZZ		05/03/2016 23:15	10		AS7 4(mm)
ZZZZZ		05/03/2016 23:32	1		AS7 4(mm)
ZZZZZ		05/03/2016 23:48	1		AS7 4(mm)
ZZZZZ		05/04/2016 00:05	1		AS7 4(mm)
ZZZZZ		05/04/2016 00:22	10		AS7 4(mm)
ZZZZZ		05/04/2016 00:39	100		AS7 4(mm)
ZZZZZ		05/04/2016 00:56	100		AS7 4(mm)
ZZZZZ		05/04/2016 01:13	100		AS7 4(mm)
ZZZZZ		05/04/2016 01:30	100		AS7 4(mm)
ZZZZZ		05/04/2016 01:46	100		AS7 4(mm)
CCV 440-327943/58		05/04/2016 02:03	1		AS7 4(mm)
CCB 440-327943/59		05/04/2016 02:20	1		AS7 4(mm)

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-145066-1

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
MW-11-20160420	440-145066-2
MW-05-20160420	440-145066-3
MW-18-20160420	440-145066-4
MW-04-20160420	440-145066-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-11-20160420
Lab Sample ID: 440-145066-2
Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 08:35
Reporting Basis: WET
Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	2600	20	10	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-05-20160420
Lab Sample ID: 440-145066-3
Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 10:15
Reporting Basis: WET
Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	3200	50	25	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-18-20160420
Lab Sample ID: 440-145066-4
Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 12:10
Reporting Basis: WET
Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	3100	50	25	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-04-20160420
Lab Sample ID: 440-145066-5
Lab Name: TestAmerica Irvine
Job No.: 440-145066-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 14:00
Reporting Basis: WET
Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	13000	100	50	mg/L			1	SM 2540C

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 326369 Date: 04/25/2016 14:47							
SM 2540C	MB 440-326369/1	Total Dissolved Solids	ND		mg/L	10	1

FORM III-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 326369 Date: 04/25/2016 14:47								
SM 2540C	MW-04-20160420	440-145066-5	Total Dissolved Solids	13000	mg/L			
SM 2540C	MW-04-20160420	440-145066-5 DU	Total Dissolved Solids	13100	mg/L	3	5	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 326369	Date: 04/25/2016 14:47										
						LCS Source: wctdslcs_00061					
SM 2540C	LCS 440-326369/2	Total Dissolved Solids	978		mg/L	1000	98	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-145066-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C MDL Date: 10/04/2010 16:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-145066-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C XMDL Date: 11/16/2010 10:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Instrument ID: BAL065 Analysis Method: SM 2540C

Start Date: 04/25/2016 14:47 End Date: 04/25/2016 19:00

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 440-326369/1	1	T	14:47	X																							
LCS 440-326369/2	1	T	14:47	X																							
440-145066-5	1	T	14:47	X																							
440-145066-5 DU	1	T	14:47	X																							
440-145066-2	1	T	14:47	X																							
440-145066-3	1	T	14:47	X																							
440-145066-4	1	T	14:47	X																							
ZZZZZZ			14:47																								
ZZZZZZ			14:47																								
ZZZZZZ			14:47																								
ZZZZZZ			14:47																								
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ZZZZZZ			14:47																								
ZZZZZZ			14:47																								
ZZZZZZ			19:00																								

Prep Types:
T = Total/NA

FORM XIII-IN

Daily Balance Calibration Log

DATE: 04.25.16 Weight Set ID: D-6
INITIALS: MCH Calib Due: 01.11.17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
67	0.4999	1.0000	50.0001	99.9998	OK	0.1000 g OK
65	0.5000	1.0000	50.0003	100.0005	OK	
63	0.49	0.99	50	100	O.K	CDH

DATE: 4-26-16 Weight Set ID: D-6
INITIALS: CDH Calib Due: 1-11-17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
63	0.49	0.99	50	100	O.K	

DATE: 4/26/16 Weight Set ID: D-8
INITIALS: BL Calib Due: 1/12/17

ID#	~~0.5g~~ 5mg	~~1g~~ 2mg	~~50g~~ 50mg	~~100g~~ 100mg	OK?	COMMENTS/MAINTENANCE
73	0.0050	0.0020	0.0500	0.1000	OK	
		BL				
		4/26/14				

DATE: 4/26/16 Weight Set ID: D6
INITIALS: CH Calib Due: 1/11/17

ID#	0.5g	1g	50g	100g	OK?	COMMENTS/MAINTENANCE
67	0.4999	1.0000	50.0000	99.9998	OK	0.100 1 g OK EK
65	0.5000	1.0000	50.0001	100.0004	OK	
63	0.50	0.99	50	100	OK	
			CH	4/26/16		

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Batch Number: 326369 Batch Start Date: 04/25/16 14:47 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/27/16 16:12

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	InitialAmount	TareWeight	Weight1	Weight2	Weight3
MB 440-326369/1		SM 2540C			100 mL	78.2031 g	78.2032 g	78.2032 g	0 g
LCS 440-326369/2		SM 2540C			50 mL	76.6090 g	76.6579 g	76.6579 g	0 g
440-145066-C-5	MW-04-20160420	SM 2540C	T	16180 umhos/cm	10 mL	77.5044 g	77.6392 g	77.6392 g	0 g
440-145066-A-5 DU	MW-04-20160420	SM 2540C	T	16160 umhos/cm	10 mL	75.1682 g	75.2994 g	75.2994 g	0 g
440-145066-C-2	MW-11-20160420	SM 2540C	T	3400 umhos/cm	50 mL	76.2098 g	76.3374 g	76.3374 g	0 g
440-145066-C-3	MW-05-20160420	SM 2540C	T	4330 umhos/cm	20 mL	70.3642 g	70.4284 g	70.4285 g	0 g
440-145066-C-4	MW-18-20160420	SM 2540C	T	4300 umhos/cm	20 mL	77.5759 g	77.6369 g	77.6369 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 440-326369/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0001 g	0.0001 g	N/A g
LCS 440-326369/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0489 g	0.0489 g	N/A g
440-145066-C-5	MW-04-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.1348 g	0.1348 g	N/A g
440-145066-A-5 DU	MW-04-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.1312 g	0.1312 g	N/A g
440-145066-C-2	MW-11-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.1276 g	0.1276 g	N/A g
440-145066-C-3	MW-05-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0642 g	0.0643 g	N/A g
440-145066-C-4	MW-18-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.061 g	0.061 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	wctdslcs 00061	AnalysisComment	
MB 440-326369/1		SM 2540C		N/A g	100 mL	OK		pH6, 12880, 12920, 0.77, 1080	
LCS 440-326369/2		SM 2540C		N/A g	100 mL	OK	50 mL	pH6	
440-145066-C-5	MW-04-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7 , 2x8090	
440-145066-A-5 DU	MW-04-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7 , 2x8080	
440-145066-C-2	MW-11-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-145066-C-3	MW-05-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-145066-C-4	MW-18-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145066-1

SDG No.:

Batch Number: 326369 Batch Start Date: 04/25/16 14:47 Batch Analyst: Le, Xuan

Batch Method: SM 2540C Batch End Date: 04/27/16 16:12

Batch Notes	
Balance ID	65
Conductivity Meter ID	Cond04
Constant Weight (WT2) Date/Time In	04.26.16@ 11:00
Constant Weight (WT2) Date/Time Out	04.26.16@ 11:30
Constant Weight (WT2) Temp In	180 Degrees C
Constant Weight (WT2) Temp Out	180 Degrees C
Uncorrected CW (Wt2) Temp In	0.00 Degrees C
Uncorrected CW (Wt2) Temp Out	0.00 Degrees C
Corrected Temperature in Oven	100 Degrees C
Corrected Temperature out of Oven	100 Degrees C
Date/Time Samples placed in Oven	04.25.16 @15:30
Date/Time Samples Removed from Oven	04.26.16@7:00
Filter Paper ID	9712651
Nominal Amount Used	100 mL
Oven ID	O-08
Pipette ID	135, 105
Thermometer ID	D-017
Uncorrected In Temperature	0.00 Degrees C
Uncorrected Out Temperature	0.00 Degrees C
Weight(WT1) Start Date/Time	04.26.16@ 8:00
Weight(WT1) Date/Time Out	04.26.16@ 10:00
Weight(WT1) Start Temp	180 Degrees C
Weight(WT1) Temp Out	180 Degrees C
Uncorrected Weight(WT1) Start Temp	0.00 Degrees C
Uncorrected Weight(WT1) Temp Out	0.00 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zoe Diermier	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Perform MS/MSD (Y/N)	2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate	Total Number of containers	Special Instructions/Note:
BMW-4-20160419	4-19-16	1100	G	W	Y		X			
MW-11-20160420	4-20-16	0835	G	W	Y	X	X	X		
MW-05-20160420	4-20-16	1015	G	W	Y	X	X	X		
MW-18-20160420	4-20-16	1210	G	W	Y	X	X	X		
MW-04-20160420	4-20-16	1400	G	W	Y	X	X	X		MS/MSD
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

440-145066 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Zoe Diermier	4-20-16 1445	Aecom	[illegible]	4-20-16 1445	TA
[illegible]	4-20-16 1600	TA			
			Margarita Salas	4/21/16 10:00	TA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: #6589-2840-7038
Cooler Temperature(s) °C and Other Remarks: 1.3 | 1.1 2.6 | 2.4 | 1.9 | 1.7 | 2.1 | 1.9 1.7 | 1.5 ~78

7.6 TALAS

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-145066-1

Login Number: 145066
List Number: 1
Creator: Chavez, Yonny 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-145066-2

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Christabel C Escarez
Project Manager I
5/10/2016 3:43 PM

Designee for
Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
05/10/2016

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM, Inc.
Project: NERT Ground Water

Report Number: 440-145066-2

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/21/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 1.1º C, 1.5º C, 1.7º C, 1.9º C and 2.4º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

METALS (ICPMS)

Samples DBMW-4-20160419 (440-145066-1), MW-11-20160420 (440-145066-2), MW-05-20160420 (440-145066-3), MW-18-20160420 (440-145066-4) and MW-04-20160420 (440-145066-5) were analyzed for metals (ICPMS) in accordance with 200.8. The samples were prepared on 04/25/2016 and analyzed on 04/26/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Client Sample ID: DBMW-4-20160419 — Lab Sample ID: 440-145066-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	87		10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: MW-11-20160420 — Lab Sample ID: 440-145066-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	18		10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: MW-05-20160420 — Lab Sample ID: 440-145066-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	17		10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: MW-18-20160420 — Lab Sample ID: 440-145066-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	14		10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: MW-04-20160420 — Lab Sample ID: 440-145066-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	31		10	2.5	ug/L	5		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: DBMW-4-20160419 — Lab Sample ID: 440-145066-1

Date Collected: 04/19/16 11:00 — **Matrix: Water**
Date Received: 04/21/16 10:00

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	87		10	2.5	ug/L		04/25/16 16:14	04/26/16 15:27	5

Client Sample ID: MW-11-20160420 — Lab Sample ID: 440-145066-2

Date Collected: 04/20/16 08:35 — **Matrix: Water**
Date Received: 04/21/16 10:00

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	18		10	2.5	ug/L		04/25/16 16:14	04/26/16 15:25	5

Client Sample ID: MW-05-20160420 — Lab Sample ID: 440-145066-3

Date Collected: 04/20/16 10:15 — **Matrix: Water**
Date Received: 04/21/16 10:00

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	17		10	2.5	ug/L		04/25/16 16:14	04/26/16 15:22	5

Client Sample ID: MW-18-20160420 — Lab Sample ID: 440-145066-4

Date Collected: 04/20/16 12:10 — **Matrix: Water**
Date Received: 04/21/16 10:00

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	14		10	2.5	ug/L		04/25/16 16:14	04/26/16 15:09	5

Client Sample ID: MW-04-20160420 — Lab Sample ID: 440-145066-5

Date Collected: 04/20/16 14:00 — **Matrix: Water**
Date Received: 04/21/16 10:00

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	31		10	2.5	ug/L		04/25/16 16:14	04/26/16 15:01	5

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units	Method
Chromium	2.0	0.50	ug/L	200.8

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-326386/1-A
Matrix: Water
Analysis Batch: 326683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 326386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.50	ug/L		04/25/16 16:14	04/26/16 14:55	1

Lab Sample ID: LCS 440-326386/2-A
Matrix: Water
Analysis Batch: 326683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 326386

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			80.0	74.9		ug/L		94	85 - 115		

Lab Sample ID: 440-145066-5 MS
Matrix: Water
Analysis Batch: 326683

Client Sample ID: MW-04-20160420
Prep Type: Dissolved
Prep Batch: 326386

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium	31		80.0	99.7		ug/L		86	70 - 130		

Lab Sample ID: 440-145066-5 MSD
Matrix: Water
Analysis Batch: 326683

Client Sample ID: MW-04-20160420
Prep Type: Dissolved
Prep Batch: 326386

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	31		80.0	97.0		ug/L		83	70 - 130	3	20

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Metals

Prep Batch: 326386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145066-1	DBMW-4-20160419	Dissolved	Water	200.2	
440-145066-2	MW-11-20160420	Dissolved	Water	200.2	
440-145066-3	MW-05-20160420	Dissolved	Water	200.2	
440-145066-4	MW-18-20160420	Dissolved	Water	200.2	
440-145066-5	MW-04-20160420	Dissolved	Water	200.2	
440-145066-5 MS	MW-04-20160420	Dissolved	Water	200.2	
440-145066-5 MSD	MW-04-20160420	Dissolved	Water	200.2	
LCS 440-326386/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-326386/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 326683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145066-1	DBMW-4-20160419	Dissolved	Water	200.8	326386
440-145066-2	MW-11-20160420	Dissolved	Water	200.8	326386
440-145066-3	MW-05-20160420	Dissolved	Water	200.8	326386
440-145066-4	MW-18-20160420	Dissolved	Water	200.8	326386
440-145066-5	MW-04-20160420	Dissolved	Water	200.8	326386
440-145066-5 MS	MW-04-20160420	Dissolved	Water	200.8	326386
440-145066-5 MSD	MW-04-20160420	Dissolved	Water	200.8	326386
CRI 440-326683/10	DL		Water	200.8	
CRI 440-326683/9	DL		Water	200.8	
ICSA 440-326683/11	ICS		Water	200.8	
ICSAB 440-326683/12	ICS		Water	200.8	
LCS 440-326386/2-A	Lab Control Sample	Total Recoverable	Water	200.8	326386
MB 440-326386/1-A	Method Blank	Total Recoverable	Water	200.8	326386

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Client Sample ID: DBMW-4-20160419 — Lab Sample ID: 440-145066-1

Date Collected: 04/19/16 11:00 — **Matrix: Water**
Date Received: 04/21/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326386	04/25/16 16:14	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	326683	04/26/16 15:27	TK	TAL IRV

Client Sample ID: MW-11-20160420 — Lab Sample ID: 440-145066-2

Date Collected: 04/20/16 08:35 — **Matrix: Water**
Date Received: 04/21/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326386	04/25/16 16:14	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	326683	04/26/16 15:25	TK	TAL IRV

Client Sample ID: MW-05-20160420 — Lab Sample ID: 440-145066-3

Date Collected: 04/20/16 10:15 — **Matrix: Water**
Date Received: 04/21/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326386	04/25/16 16:14	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	326683	04/26/16 15:22	TK	TAL IRV

Client Sample ID: MW-18-20160420 — Lab Sample ID: 440-145066-4

Date Collected: 04/20/16 12:10 — **Matrix: Water**
Date Received: 04/21/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326386	04/25/16 16:14	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	326683	04/26/16 15:09	TK	TAL IRV

Client Sample ID: MW-04-20160420 — Lab Sample ID: 440-145066-5

Date Collected: 04/20/16 14:00 — **Matrix: Water**
Date Received: 04/21/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326386	04/25/16 16:14	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	326683	04/26/16 15:01	TK	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145066-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-145066-1	DBMW-4-20160419	Water	04/19/16 11:00	04/21/16 10:00
440-145066-2	MW-11-20160420	Water	04/20/16 08:35	04/21/16 10:00
440-145066-3	MW-05-20160420	Water	04/20/16 10:15	04/21/16 10:00
440-145066-4	MW-18-20160420	Water	04/20/16 12:10	04/21/16 10:00
440-145066-5	MW-04-20160420	Water	04/20/16 14:00	04/21/16 10:00

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME HCl_00317	04/06/17	Fisher Chemical, Lot 4115100			(Purchased Reagent)		Stock Chemical	100 %
ME HNO3_00327	04/11/17	Macron Fine Chemicals, Lot 0000129810			(Purchased Reagent)		Stock Chemical	1 %
ME ICPMS CAL_00027	07/09/16	02si, Lot 1084886			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
MEICPMS4 CCV_00994	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME_CALSTD#1_00004	1.25 mL	Chromium	50 ug/L
							Cu	50 ug/L
							Se	50 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
							Cu	10 mg/L
							Se	10 mg/L
MEICPMS4 ICSA_00994	01/01/18	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100000 ug/L
							Ca	100000 ug/L
							Fe	100000 ug/L
							K	100000 ug/L
							Mg	100000 ug/L
							Mo	2000 ug/L
							Na	100000 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
MEICPMS4 ICSB_00992	11/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100020 ug/L
							Ca	101000 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mo	2020 ug/L
							Na	100500 ug/L
					ME_CALSTD#1_00004	0.2 mL	Ag	20 ug/L
							Al	100020 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Ca	101000 ug/L
							Cd	20 ug/L
							Ce	20 ug/L
							Chromium	20 ug/L
							Co	20 ug/L
							Cu	20 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mn	20 ug/L
							Na	100500 ug/L
							Ni	20 ug/L
							Pb	20 ug/L
							Se	20 ug/L
							Sr	20 ug/L
							Tl	20 ug/L
							U	20 ug/L
							V	20 ug/L
							Zn	20 ug/L
					ME_CALSTD#2_00006	0.2 mL	Mo	2020 ug/L
							Sb	20 ug/L
							Sn	20 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Se	10 mg/L
							Sr	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
.ME_CALSTD#2_00006	11/01/16	Inorganic Ventures, Lot J2-MEB598153			(Purchased Reagent)		Mo	10 mg/L
							Sb	10 mg/L
							Sn	10 mg/L
MEICPMS4 ICV_00998	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_ICPMSICV#1_00002	250 uL	Chromium	25 ug/L
							Cu	25 ug/L
							Se	25 ug/L
.ME_ICPMSICV#1_00002	08/01/16	Inorganic Ventures, Lot J2-MEB591026			(Purchased Reagent)		Chromium	10 mg/L
							Cu	10 mg/L
							Se	10 mg/L
MEICPMS4 STD1_01157	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01013	2 mL	Chromium	0.2 ug/L
.MEICPMS4 STD3_01013	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00977	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00977	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD2_00998	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01013	10 mL	Chromium	1 ug/L
.MEICPMS4 STD3_01013	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00977	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00977	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD3_01013	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00977	10 mL	Chromium	10 ug/L
.MEICPMS4 STD4_00977	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
..ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD4_00977	08/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4_CRI_01006	11/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00005	1 mL	Chromium	1 ug/L
.ME_CRI_30_00005	02/01/17	O2si, Lot 1084922			(Purchased Reagent)		Chromium	100 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MEICPMS4_CRI_01007	11/01/16	04/26/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00004	2 mL	Chromium	2 ug/L
.ME_CRI_30_00004	11/01/16	O2si, Lot 1081670			(Purchased Reagent)		Chromium	100 ug/L

Reagent

ME_CALSTD#1_00004

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

ID: 3053619
Open: 12/12/15
CAL STD #1

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution		
Catalog Number:	TA-83		
Lot Number:	J2-MEB598151		
Matrix:	5% (v/v) HNO3		
Value / Analyte(s):	500 mg/L ea:		
	Ca,		
	250 mg/L ea:		
	K,	Mg,	Na,
	100 mg/L ea:		
	Fe,		
	10 mg/L ea:		
	Ag,	Al,	As,
	B,	Ba,	Be,
	Cd,	Ce,	Co,
	Cr3,	Cu,	Mn,
	Ni,	Pb,	Se,
	Sr,	Tl,	U,
	V,	Zn	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	9.99 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.09 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	9.99 ± 0.07 mg/L
Boron, B	10.00 ± 0.07 mg/L	Cadmium, Cd	9.99 ± 0.06 mg/L
Calcium, Ca	500.2 ± 2.3 mg/L	Cerium, Ce	10.00 ± 0.06 mg/L
Chromium+3, Cr3	10.00 ± 0.06 mg/L	Cobalt, Co	10.00 ± 0.06 mg/L
Copper, Cu	10.00 ± 0.06 mg/L	Iron, Fe	100.0 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.2 mg/L
Manganese, Mn	10.00 ± 0.06 mg/L	Nickel, Ni	10.00 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.00 ± 0.06 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	249.9 ± 1.1 mg/L
Strontium, Sr	10.00 ± 0.06 mg/L	Thallium, Tl	10.00 ± 0.08 mg/L
Uranium, U	10.00 ± 0.06 mg/L	Vanadium, V	10.00 ± 0.06 mg/L
Zinc, Zn	10.00 ± 0.07 mg/L		

Certified Density: 1.029 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	Calculated		See Sec. 4.2
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Gravimetric		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) \approx 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean

x_i = individual results

n = number of measurements

2 = the coverage factor.

$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01 N 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_CALSTD#2_00006

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-82
Lot Number:	J2-MEB598153
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 mg/L ea: Mo, Sb, Sn, Ti, 2.5 mg/L ea: Zr

CAL STD #2
ID: 3053620
open: 12/12/15

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**10.00 ± 0.09 mg/L**	**Molybdenum, Mo**	**10.00 ± 0.07 mg/L**
Tin, Sn	**10.00 ± 0.06 mg/L**	**Titanium, Ti**	**10.00 ± 0.08 mg/L**
Zirconium, Zr	**2.501 ± 0.016 mg/L**		

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Sb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102A	061229
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Ti	ICP Assay	3162a	060808
Zr	Calculated		See Sec. 4.2
Zr	ICP Assay	3169	071226

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ — $(\bar{x})$ = mean; x_i = individual results; n = number of measurements

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$ — 2 = the coverage factor. $[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 15, 2015

11.2 Expiration Date

EXPIRES
01/2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

ME_ICPMSICV#1_00002

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CERTIFICATE OF ANALYSIS

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2P 9/1/16

ACCREDITED Testing Laboratory Certificate 853 01
ACCREDITED Reference Material Producer Certificate 853 02

2818801

2818801
ID: ME_ICPMSICV#1_00002
Exp:08/01/16 Prpd:RC Opn:09/01/15
INORGANIC ICV #1

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-83QC
Lot Number:	J2-MEB591026
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 mg/L ea:

Ca,

250 mg/L ea:

K,	Mg,	Na,

100 mg/L ea:

Fe,

10 mg/L ea:

Ag,	Al,	As,
B,	Ba,	Be,
Cd,	Ce,	Co,
Cr3,	Cu,	Mn,
Ni,	Pb,	Se,
Sr,	Tl,	U,
V,	Zn	

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.06 mg/L	Arsenic, As	10.00 ± 0.07 mg/L
Barium, Ba	9.99 ± 0.06 mg/L	Beryllium, Be	10.01 ± 0.07 mg/L
Boron, B	9.99 ± 0.09 mg/L	Cadmium, Cd	10.00 ± 0.06 mg/L
Calcium, Ca	500.1 ± 2.3 mg/L	Cerium, Ce	10.01 ± 0.06 mg/L
Chromium+3, Cr^{3+}	9.99 ± 0.06 mg/L	Cobalt, Co	9.99 ± 0.06 mg/L
Copper, Cu	9.99 ± 0.06 mg/L	Iron, Fe	100.1 ± 0.5 mg/L
Lead, Pb	10.00 ± 0.06 mg/L	Magnesium, Mg	250.0 ± 1.1 mg/L
Manganese, Mn	9.99 ± 0.06 mg/L	Nickel, Ni	10.01 ± 0.06 mg/L
Potassium, K	249.9 ± 1.1 mg/L	Selenium, Se	10.01 ± 0.07 mg/L
Silver, Ag	10.00 ± 0.07 mg/L	Sodium, Na	250.0 ± 1.1 mg/L
Strontium, Sr	10.02 ± 0.06 mg/L	Thallium, Tl	9.99 ± 0.07 mg/L
Uranium, U	10.02 ± 0.07 mg/L	Vanadium, V	10.02 ± 0.06 mg/L
Zinc, Zn	10.01 ± 0.06 mg/L		

Certified Density: 1.030 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	060502
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3181	000630
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
Tl	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 08, 2015

11.2 Expiration Date

EXPIRES
1 2016

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Irvine Job Number: 440-145066-2

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
DBMW-4-20160419	440-145066-1
MW-11-20160420	440-145066-2
MW-05-20160420	440-145066-3
MW-18-20160420	440-145066-4
MW-04-20160420	440-145066-5

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: DBMW-4-20160419
Lab Sample ID: 440-145066-1
Lab Name: TestAmerica Irvine
Job No.: 440-145066-2
SDG ID.:
Matrix: Water
Date Sampled: 04/19/2016 11:00
Reporting Basis: WET
Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	87	10	2.5	ug/L			5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-11-20160420

Lab Sample ID: 440-145066-2

Lab Name: TestAmerica Irvine

Job No.: 440-145066-2

SDG ID.:

Matrix: Water

Date Sampled: 04/20/2016 08:35

Reporting Basis: WET

Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	18	10	2.5	ug/L			5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-05-20160420

Lab Sample ID: 440-145066-3

Lab Name: TestAmerica Irvine

Job No.: 440-145066-2

SDG ID.:

Matrix: Water

Date Sampled: 04/20/2016 10:15

Reporting Basis: WET

Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	17	10	2.5	ug/L			5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-18-20160420

Lab Sample ID: 440-145066-4

Lab Name: TestAmerica Irvine

Job No.: 440-145066-2

SDG ID.:

Matrix: Water

Date Sampled: 04/20/2016 12:10

Reporting Basis: WET

Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	14	10	2.5	ug/L			5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-04-20160420

Lab Sample ID: 440-145066-5

Lab Name: TestAmerica Irvine

Job No.: 440-145066-2

SDG ID.:

Matrix: Water

Date Sampled: 04/20/2016 14:00

Reporting Basis: WET

Date Received: 04/21/2016 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	31	10	2.5	ug/L			5	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

ICV Source: MEICPMS4 ICV_00998 Concentration Units: ug/L

CCV Source: MEICPMS4 CCV_00994

Analyte	ICV 440-326683/7 04/26/2016 14:34				CCV 440-326683/23 04/26/2016 15:17				CCV 440-326683/30 04/26/2016 15:35			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	24.0		25.0	96	48.4		50.0	97	48.3		50.0	97
Copper	24.3		25.0	97	47.7		50.0	95	47.9		50.0	96
Selenium	24.4		25.0	98	48.6		50.0	97	49.6		50.0	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Method: 200.8 Instrument ID: ICPMS4

Lab Sample ID: CRI 440-326683/9 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01006

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	1.00	0.585	J	59	50-150

Lab Sample ID: CRI 440-326683/10 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01007

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	2.00	1.53	J	77	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-326683/8 04/26/2016 14:37		CCB 440-326683/24 04/26/2016 15:19		CCB 440-326683/31 04/26/2016 15:38			
		Found	C	Found	C	Found	C	Found	C
Chromium	2.0	ND		ND		ND			
Copper	2.0	ND		ND		ND			
Selenium	2.0	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-326386/1-A

Instrument Code: ICPMS4 Batch No.: 326683

CAS No.	Analyte	Concentration	C	Q	Method
7440-47-3	Chromium	ND			200.8

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Lab Sample ID: ICSA 440-326683/11 Instrument ID: ICPMS4

Lab File ID: 011ICSA.d ICS Source: MEICPMS4 ICSA_00994

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Chromium		**0.531**	
Aluminum	*100000*	*95468*	*95*
Antimony		*0.135*	
Arsenic		*-0.542*	
Barium		*0.102*	
Beryllium		*0.0130*	
Ca	*100000*	*95341*	*95*
Cadmium		*1.44*	
Cerium		*0.0240*	
Cobalt		*0.195*	
Copper		*2.91*	
Iron	*100000*	*92786*	*93*
K	*100000*	*95131*	*95*
Lead		*0.203*	
Manganese		*0.319*	
Mg	*100000*	*97562*	*98*
Molybdenum	*2000*	*2120*	*106*
Na	*100000*	*99236*	*99*
Nickel		*1.17*	
Selenium		*-0.905*	
Silver		*0.0170*	
Sn		*0.0900*	
Sr		*0.674*	
Thallium		*0.0080*	
Uranium		*0.0040*	
Vanadium		*0.324*	
Zinc		*2.54*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Lab Sample ID: ICSAB 440-326683/12 Instrument ID: ICPMS4

Lab File ID: 012ICSB.d ICS Source: MEICPMS4 ICSB_00992

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Chromium	**20.0**	**19.1**	**96**
Aluminum	*100000*	*96051*	*96*
Antimony	*20.0*	*20.0*	*100*
Arsenic	*20.0*	*18.4*	*92*
Barium	*20.0*	*20.3*	*102*
Beryllium	*20.0*	*18.2*	*91*
Ca	*101000*	*96810*	*96*
Cadmium	*20.0*	*19.5*	*97*
Cerium	*20.0*	*19.6*	*98*
Cobalt	*20.0*	*18.3*	*92*
Copper	*20.0*	*19.8*	*99*
Iron	*100000*	*93711*	*94*
K	*101000*	*95737*	*95*
Lead	*20.0*	*18.7*	*94*
Manganese	*20.0*	*18.9*	*95*
Mg	*101000*	*100038*	*100*
Molybdenum	*2020*	*2126*	*105*
Na	*101000*	*100932*	*100*
Nickel	*20.0*	*18.5*	*92*
Selenium	*20.0*	*17.4*	*87*
Silver	*20.0*	*17.8*	*89*
Sn	*20.0*	*20.0*	*100*
Sr	*20.0*	*20.7*	*103*
Thallium	*20.0*	*18.5*	*92*
Uranium	*20.0*	*19.4*	*97*
Vanadium	*20.0*	*19.1*	*96*
Zinc	*20.0*	*18.7*	*93*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: MW-04-20160420 MS
Lab ID: 440-145066-5 MS
Lab Name: TestAmerica Irvine
Job No.: 440-145066-2
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	99.7		31		80.0	86	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: MW-04-20160420 MSD

Lab ID: 440-145066-5 MSD

Lab Name: TestAmerica Irvine

Job No.: 440-145066-2

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Chromium	97.0		80.0	83	70-130	3	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-326386/2-A

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

Sample Matrix: Water LCS Source: ME ICPMS CAL_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Chromium	80.0	74.9		94	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-145066-2

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 200.8 MDL Date: 08/15/2014 16:02

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Chromium	52	2	0.5

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-145066-2

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 200.8 XMDL Date: 08/15/2014 16:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Irvine Job No: 440-145066-2

SDG No.:

Instrument ID: ICPMS4 Date: 05/10/2012 14:51

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Chromium		4000	200.8

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-326386/1-A	04/25/2016 16:14	326386		25	25
LCS 440-326386/2-A	04/25/2016 16:14	326386		25	25
440-145066-5	04/25/2016 16:14	326386		25	25
440-145066-5 MS	04/25/2016 16:14	326386		25	25
440-145066-5 MSD	04/25/2016 16:14	326386		25	25
440-145066-4	04/25/2016 16:14	326386		25	25
440-145066-3	04/25/2016 16:14	326386		25	25
440-145066-2	04/25/2016 16:14	326386		25	25
440-145066-1	04/25/2016 16:14	326386		25	25

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 200.8

Start Date: 04/26/2016 14:16 End Date: 04/26/2016 15:38

Lab Sample Id	D/F	Type	Time	Analytes																							
				Cr																							
ZZZZZZ			14:16																								
STD0 440-326683/2 IC	1		14:19	X																							
STD1 440-326683/3 IC	1		14:21	X																							
STD2 440-326683/4 IC	1		14:24	X																							
STD3 440-326683/5 IC	1		14:28	X																							
STD4 440-326683/6 IC	1		14:31	X																							
ICV 440-326683/7	1		14:34	X																							
ICB 440-326683/8	1		14:37	X																							
CRI 440-326683/9	1		14:39	X																							
CRI 440-326683/10	1		14:42	X																							
ICSA 440-326683/11	1		14:45	X																							
ICSAB 440-326683/12	1		14:47	X																							
RINSE 440-326683/13			14:50																								
RINSE 440-326683/14			14:53																								
MB 440-326386/1-A	1	R	14:55	X																							
LCS 440-326386/2-A	1	R	14:58	X																							
440-145066-5	5	D	15:01	X																							
440-145066-5 MS	5	D	15:03	X																							
440-145066-5 MSD	5	D	15:06	X																							
440-145066-4	5	D	15:09	X																							
RINSE 440-326683/21			15:11																								
RINSE 440-326683/22			15:14																								
CCV 440-326683/23	1		15:17	X																							
CCB 440-326683/24	1		15:19	X																							
440-145066-3	5	D	15:22	X																							
440-145066-2	5	D	15:25	X																							
440-145066-1	5	D	15:27	X																							
RINSE 440-326683/28			15:30																								
RINSE 440-326683/29			15:33																								
CCV 440-326683/30	1		15:35	X																							
CCB 440-326683/31	1		15:38	X																							

Prep Types:
D = Dissolved
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

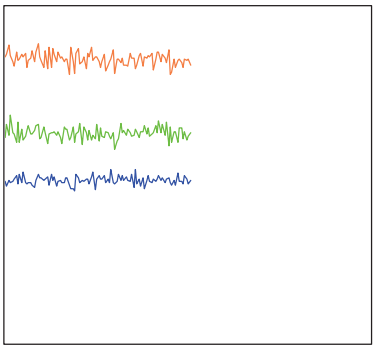
ICP-MS Instrument ID: ICPMS4 Start Date: 04/26/2016 End Date: 04/26/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element	Q
STD0 440-326683/2 I	14:19	100		100		100		100			
STD1 440-326683/3 I	14:21	100		100		99		100			
STD2 440-326683/4 I	14:24	99		99		100		99			
STD3 440-326683/5 I	14:28	98		99		99		99			
STD4 440-326683/6 I	14:31	97		95		96		98			
ICV 440-326683/7	14:34	97		96		97		97			
ICB 440-326683/8	14:37	97		96		98		98			
CRI 440-326683/9	14:39	97		97		97		98			
CRI 440-326683/10	14:42	97		97		97		97			
ICSA 440-326683/11	14:45	88		86		83		89			
ICSAB 440-326683/12	14:47	90		88		86		91			
MB 440-326386/1-A	14:55	86		86		90		93			
LCS 440-326386/2-A	14:58	86		87		90		94			
440-145066-5	15:01	100		88		89		94			
440-145066-5 MS	15:03	105		92		92		97			
440-145066-5 MSD	15:06	110		95		95		99			
440-145066-4	15:09	107		97		98		101			
CCV 440-326683/23	15:17	101		100		101		102			
CCB 440-326683/24	15:19	99		97		100		101			
440-145066-3	15:22	96		89		91		97			
440-145066-2	15:25	97		91		93		98			
440-145066-1	15:27	95		87		89		96			
CCV 440-326683/30	15:35	99		98		99		100			
CCB 440-326683/31	15:38	98		97		98		100			

FORM XV - IN

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	5000	2419	2420.2	2.61
89	5000	3129	3120.3	2.92
205	5000	4142	4222.1	2.35
156/140	5	0.834 %	1.689 %	44.41
70/140	5	0.886 %	1.076 %	26.05
23	200000	112071	115763.6	1.57
6	1000	530	541.5	5.48
63	1000	796	771.3	5.27
65	500	361	366.5	6.50
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1600	W	Carrier Gas	0.70	L/min
RF Matching	1.80	V	Option Gas	0.0	%
Smpl Depth	7.5	mm	Nebulizer Pump	0.10	rps
S/C Temp	7	℃			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	9.0	V
Extract 2	-130.0	V	Cell Entrance	-40	V
Omega Bias	-65	V	Cell Exit	-60	V
Deflect	16.4	V			

Cell Parameters

Use Gas	false		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-7.0	V
H2 Flow	0.0	mL/min	OctP RF	160	V
Energy Discrimination	0.0	V			

Meters

IF/BK Press	3.06E+2	Pa	Internal Temp	32.5	℃
Analyzer Press	1.42E-4	Pa	Inlet Temp	23.4	℃
Carrier Gas(BP)	1.77E+2	kPa			

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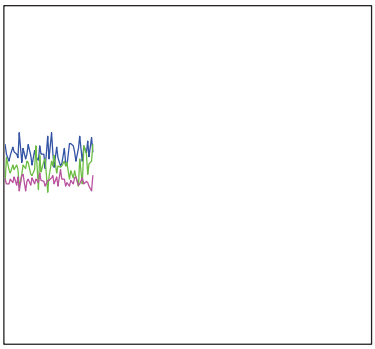
Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	1000	569	567.0	4.78
89	1000	589	520.5	6.13
140	2000	1603	1542.2	4.13
205	5000	2494	2408.2	2.81
156/140	1	0.749 %	0.449 %	45.54
70/140	2	0.749 %	0.634 %	41.73
51	20	3	6.0	52.61
78	20	3	1.3	99.15
56	1000	598	582.1	4.55
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1600	W	Carrier Gas	0.70	L/min
RF Matching	1.80	V	Option Gas	0.0	%
Smpl Depth	7.5	mm	Nebulizer Pump	0.10	rps
S/C Temp	7	℃			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	9.0	V
Extract 2	-130.0	V	Cell Entrance	-50	V
Omega Bias	-65	V	Cell Exit	-70	V
Deflect	4.8	V			

Cell Parameters

Use Gas	true		3rd Gas Flow	0	%
He Flow	3.3	mL/min	OctP Bias	-18.0	V
H2 Flow	0.0	mL/min	OctP RF	160	V
Energy Discrimination	4.0	V			

Meters

IF/BK Press	3.07E+2	Pa	Internal Temp	32.5	℃
Analyzer Press	2.20E-4	Pa	Inlet Temp	23.7	℃
Carrier Gas(BP)	1.77E+2	kPa			

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200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160408-1.b
Report Comment
Instrument Name ICPMS04 JP09480189

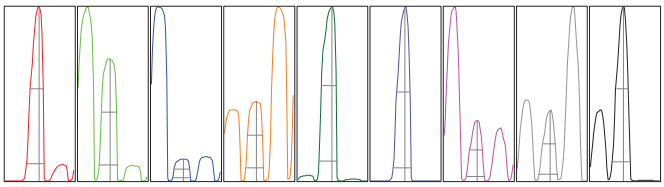
[No Gas]

Mass	Count (Actual)
9	28185
24	98362
25	12816
26	14026
59	88100
115	164307
206	70108
207	62690
208	145663

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.36	5.00	
24	0.56	5.00	
25	1.00	5.00	
26	0.33	5.00	
59	0.60	5.00	
115	0.29	5.00	
206	0.47	5.00	
207	0.73	5.00	
208	0.68	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	28200	28217	28308	28173	28026
24	97748	98331	97956	99150	98626
25	12754	12871	12993	12809	12651
26	13980	14004	13995	14084	14069
59	87364	88350	88081	88786	87920
115	163897	163958	164823	164036	164820
206	69805	69758	70415	70474	70087
207	62354	62517	62234	63068	63278
208	144558	144973	145605	146072	147108

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	5173	9.00	8.9 - 9.1		0.759	0.900	
24	15395	23.90	23.9 - 24.1		0.780	0.900	
25	1921	24.90	24.9 - 25.1		0.759	0.900	
26	2145	25.90	25.9 - 26.1		0.765	0.900	
59	14503	59.00	58.9 - 59.1		0.770	0.900	
115	29436	115.00	114.9 - 115.1		0.778	0.900	
206	12978	205.95	205.9 - 206.1		0.778	0.900	
207	11331	206.95	206.9 - 207.1		0.778	0.900	
208	27902	207.95	207.9 - 208.1		0.781	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

## Plasma Paramters ##			
RF Power	1600 W	Carrier Gas	0.70 L/min
RF Matching	1.80 V	Option Gas	0.0 %
Smpl Depth	7.5 mm	Nebulizer Pump	0.10 rps
S/C Temp	7 ℃		
## Lenses Parameters ##			
Extract 1	0.0 V	Omega Lens	9.0 V
Extract 2	-130.0 V	Cell Entrance	-40 V
Omega Bias	-65 V	Cell Exit	-60 V
Deflect	16.4 V		
## Cell Parameters ##			
Use Gas	false	3rd Gas Flow	0 %
He Flow	0.0 mL/min	OctP Bias	-7.0 V
H2 Flow	0.0 mL/min	OctP RF	160 V
Energy Discrimination	0.0 V		

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200.8 Tune Check Sample Report

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)

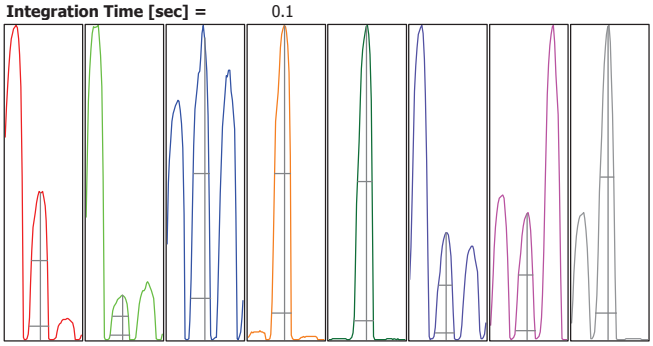
[He]

Mass	Count (Actual)
24	3881
25	554
26	674
59	31521
115	41034
206	42910
207	38370
208	90700

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	1.27	5.00	
25	5.73	5.00	[F]
26	3.01	5.00	
59	1.63	5.00	
115	2.10	5.00	
206	1.32	5.00	
207	2.06	5.00	
208	0.99	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	3849	3866	3826	3921	3942
25	519	523	566	583	583
26	690	650	678	657	696
59	30930	31108	31537	31866	32165
115	39966	40293	41318	41635	41957
206	42189	42534	42944	43261	43620
207	37340	38213	38050	38840	39409
208	89347	90296	91060	91141	91654

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	648	23.900	23.9 - 24.1		0.768	0.900	
25	91	24.950	24.9 - 25.1		0.744	0.900	
26	115	26.000	25.9 - 26.1		0.759	0.900	
59	5393	58.950	58.9 - 59.1		0.761	0.900	
115	7402	115.000	114.9 - 115.1		0.757	0.900	
206	8032	205.950	205.9 - 206.1		0.770	0.900	
207	7011	206.950	206.9 - 207.1		0.767	0.900	
208	17478	207.950	207.9 - 208.1		0.770	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.70 L/min
RF Matching	1.80 V	Option Gas	0.0 %
Smpl Depth	7.5 mm	Nebulizer Pump	0.10 rps
S/C Temp	7 ℃		

Lenses Parameters

Extract 1	0.0 V	Omega Lens	9.0 V
Extract 2	-130.0 V	Cell Entrance	-50 V
Omega Bias	-65 V	Cell Exit	-70 V
Deflect	4.8 V		

Cell Parameters

Use Gas	true	3rd Gas Flow	0 %
He Flow	3.3 mL/min	OctP Bias	-18.0 V
H2 Flow	0.0 mL/min	OctP RF	160 V
Energy Discrimination	4.0 V		

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P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: Blank
Data File: 001SMPL.d
Acquired: 04/08/2016 07:15:43

========= Detector Parameters and P/A Factors =========
Discriminator: 5.2 mV
AnalogHV: 1793 V
PulseHV: 981 V

Acquired: 04/08/2016 05:07:46

Mass[u]	Element	P/A Factor
6		0.099573
9		0.112574
24		0.124715
27		0.127259
39		0.127614
45		0.130863
48		0.130817
51		0.133270
52		0.135991
55		0.138826
56		0.122851
59		0.141395
60		0.141416
65		0.142771
66		0.143397
72		0.142302
75		0.141266
95		0.141251
96		0.142919
98		0.143823
99		0.143557
100		0.144195
101		0.144834
102		0.146793
104		0.147115
105		0.147885
106		0.148666
108		0.148970
110		0.149258
111		0.148761

114	0.152188
115	0.151709
118	0.149313
121	0.151105
138	0.152037
193	0.157092
205	0.158769
209	0.160426
232	0.155380
238	0.155991

Data File	Acq. Date-Time	Type	Vial Number	Sample Name	Comment
001SMPL.d	4/26/2016 2:16 PM	Sample	1	Blank	
002CALB.d	4/26/2016 2:19 PM	CalBlk	1101	STD0-3322984	BLANK
003CALS.d	4/26/2016 2:21 PM	CalStd	1102	STD1-3322983	0.2 PPB
004CALS.d	4/26/2016 2:24 PM	CalStd	1103	STD2-3322982	1.0 PPB
005CALS.d	4/26/2016 2:28 PM	CalStd	1104	STD3-3322981	10.0 PPB
006CALS.d	4/26/2016 2:31 PM	CalStd	1105	STD4-3322980	100 PPB
007_ICV.d	4/26/2016 2:34 PM	ICV	1106	ICV-3322979	25 PPB
008_ICB.d	4/26/2016 2:37 PM	ICB	1101	ICB-3322984	
009_RL1.d	4/26/2016 2:39 PM	RL1_0	1301	CRI-3322988	+/- 50% 1xRL CHK
010_RL2.d	4/26/2016 2:42 PM	RL2_0	1302	CRI-3322989	+/- 50% 2xRL CHK
011ICSA.d	4/26/2016 2:45 PM	ICSA	1201	ICSA-3322990	
012ICSB.d	4/26/2016 2:47 PM	ICSB	1202	ICSAB-3322991	
013SMPL.d	4/26/2016 2:50 PM	Sample	1	RINSE	
014SMPL.d	4/26/2016 2:53 PM	Sample	1	RINSE	
015_MB.d	4/26/2016 2:55 PM	MB	2401	mb 440-326386/1-a	CR 200.8 440-326386 RD
016_LCS.d	4/26/2016 2:58 PM	LCS	2402	lcs 440-326386/2-a	CR 200.8 440-326386 RD
017SMPL.d	4/26/2016 3:01 PM	Sample	2403	440-145066-b-5-a@5	CR 200.8 440-326386 RD
018SMPL.d	4/26/2016 3:03 PM	Sample	2404	440-145066-b-5-b ms@5	CR 200.8 440-326386 RD
019SMPL.d	4/26/2016 3:06 PM	Sample	2405	440-145066-b-5-c msd@5	CR 200.8 440-326386 RD
020SMPL.d	4/26/2016 3:09 PM	Sample	2406	440-145066-b-4-a@5	CR 200.8 440-326386 RD
021SMPL.d	4/26/2016 3:11 PM	Sample	1	RINSE	
022SMPL.d	4/26/2016 3:14 PM	Sample	1	RINSE	
023_CCV.d	4/26/2016 3:17 PM	CCV	1206	CCV-3322986	
024_CCB.d	4/26/2016 3:19 PM	CCB	1207	CCB-3322984	
025SMPL.d	4/26/2016 3:22 PM	Sample	2407	440-145066-b-3-a@5	CR 200.8 440-326386 RD
026SMPL.d	4/26/2016 3:25 PM	Sample	2408	440-145066-b-2-a@5	CR 200.8 440-326386 RD
027SMPL.d	4/26/2016 3:27 PM	Sample	2409	440-145066-a-1-a@5	CR 200.8 440-326386 RD
028SMPL.d	4/26/2016 3:30 PM	Sample	1	RINSE	
029SMPL.d	4/26/2016 3:33 PM	Sample	1	RINSE	
030_CCV.d	4/26/2016 3:35 PM	CCV	1206	CCV-3322986	
031_CCB.d	4/26/2016 3:38 PM	CCB	1207	CCB-3322984	
032_MB.d	4/26/2016 4:23 PM	MB	2410	mb 440-326260/1-a	CAM 200.8 440-326260 RD
033_LCS.d	4/26/2016 4:26 PM	LCS	2411	lcs 440-326260/2-a	CAM 200.8 440-326260 RD
034SMPL.d	4/26/2016 4:28 PM	Sample	2412	440-145060-a-1-a	CUMNZN 200.8 440-326260 RD
035SMPL.d	4/26/2016 4:31 PM	Sample	2501	440-145060-a-1-b ms	CAM 200.8 440-326260 RD
036SMPL.d	4/26/2016 4:34 PM	Sample	2502	440-145060-a-1-c msd	CAM 200.8 440-326260 RD
037SMPL.d	4/26/2016 4:36 PM	Sample	2503	440-145080-g-1-c@5	CAM 200.8 440-326260 RD
038SMPL.d	4/26/2016 4:39 PM	Sample	2504	440-145056-a-1-a	CUMNZN 200.8 440-326260 RD
039SMPL.d	4/26/2016 4:42 PM	Sample	2505	440-145138-b-1-a	CAM 200.8 440-326260 RD
040_CCV.d	4/26/2016 4:44 PM	CCV	1206	CCV-3322986	
041_CCB.d	4/26/2016 4:47 PM	CCB	1207	CCB-3322984	
042SMPL.d	4/26/2016 4:57 PM	Sample	2302	440-145274-a-1-a@5	SE 200.8 440-326330 TK
043SMPL.d	4/26/2016 5:00 PM	Sample	2303	440-145274-a-1-b ms@5	SE 200.8 440-326330 TK
044SMPL.d	4/26/2016 5:02 PM	Sample	2304	440-145274-a-1-c msd@5	SE 200.8 440-326330 TK

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045SMPL.d	4/26/2016 5:09 PM	Sample	4510	145160-1@5	SE 200.8 CONFIRM
046SMPL.d	4/26/2016 5:11 PM	Sample	4511	145160-1 MS@5	SE 200.8 CONFIRM
047SMPL.d	4/26/2016 5:14 PM	Sample	4512	145160-1 MSD@5	SE 200.8 CONFIRM
048_CCV.d	4/26/2016 5:17 PM	CCV	1206	CCV-3322986	
049_CCB.d	4/26/2016 5:19 PM	CCB	1207	CCB-3322984	
050_MB.d	4/26/2016 5:22 PM	MB	2506	mb 440-326590/1-a	CAM 200.8DW 440-326590 RD
051_LCS.d	4/26/2016 5:27 PM	LCS	2507	lcs 440-326590/2-a	CAM 200.8DW 440-326590 RD
052SMPL.d	4/26/2016 5:30 PM	Sample	2508	440-143048-c-1-d	CAM 200.8DW 440-326590 RD
053SMPL.d	4/26/2016 5:32 PM	Sample	2509	440-143048-c-1-e ms	CAM 200.8DW 440-326590 RD
054SMPL.d	4/26/2016 5:35 PM	Sample	2510	440-143048-c-1-f msd	CAM 200.8DW 440-326590 RD
055SMPL.d	4/26/2016 5:38 PM	Sample	2511	440-143045-b-1-b	CAM 200.8DW 440-326590 RD
056_LCS.d	4/26/2016 6:35 PM	LCS	2507	Xlcs 440-326590/2-a	CAM 200.8DW 440-326590 RD **NO SOLN**
057_CCV.d	4/26/2016 6:37 PM	CCV	1206	CCV-3322986	
058_CCB.d	4/26/2016 6:40 PM	CCB	1207	CCB-3322984	

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Tune Step	Mass	Name	R	a	b (blank)	DL	BEC	Units
1	9	Be	0.999995926	0.006831794	2.75E-05	0.006055621	0.004030707	ug/l
1	23	Na	0.999999153	0.019124701	0.597223698	0.477451696	31.22787129	ug/l
1	24	Mg	0.999999401	0.012332927	0.031227744	0.640695177	2.532062699	ug/l
1	27	Al	0.999997492	0.013887875	0.004791425	0.022315864	0.345007776	ug/l
1	39	K	0.999994255	0.010001033	1.470886573	3.784470834	147.0734658	ug/l
1	44	Ca	0.99999838	0.000312002	0.006389676	1.066299927	20.47959852	ug/l
1	51	V	0.999999134	0.010902272	-0.001776969	0.462665481	-0.162990669	ug/l
1	52	Cr	0.999998717	0.009762845	0.01240999	0.10014596	1.271144861	ug/l
1	53	[V]	0.999786743	0.000909915	0.060907168	2.04314664	66.93723596	ug/l
1	55	Mn	0.999994692	0.013081175	0.002848926	0.011304717	0.217788245	ug/l
1	56	Fe	0.99993698	0.00969945	0.437460141	0.638211607	45.10154218	ug/l
1	59	Co	0.999998766	0.009776923	7.43E-05	0.002216463	0.007597753	ug/l
1	60	Ni	0.99999963	0.002035206	0.000373339	0.027243481	0.183440498	ug/l
1	63	[Cu]	0.999999362	0.004615613	0.00224428	0.086225399	0.486236611	ug/l
1	65	Cu	0.999999781	0.002127998	0.001068382	0.063691518	0.502059923	ug/l
1	66	Zn	0.999996326	0.010131282	0.007593154	0.162090576	0.749476149	ug/l
1	75	As	0.999983318	0.006411383	-0.000561496	0.701322759	-0.087577915	ug/l
1	76	[Se]						ug/l
1	77	[As]						ug/l
1	82	Se	0.999998383	0.00067039	-3.88E-05	0.129729713	-0.0578681	ug/l
1	83	[Se]						ug/l
1	88	Sr	0.999990552	0.010531482	0.000324052	0.005030164	0.030769827	ug/l
1	95	Mo	0.999991853	0.001996812	2.91E-05	0.016186472	0.014573752	ug/l
1	98	[Mo]						ug/l
1	99	[Mo]						ug/l
1	107	Ag	0.999996789	0.005205714	2.72E-05	0.006683841	0.005228393	ug/l
1	108	[Cd]						ug/l
1	111	Cd	0.99999968	0.001244743	3.52E-06	0.007355165	0.002830488	ug/l
1	114	[Cd]	0.999999788	0.002848274	-7.24E-07	0.004161929	-0.000254317	ug/l
1	118	Sn	0.999999169	0.003445412	0.000128554	0.00887491	0.037311592	ug/l
1	123	Sb	0.999996893	0.003251625	0.00015581	0.021590061	0.047917679	ug/l
1	137	Ba	0.999992752	0.001551294	1.84E-05	0.020038984	0.011874026	ug/l
1	140	Ce	0.999992472	0.014859733	2.64E-05	0.001007393	0.001775711	ug/l
1	205	Tl	0.999998468	0.008901229	4.43E-05	0.002511449	0.004978587	ug/l
1	206	[Pb]						ug/l
1	207	[Pb]						ug/l
1	208	Pb	0.99999969	0.012356631	0.000110085	0.001819506	0.008909021	ug/l
1	238	U	0.999989732	0.016470075	2.60E-05	0.000577226	0.001579531	ug/l
1	45	Sc-45 (IS)						ug/l
1	72	Ge (IS)						ug/l
1	115	In-115 (IS)						ug/l
1	159	Tb-159 (IS)						ug/l

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Sample Report

Sample Table

Sample Name	Blank
Data File Name	001SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:16:33-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

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Calibration Blank Report

Sample Table

Sample Name	STD0-3322984
Data File Name	002CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:19:14-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	BLANK

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	33	50.00
Na	23	1	No Gas	723549	0.50
Mg	24	1	No Gas	37834	8.49
Al	27	1	No Gas	5805	1.66
K	39	1	No Gas	1782007	0.82
Ca	44	1	No Gas	7741	1.55
V	51	1	No Gas	-2146	-94.28
Cr	52	1	No Gas	15036	2.91
Mn	55	1	No Gas	3452	1.82
Fe	56	1	No Gas	529990	0.31
Co	59	1	No Gas	90	9.80
Ni	60	1	No Gas	452	4.44
Cu	65	1	No Gas	1295	4.64
Zn	66	1	No Gas	1301	6.97
As	75	1	No Gas	-98	-262.44
Se	82	1	No Gas	-7	-75.50
Sr	88	1	No Gas	409	6.17
Mo	95	1	No Gas	37	36.37
[Mo]	98	1	No Gas	84	23.85
Ag	107	1	No Gas	34	43.64
Cd	111	1	No Gas	4	86.60
[Cd]	114	1	No Gas	-1	-538.53
Sn	118	1	No Gas	162	8.56
Sb	123	1	No Gas	197	15.53
Ba	137	1	No Gas	23	57.15
Ce	140	1	No Gas	33	20.00
Tl	205	1	No Gas	108	17.03
Pb	208	1	No Gas	268	7.90
U	238	1	No Gas	63	13.93

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc-45 (IS)	45	1	No Gas	1211532	0.51
Ge (IS)	72	1	No Gas	171388	1.03
In-115 (IS)	115	1	No Gas	1261514	1.11
Tb-159 (IS)	159	1	No Gas	2431320	1.69

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Calibration Standard Report

Sample Table

Sample Name	STD1-3322983
Data File Name	003CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:21:55-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	0.2 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	1726	9.77
Na	23	1	No Gas	778638	1.43
Mg	24	1	No Gas	101651	3.36
Al	27	1	No Gas	11378	3.03
K	39	1	No Gas	1826485	0.74
Ca	44	1	No Gas	11736	3.38
V	51	1	No Gas	1103	230.74
Cr	52	1	No Gas	17577	0.92
Mn	55	1	No Gas	10277	0.88
Fe	56	1	No Gas	541398	1.29
Co	59	1	No Gas	2571	2.11
Ni	60	1	No Gas	956	11.15
Cu	65	1	No Gas	1950	6.08
Zn	66	1	No Gas	1868	4.78
As	75	1	No Gas	-86	-156.94
Se	82	1	No Gas	39	56.70
Sr	88	1	No Gas	2933	4.12
Mo	95	1	No Gas	557	13.72
[Mo]	98	1	No Gas	884	3.38
Ag	107	1	No Gas	1386	11.52
Cd	111	1	No Gas	360	4.90
[Cd]	114	1	No Gas	705	6.40
Sn	118	1	No Gas	1178	15.64
Sb	123	1	No Gas	1069	3.36
Ba	137	1	No Gas	402	17.47
Ce	140	1	No Gas	3671	4.50
Tl	205	1	No Gas	4536	4.83
Pb	208	1	No Gas	6421	1.61
U	238	1	No Gas	7874	5.39

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1214364	0.62	1211532	100.23	80	120	
Ge (IS)	72	1	No Gas	171825	1.85	171388	100.26	80	120	
In-115 (IS)	115	1	No Gas	1253848	0.47	1261514	99.39	80	120	
Tb-159 (IS)	159	1	No Gas	2427359	0.72	2431320	99.84	80	120	

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Calibration Standard Report

Sample Table

Sample Name	STD2-3322982
Data File Name	004CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:24:50-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	1.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	8561	0.75
Na	23	1	No Gas	1206483	0.65
Mg	24	1	No Gas	407998	1.15
Al	27	1	No Gas	27020	0.92
K	39	1	No Gas	2075578	0.59
Ca	44	1	No Gas	27329	1.01
V	51	1	No Gas	12125	3.03
Cr	52	1	No Gas	27984	1.04
Mn	55	1	No Gas	19754	1.28
Fe	56	1	No Gas	639770	0.60
Co	59	1	No Gas	12216	2.53
Ni	60	1	No Gas	3041	4.15
Cu	65	1	No Gas	3971	2.48
Zn	66	1	No Gas	3562	4.04
As	75	1	No Gas	546	63.73
Se	82	1	No Gas	116	21.60
Sr	88	1	No Gas	13567	0.92
Mo	95	1	No Gas	2540	1.86
[Mo]	98	1	No Gas	4354	2.83
Ag	107	1	No Gas	6872	3.39
Cd	111	1	No Gas	1648	2.79
[Cd]	114	1	No Gas	3807	5.27
Sn	118	1	No Gas	4549	4.48
Sb	123	1	No Gas	4461	4.34
Ba	137	1	No Gas	2008	8.67
Ce	140	1	No Gas	19122	2.71
Tl	205	1	No Gas	22327	0.17
Pb	208	1	No Gas	31532	1.14
U	238	1	No Gas	39564	1.70

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1203485	0.36	1211532	99.34	80	120	
Ge (IS)	72	1	No Gas	170052	1.27	171388	99.22	80	120	
In-115 (IS)	115	1	No Gas	1254682	0.15	1261514	99.46	80	120	
Tb-159 (IS)	159	1	No Gas	2401854	1.41	2431320	98.79	80	120	

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Calibration Standard Report

Sample Table

Sample Name	STD3-3322981
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:28:07-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	10.0 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	79158	0.41
Na	23	1	No Gas	6369828	0.40
Mg	24	1	No Gas	3740217	0.31
Al	27	1	No Gas	172373	0.51
K	39	1	No Gas	4816611	0.37
Ca	44	1	No Gas	190324	0.93
V	51	1	No Gas	126702	1.93
Cr	52	1	No Gas	129907	0.74
Mn	55	1	No Gas	156332	1.03
Fe	56	1	No Gas	1795725	0.45
Co	59	1	No Gas	114786	0.62
Ni	60	1	No Gas	24863	1.10
Cu	65	1	No Gas	26551	0.38
Zn	66	1	No Gas	18594	1.34
As	75	1	No Gas	10090	1.45
Se	82	1	No Gas	1149	3.08
Sr	88	1	No Gas	126357	1.61
Mo	95	1	No Gas	24008	2.01
[Mo]	98	1	No Gas	39289	0.26
Ag	107	1	No Gas	63598	1.51
Cd	111	1	No Gas	15493	3.02
[Cd]	114	1	No Gas	35598	0.58
Sn	118	1	No Gas	42752	1.76
Sb	123	1	No Gas	39921	1.88
Ba	137	1	No Gas	18695	1.32
Ce	140	1	No Gas	178787	1.28
Tl	205	1	No Gas	210180	0.56
Pb	208	1	No Gas	295184	0.34
U	238	1	No Gas	377274	0.37

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1189800	0.36	1211532	98.21	80	120	
Ge (IS)	72	1	No Gas	169747	0.63	171388	99.04	80	120	
In-115 (IS)	115	1	No Gas	1249674	0.10	1261514	99.06	80	120	
Tb-159 (IS)	159	1	No Gas	2397263	0.74	2431320	98.60	80	120	

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Calibration Standard Report

Sample Table

Sample Name	STD4-3322980
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:31:06-07:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	100 PPB
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	799758	0.88
Na	23	1	No Gas	56653984	0.64
Mg	24	1	No Gas	36114971	0.82
Al	27	1	No Gas	1630686	1.03
K	39	1	No Gas	30970715	0.90
Ca	44	1	No Gas	1833405	0.71
V	51	1	No Gas	1273795	1.06
Cr	52	1	No Gas	1157111	0.36
Mn	55	1	No Gas	1534406	0.17
Fe	56	1	No Gas	11851288	1.23
Co	59	1	No Gas	1144398	0.63
Ni	60	1	No Gas	238581	0.53
Cu	65	1	No Gas	250283	1.04
Zn	66	1	No Gas	166940	0.66
As	75	1	No Gas	104853	1.13
Se	82	1	No Gas	10958	1.27
Sr	88	1	No Gas	1281403	0.47
Mo	95	1	No Gas	242924	0.96
[Mo]	98	1	No Gas	391009	0.46
Ag	107	1	No Gas	633083	0.96
Cd	111	1	No Gas	151356	0.92
[Cd]	114	1	No Gas	346299	0.36
Sn	118	1	No Gas	419112	0.75
Sb	123	1	No Gas	395628	0.65
Ba	137	1	No Gas	188707	1.62
Ce	140	1	No Gas	1807486	1.19
Tl	205	1	No Gas	2112918	0.69
Pb	208	1	No Gas	2932903	0.66
U	238	1	No Gas	3910538	0.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1170276	0.54	1211532	96.59	80	120	
Ge (IS)	72	1	No Gas	163572	0.52	171388	95.44	80	120	
In-115 (IS)	115	1	No Gas	1215895	0.73	1261514	96.38	80	120	
Tb-159 (IS)	159	1	No Gas	2373262	0.70	2431320	97.61	80	120	

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Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-3322979
Data File Name	007_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:34:23-07:00
Sample Type	ICV
Dilution	1
Comment	25 PPB
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	No Gas	24.690	0.533	198325	0.57	25	98.8	89.5	110.49	
Na	23	1	No Gas	612.901	1.444	14481158	1.16	625	98.1	89.5	110.49	
Mg	24	1	No Gas	629.654	1.630	9165152	1.27	625	100.7	89.5	110.49	
Al	27	1	No Gas	24.759	0.481	409853	0.25	25	99.0	89.5	110.49	
K	39	1	No Gas	609.134	1.472	8890586	1.22	625	97.5	89.5	110.49	
Ca	44	1	No Gas	1198.089	1.112	446935	0.87	1250	95.8	89.5	110.49	
V	51	1	No Gas	24.197	0.793	308030	1.14	25	96.8	89.5	110.49	
Cr	52	1	No Gas	24.013	0.435	290179	0.58	25	96.1	89.5	110.49	
Mn	55	1	No Gas	24.311	0.383	377198	0.73	25	97.2	89.5	110.49	
Fe	56	1	No Gas	268.809	0.746	3579265	0.46	250	107.5	89.5	110.49	
Co	59	1	No Gas	24.762	0.977	284675	0.56	25	99.0	89.5	110.49	
Ni	60	1	No Gas	24.376	0.877	58760	1.06	25	97.5	89.5	110.49	
Cu	65	1	No Gas	24.273	1.166	61981	1.74	25	97.1	89.5	110.49	
Zn	66	1	No Gas	24.734	0.985	42473	0.86	25	98.9	89.5	110.49	
As	75	1	No Gas	24.645	2.619	25903	2.82	25	98.6	89.5	110.49	
Se	82	1	No Gas	24.426	2.455	2688	2.54	25	97.7	89.5	110.49	
Sr	88	1	No Gas	24.200	0.782	313493	1.12	25	96.8	89.5	110.49	
Mo	95	1	No Gas	24.558	1.268	60278	1.51	25	98.2	89.5	110.49	
[Mo]	98	1	No Gas		#DIV/0!	98743	0.14	25	0.0	89.5	110.49	
Ag	107	1	No Gas	25.362	0.345	162225	0.59	25	101.4	89.5	110.49	
Cd	111	1	No Gas	24.461	1.502	37408	1.21	25	97.8	89.5	110.49	
[Cd]	114	1	No Gas	24.084	1.497	84266	1.19	25	96.3	89.5	110.49	
Sn	118	1	No Gas	24.354	0.381	103239	0.28	25	97.4	89.5	110.49	
Sb	123	1	No Gas	25.441	0.829	101816	1.05	25	101.8	89.5	110.49	
Ba	137	1	No Gas	24.220	0.867	46180	1.15	25	96.9	89.5	110.49	
Ce	140	1	No Gas	23.867	1.477	435743	1.79	25	95.5	89.5	110.49	
Tl	205	1	No Gas	24.373	0.392	511997	1.26	25	97.5	89.5	110.49	
Pb	208	1	No Gas	24.690	0.412	720111	1.21	25	98.8	89.5	110.49	
U	238	1	No Gas	24.176	0.524	939538	0.79	25	96.7	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1175572	0.64	1211532	97.03	80	120	
Ge (IS)	72	1	No Gas	164525	1.32	171388	96.00	80	120	
In-115 (IS)	115	1	No Gas	1228478	0.34	1261514	97.38	80	120	
Tb-159 (IS)	159	1	No Gas	2359443	1.00	2431320	97.04	80	120	

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Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-3322984
Data File Name	008_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:37:03-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.006	8.4	79	4.9	0.5	
Na	23	1	No Gas	-11.975	-2.7	430289	0.8	110	
Mg	24	1	No Gas	-1.919	-2.5	8835	7.0	110	
Al	27	1	No Gas	0.007	46.0	5708	1.3	10	
K	39	1	No Gas	-0.861	-47.2	1708989	1.0	110	
Ca	44	1	No Gas	-1.931	-42.1	6762	3.5	110	
V	51	1	No Gas	0.072	57.9	-1162	-44.6	2	
Cr	52	1	No Gas	-0.473	-3.3	9103	2.7	2	
Mn	55	1	No Gas	-0.008	-44.8	3212	0.8	1	
Fe	56	1	No Gas	-10.281	-4.1	394739	2.0	10	
Co	59	1	No Gas	0.007	19.0	163	8.9	1	
Ni	60	1	No Gas	0.012	105.7	466	6.6	2	
Cu	65	1	No Gas	0.019	52.3	1296	2.1	1	
Zn	66	1	No Gas	0.045	197.3	1325	9.6	20	
As	75	1	No Gas	-0.168	-295.2	-269	-195.1	1	
Se	82	1	No Gas	0.166	56.4	12	86.6	2	
Sr	88	1	No Gas	-0.015	-0.8	204	0.9	2	
Mo	95	1	No Gas	0.038	10.2	129	7.9	2	
Ag	107	1	No Gas	0.018	40.1	149	30.1	1	
Cd	111	1	No Gas	0.010	77.8	20	60.1	1	
[Cd]	114	1	No Gas	0.005	120.5	16	126.9	1	
Sn	118	1	No Gas	0.056	35.5	394	21.1	2	
Sb	123	1	No Gas	0.126	10.4	696	8.1	1	
Ba	137	1	No Gas	0.007	40.5	37	15.7	1	
Ce	140	1	No Gas	0.006	38.9	148	29.4	1	
Tl	205	1	No Gas	0.012	7.7	359	5.1	1	
Pb	208	1	No Gas	0.007	25.7	466	11.0	1	
U	238	1	No Gas	0.011	13.4	478	11.3	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1168713	0.90	1211532	96.47	80	120	
Ge (IS)	72	1	No Gas	164720	1.65	171388	96.11	80	120	
In-115 (IS)	115	1	No Gas	1230012	0.93	1261514	97.50	80	120	
Tb-159 (IS)	159	1	No Gas	2372178	0.31	2431320	97.57	80	120	

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Reporting Limit 1.0ppb (RL) Report

Sample Table

Sample Name	CRI-3322988
Data File Name	009_RL1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:39:44-07:00
Sample Type	RL1_0
Dilution	1
Comment	+/- 50% 1xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	No Gas	0.494	4.615	3975	4.47	0.5	98.7	50	150	
Al	27	1	No Gas	10.147	1.157	170317	0.53	10	101.5	50	150	
V	51	1	No Gas	1.113	5.886	12112	7.41	1	111.3	50	150	
Cr	52	1	No Gas	0.585	7.750	21182	1.98	1	58.5	50	150	
Mn	55	1	No Gas	0.968	3.983	18135	2.70	1	96.8	50	150	
Fe	56	1	No Gas	13.857	4.850	668450	0.92	20	69.3	50	150	
Co	59	1	No Gas	0.999	1.245	11499	1.54	1	99.9	50	150	
Ni	60	1	No Gas	1.007	2.121	2833	2.36	1	100.7	50	150	
Cu	65	1	No Gas	1.056	0.821	3875	0.82	1	105.6	50	150	
Zn	66	1	No Gas	9.987	1.785	17981	1.59	10	99.9	50	150	
As	75	1	No Gas	0.845	36.094	802	40.14	1	84.5	50	150	
Se	82	1	No Gas	1.285	14.797	136	15.49	1	128.5	50	150	
Sr	88	1	No Gas	1.017	1.366	13471	0.79	1	101.7	50	150	
Mo	95	1	No Gas	1.077	3.512	2660	2.95	1	107.7	50	150	
Ag	107	1	No Gas	0.993	3.484	6344	3.24	1	99.3	50	150	
Cd	111	1	No Gas	1.045	1.671	1592	2.07	1	104.5	50	150	
[Cd]	114	1	No Gas	1.067	2.190	3711	2.58	1	106.7	50	150	
Sn	118	1	No Gas	10.084	0.783	42584	0.97	10	100.8	50	150	
Sb	123	1	No Gas	1.076	4.245	4464	3.66	1	107.6	50	150	
Ba	137	1	No Gas	1.069	0.411	2048	0.90	1	106.9	50	150	
Ce	140	1	No Gas	0.969	2.488	17623	2.03	1	96.9	50	150	
Tl	205	1	No Gas	0.986	1.492	20905	1.85	1	98.6	50	150	
Pb	208	1	No Gas	1.067	1.300	31510	1.89	1	106.7	50	150	
U	238	1	No Gas	0.948	1.838	37061	1.83	1	94.8	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1168928	0.61	1211532	96.48	80	120	
Ge (IS)	72	1	No Gas	165308	0.15	171388	96.45	80	120	
In-115 (IS)	115	1	No Gas	1221161	0.54	1261514	96.80	80	120	
Tb-159 (IS)	159	1	No Gas	2369470	0.66	2431320	97.46	80	120	

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Reporting Limit 2.0ppb (RL) Report

Sample Table

Sample Name	CRI-3322989
Data File Name	010_RL2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:42:25-07:00
Sample Type	RL2_0
Dilution	1
Comment	+/- 50% 2xRL CHK
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	No Gas	0.970	2.810	7798	2.41	1	97.0	50	150	
Na	23	1	No Gas	189.356	0.642	4944424	0.22	200	94.7	50	150	
Mg	24	1	No Gas	198.353	0.018	2903807	0.43	200	99.2	50	150	
Al	27	1	No Gas	19.898	0.975	329495	0.60	20	99.5	50	150	
K	39	1	No Gas	204.402	2.042	4119826	0.78	200	102.2	50	150	
Ca	44	1	No Gas	967.315	0.453	361221	0.23	1000	96.7	50	150	
V	51	1	No Gas	2.073	4.738	24408	5.42	2	103.6	50	150	
Cr	52	1	No Gas	1.532	5.050	32071	2.45	2	76.6	50	150	
Mn	55	1	No Gas	1.973	1.453	33583	0.90	2	98.6	50	150	
Fe	56	1	No Gas	36.078	1.958	922857	0.46	40	90.2	50	150	
Co	59	1	No Gas	1.942	0.805	22343	0.41	2	97.1	50	150	
Ni	60	1	No Gas	1.990	6.893	5185	6.69	2	99.5	50	150	
Cu	65	1	No Gas	2.031	4.256	6317	3.01	2	101.5	50	150	
Zn	66	1	No Gas	19.667	0.710	34205	0.82	20	98.3	50	150	
As	75	1	No Gas	2.099	7.239	2133	7.42	2	105.0	50	150	
Se	82	1	No Gas	2.127	5.166	229	5.04	2	106.3	50	150	
Sr	88	1	No Gas	1.982	1.101	25932	1.64	2	99.1	50	150	
Mo	95	1	No Gas	2.002	4.248	4926	4.74	2	100.1	50	150	
Ag	107	1	No Gas	2.023	0.966	12919	1.14	2	101.2	50	150	
Cd	111	1	No Gas	2.000	6.116	3050	6.19	2	100.0	50	150	
[Cd]	114	1	No Gas	2.185	1.955	7611	1.75	2	109.2	50	150	
Sn	118	1	No Gas	20.278	0.501	85633	0.55	20	101.4	50	150	
Sb	123	1	No Gas	1.958	0.315	7979	0.26	2	97.9	50	150	
Ba	137	1	No Gas	1.973	4.729	3767	4.52	2	98.7	50	150	
Ce	140	1	No Gas	1.918	1.087	34902	1.56	2	95.9	50	150	
Tl	205	1	No Gas	1.951	0.577	41139	1.13	2	97.6	50	150	
Pb	208	1	No Gas	2.114	0.687	61976	1.20	2	105.7	50	150	
U	238	1	No Gas	1.866	0.998	72667	1.56	2	93.3	50	150	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1172070	0.41	1211532	96.74	80	120	
Ge (IS)	72	1	No Gas	165378	1.36	171388	96.49	80	120	
In-115 (IS)	115	1	No Gas	1223406	0.57	1261514	96.98	80	120	
Tb-159 (IS)	159	1	No Gas	2362541	0.57	2431320	97.17	80	120	

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Interference Check A (ICSA) Report

Sample Table

Sample Name	ICSA-3322990
Data File Name	011ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:45:06-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	QC Low	QC High	QC Flag
Be	9	1	No Gas	0.013	27.042	121	20.84	-1	1	
V	51	1	No Gas	0.324	36.987	1873	75.00	-4	4	
Cr	52	1	No Gas	0.531	7.195	18841	3.41	-4	4	
Mn	55	1	No Gas	0.319	3.636	7515	3.76	-2	2	
Co	59	1	No Gas	0.195	5.461	2119	4.89	-1	1	
Ni	60	1	No Gas	1.166	3.552	2943	4.47	-2	2	
Cu	65	1	No Gas	2.910	4.829	7779	5.01	-4	4	
Zn	66	1	No Gas	2.542	1.400	4903	2.86	-40	40	
As	75	1	No Gas	-0.542	-60.382	-591	-51.55	-2	2	
Sr	88	1	No Gas	0.674	3.216	7802	1.90	-2	2	
Ag	107	1	No Gas	0.017	33.280	121	25.42	-2	2	
Cd	111	1	No Gas	1.444	6.395	1893	6.56	-2	2	
Sn	118	1	No Gas	0.090	31.893	462	22.11	-20	20	
Sb	123	1	No Gas	0.135	26.620	627	20.75	-4	4	
Ba	137	1	No Gas	0.102	24.244	186	22.82	-2	2	
Ce	140	1	No Gas	0.024	10.381	404	10.07	-2	2	
Tl	205	1	No Gas	0.008	15.679	253	10.53	-2	2	
Pb	208	1	No Gas	0.203	3.158	5658	4.80	-2	2	
U	238	1	No Gas	0.004	4.033	181	4.63	-2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1071020	1.66	1211532	88.40	80	120	
Ge (IS)	72	1	No Gas	147015	1.83	171388	85.78	80	120	
In-115 (IS)	115	1	No Gas	1051364	1.54	1261514	83.34	80	120	
Tb-159 (IS)	159	1	No Gas	2157839	1.87	2431320	88.75	80	120	

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Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-3322991
Data File Name	012ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:47:46-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1084129	1.50	1211532	89.48	80	120	
Ge (IS)	72	1	No Gas	150278	2.56	171388	87.68	80	120	
In-115 (IS)	115	1	No Gas	1085294	1.53	1261514	86.03	80	120	
Tb-159 (IS)	159	1	No Gas	2213914	1.97	2431320	91.06	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	013SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:50:26-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.014	0.014	32.22	131		4000	
Na	23	1	No Gas	78.862	78.862	10.13	2243306		125000	
Mg	24	1	No Gas	36.023	36.023	13.05	506747		125000	
Al	27	1	No Gas	19.256	19.256	23.37	290210		4000	
K	39	1	No Gas	58.593	58.593	14.85	2191389		125000	
Ca	44	1	No Gas	37.557	37.557	13.69	19295		250000	
V	51	1	No Gas	0.322	0.322	8.22	1840		4000	
Cr	52	1	No Gas	-0.788	-0.788	-1.27	5021		4000	
Mn	55	1	No Gas	-0.002	-0.002	-611.56	3006		4000	
Fe	56	1	No Gas	-0.056	-0.056	-8475.36	465602		40000	
Co	59	1	No Gas	0.012	0.012	26.01	204		4000	
Ni	60	1	No Gas	0.040	0.040	52.76	484		4000	
Cu	65	1	No Gas	0.193	0.193	12.01	1577		4000	
Zn	66	1	No Gas	0.258	0.258	44.83	1541		4000	
As	75	1	No Gas	0.081	0.081	213.88	-7		4000	
Se	82	1	No Gas	0.032	0.032	373.21	-3		3000	
Sr	88	1	No Gas	0.263	0.263	3.58	3601		4000	
Mo	95	1	No Gas	1.320	1.320	11.34	3105		4000	
Ag	107	1	No Gas	0.016	0.016	33.50	127		100	
Cd	111	1	No Gas	0.008	0.008	33.78	16		4000	
[Cd]	114	1	No Gas	0.008	0.008	88.06	26		4000	
Sn	118	1	No Gas	0.026	0.026	29.00	254		4000	
Sb	123	1	No Gas	0.062	0.062	33.33	418		4000	
Ba	137	1	No Gas	0.015	0.015	52.79	48		4000	
Ce	140	1	No Gas	0.014	0.014	11.70	277		4000	
Tl	205	1	No Gas	0.038	0.038	8.26	897		4000	
Pb	208	1	No Gas	0.013	0.013	20.94	627		4000	
U	238	1	No Gas	0.016	0.016	5.97	671		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1065289	0.87	1211532	87.93	80	120	
Ge (IS)	72	1	No Gas	151040	1.31	171388	88.13	80	120	
In-115 (IS)	115	1	No Gas	1165204	0.15	1261514	92.37	80	120	
Tb-159 (IS)	159	1	No Gas	2318587	0.67	2431320	95.36	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	014SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:53:07-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.010	0.010	65.39	98		4000	
Na	23	1	No Gas	52.769	52.769	3.72	1686488		125000	
Mg	24	1	No Gas	22.393	22.393	1.72	322736		125000	
Al	27	1	No Gas	6.234	6.234	4.38	95911		4000	
K	39	1	No Gas	26.997	26.997	2.09	1827765		125000	
Ca	44	1	No Gas	23.395	23.395	3.90	14373		250000	
V	51	1	No Gas	0.229	0.229	19.06	749		4000	
Cr	52	1	No Gas	-0.775	-0.775	-1.40	5091		4000	
Mn	55	1	No Gas	-0.010	-0.010	-130.78	2858		4000	
Fe	56	1	No Gas	-14.316	-14.316	-1.03	313504		40000	
Co	59	1	No Gas	0.013	0.013	7.01	211		4000	
Ni	60	1	No Gas	0.034	0.034	60.29	464		4000	
Cu	65	1	No Gas	0.075	0.075	47.76	1289		4000	
Zn	66	1	No Gas	0.238	0.238	20.14	1483		4000	
As	75	1	No Gas	0.139	0.139	136.58	50		4000	
Se	82	1	No Gas	0.066	0.066	300.55	1		3000	
Sr	88	1	No Gas	0.264	0.264	1.40	3548		4000	
Mo	95	1	No Gas	0.353	0.353	5.94	837		4000	
Ag	107	1	No Gas	0.010	0.010	28.39	88		100	
Cd	111	1	No Gas	0.010	0.010	123.93	18		4000	
[Cd]	114	1	No Gas	0.008	0.008	29.30	24		4000	
Sn	118	1	No Gas	0.042	0.042	6.90	311		4000	
Sb	123	1	No Gas	0.048	0.048	1.14	354		4000	
Ba	137	1	No Gas	0.019	0.019	23.25	56		4000	
Ce	140	1	No Gas	0.011	0.011	14.48	213		4000	
Tl	205	1	No Gas	0.021	0.021	9.01	533		4000	
Pb	208	1	No Gas	0.012	0.012	13.17	576		4000	
U	238	1	No Gas	0.011	0.011	14.77	468		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1049917	0.51	1211532	86.66	80	120	
Ge (IS)	72	1	No Gas	148267	0.90	171388	86.51	80	120	
In-115 (IS)	115	1	No Gas	1141079	0.72	1261514	90.45	80	120	
Tb-159 (IS)	159	1	No Gas	2276927	1.44	2431320	93.65	80	120	

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Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326386/1-a
Data File Name	015_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:55:48-07:00
Sample Type	MB
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.002	96.9	44	34.6	0.5	
Na	23	1	No Gas	-2.936	-29.6	564283	2.2	110	
Mg	24	1	No Gas	0.222	115.5	35406	8.4	110	
Al	27	1	No Gas	3.011	8.8	48585	6.9	10	
K	39	1	No Gas	7.232	14.8	1609643	0.7	110	
Ca	44	1	No Gas	4.062	14.7	7986	1.4	110	
V	51	1	No Gas	0.141	122.6	-257	-759.6	2	
Cr	52	1	No Gas	-0.737	-2.2	5439	3.8	2	
Mn	55	1	No Gas	-0.036	-26.5	2482	4.5	1	
Fe	56	1	No Gas	-17.861	-1.9	275596	1.2	10	
Co	59	1	No Gas	0.003	26.6	109	8.8	1	
Ni	60	1	No Gas	0.020	60.4	431	6.4	2	
Cu	65	1	No Gas	0.187	30.2	1531	9.1	1	
Zn	66	1	No Gas	-0.014	-322.8	1103	6.2	20	
As	75	1	No Gas	0.002	2959.0	-81	-67.3	1	
Se	82	1	No Gas	0.078	112.8	2	435.9	2	
Sr	88	1	No Gas	-0.014	-29.0	203	23.1	2	
Mo	95	1	No Gas	0.148	16.1	368	15.5	2	
Ag	107	1	No Gas	-0.001	-207.6	26	41.9	1	
Cd	111	1	No Gas	0.004	146.8	10	88.2	1	
[Cd]	114	1	No Gas	-0.003	-85.8	-9	-78.1	1	
Sn	118	1	No Gas	0.006	134.8	171	19.9	2	
Sb	123	1	No Gas	0.031	4.3	292	1.3	1	
Ba	137	1	No Gas	0.013	91.2	43	48.0	1	
Ce	140	1	No Gas	0.000	-295.6	27	37.5	1	
Tl	205	1	No Gas	0.002	41.8	136	9.9	1	
Pb	208	1	No Gas	0.012	9.1	598	5.0	1	
U	238	1	No Gas	0.000	-116.7	50	20.0	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1043092	1.14	1211532	86.10	80	120	
Ge (IS)	72	1	No Gas	147999	1.09	171388	86.35	80	120	
In-115 (IS)	115	1	No Gas	1133851	0.86	1261514	89.88	80	120	
Tb-159 (IS)	159	1	No Gas	2266683	1.21	2431320	93.23	80	120	

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Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326386/2-a
Data File Name	016_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T14:58:29-07:00
Sample Type	LCS
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	No Gas	75.643	75.643	0.289	540145	0.45	80	94.6	85	115	
Na	23	1	No Gas	2026.685	2026.685	1.520	41134171	1.42	2000	101.3	85	115	
Mg	24	1	No Gas	1963.320	1963.320	0.703	25339516	0.51	2000	98.2	85	115	
Al	27	1	No Gas	79.890	79.890	0.278	1164630	0.39	80	99.9	85	115	
K	39	1	No Gas	1909.300	1909.300	0.726	21494833	0.80	2000	95.5	85	115	
Ca	44	1	No Gas	3783.081	3783.081	1.200	1240335	1.37	4000	94.6	85	115	
V	51	1	No Gas	74.618	74.618	1.602	848406	1.78	80	93.3	85	115	
Cr	52	1	No Gas	74.945	74.945	1.249	777700	1.39	80	93.7	85	115	
Mn	55	1	No Gas	76.816	76.816	0.299	1053203	0.26	80	96.0	85	115	
Fe	56	1	No Gas	761.487	761.487	0.725	8176769	0.58	800	95.2	85	115	
Co	59	1	No Gas	74.260	74.260	0.402	758905	0.27	80	92.8	85	115	
Ni	60	1	No Gas	73.421	73.421	0.521	156565	0.41	80	91.8	85	115	
Cu	65	1	No Gas	74.230	74.230	1.019	166215	1.19	80	92.8	85	115	
Zn	66	1	No Gas	76.561	76.561	0.624	116337	1.78	80	95.7	85	115	
As	75	1	No Gas	75.280	75.280	1.734	71595	1.36	80	94.1	85	115	
Se	82	1	No Gas	75.012	75.012	1.250	7463	1.99	80	93.8	85	115	
Sr	88	1	No Gas	75.045	75.045	0.881	895105	1.06	80	93.8	85	115	
Mo	95	1	No Gas	74.035	74.035	0.415	167396	0.82	80	92.5	85	115	
Ag	107	1	No Gas	76.636	76.636	0.314	451671	0.16	80	95.8	85	115	
Cd	111	1	No Gas	77.408	77.408	0.639	109084	0.61	80	96.8	85	115	
[Cd]	114	1	No Gas	75.978	75.978	0.511	244994	0.86	80	95.0	85	115	
Sn	118	1	No Gas	76.389	76.389	0.206	298104	0.66	80	95.5	85	115	
Sb	123	1	No Gas	78.088	78.088	0.611	287634	0.92	80	97.6	85	115	
Ba	137	1	No Gas	76.031	76.031	0.765	133550	1.12	80	95.0	85	115	
Ce	140	1	No Gas	75.333	75.333	0.988	1267322	1.02	80	94.2	85	115	
Tl	205	1	No Gas	76.234	76.234	0.341	1544254	0.65	80	95.3	85	115	
Pb	208	1	No Gas	76.766	76.766	0.641	2158807	0.94	80	96.0	85	115	
U	238	1	No Gas	76.527	76.527	0.798	2868203	0.93	80	95.7	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1045166	0.19	1211532	86.27	80	120	
Ge (IS)	72	1	No Gas	148540	2.13	171388	86.67	80	120	
In-115 (IS)	115	1	No Gas	1132094	0.47	1261514	89.74	80	120	
Tb-159 (IS)	159	1	No Gas	2275551	0.34	2431320	93.59	80	120	

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Sample Report

Sample Table

Sample Name	440-145066-b-5-a@5
Data File Name	017SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:01:09-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.012	0.012	62.74	131		4000	
Na	23	1	No Gas	OR	OR	#VALUE!	OR		125000	
Mg	24	1	No Gas	185182.139	185182.139	0.62	2755428726		125000	>LDR
Al	27	1	No Gas	1.721	1.721	9.97	34576		4000	
K	39	1	No Gas	139360.207	139360.207	1.49	1683477764		125000	>LDR
Ca	44	1	No Gas	100992.420	100992.420	1.15	38026088		250000	
V	51	1	No Gas	2.354	2.354	3.60	28813		4000	
Cr	52	1	No Gas	6.137	6.137	2.78	87271		4000	
Mn	55	1	No Gas	0.273	0.273	2.36	7741		4000	
Fe	56	1	No Gas	11.817	11.817	6.41	665929		40000	
Co	59	1	No Gas	0.251	0.251	6.07	3047		4000	
Ni	60	1	No Gas	2.608	2.608	1.72	6855		4000	
Cu	65	1	No Gas	4.143	4.143	15.09	11949		4000	
Zn	66	1	No Gas	4.396	4.396	2.02	7889		4000	
As	75	1	No Gas	10.586	10.586	3.10	10193		4000	
Se	82	1	No Gas	3.683	3.683	7.20	368		3000	
Sr	88	1	No Gas	1992.745	1992.745	1.58	23480896		4000	
Mo	95	1	No Gas	34.974	34.974	0.87	78162		4000	
Ag	107	1	No Gas	0.058	0.058	18.06	367		100	
Cd	111	1	No Gas	0.061	0.061	27.12	89		4000	
[Cd]	114	1	No Gas	0.041	0.041	19.52	131		4000	
Sn	118	1	No Gas	0.390	0.390	5.55	1646		4000	
Sb	123	1	No Gas	0.124	0.124	19.52	623		4000	
Ba	137	1	No Gas	3.440	3.440	0.98	5989		4000	
Ce	140	1	No Gas	0.019	0.019	19.59	343		4000	
Tl	205	1	No Gas	0.390	0.390	3.14	8036		4000	
Pb	208	1	No Gas	0.053	0.053	12.87	1743		4000	
U	238	1	No Gas	2.856	2.856	1.09	107655		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1206386	2.21	1211532	99.58	80	120	
Ge (IS)	72	1	No Gas	151382	2.33	171388	88.33	80	120	
In-115 (IS)	115	1	No Gas	1118660	1.54	1261514	88.68	80	120	
Tb-159 (IS)	159	1	No Gas	2287309	2.04	2431320	94.08	80	120	

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Sample Report

Sample Table

Sample Name	440-145066-b-5-b ms@5
Data File Name	018SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:03:49-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	13.184	13.184	0.87	114805		4000	
Na	23	1	No Gas	OR	OR	#VALUE!	OR		125000	
Mg	24	1	No Gas	194209.049	194209.049	0.96	3051066119		125000	>LDR
Al	27	1	No Gas	16.528	16.528	0.59	298581		4000	
K	39	1	No Gas	141448.093	141448.093	1.11	1804582222		125000	>LDR
Ca	44	1	No Gas	103705.467	103705.467	1.80	41246357		250000	
V	51	1	No Gas	16.662	16.662	2.39	229283		4000	
Cr	52	1	No Gas	19.943	19.943	1.45	263912		4000	
Mn	55	1	No Gas	13.791	13.791	0.52	233496		4000	
Fe	56	1	No Gas	164.565	164.565	0.64	2591219		40000	
Co	59	1	No Gas	13.185	13.185	0.13	164335		4000	
Ni	60	1	No Gas	14.516	14.516	0.96	38108		4000	
Cu	65	1	No Gas	16.653	16.653	0.99	46519		4000	
Zn	66	1	No Gas	17.057	17.057	0.24	28484		4000	
As	75	1	No Gas	25.993	25.993	3.26	26236		4000	
Se	82	1	No Gas	18.136	18.136	1.89	1914		3000	
Sr	88	1	No Gas	2059.995	2059.995	0.60	25115293		4000	
Mo	95	1	No Gas	50.828	50.828	1.31	117545		4000	
Ag	107	1	No Gas	13.692	13.692	0.59	82537		100	
Cd	111	1	No Gas	13.626	13.626	1.70	19641		4000	
[Cd]	114	1	No Gas	13.156	13.156	1.22	43382		4000	
Sn	118	1	No Gas	15.570	15.570	0.94	62259		4000	
Sb	123	1	No Gas	15.376	15.376	1.41	58069		4000	
Ba	137	1	No Gas	18.569	18.569	2.60	33378		4000	
Ce	140	1	No Gas	14.761	14.761	1.62	254005		4000	
Tl	205	1	No Gas	13.363	13.363	0.66	280844		4000	
Pb	208	1	No Gas	13.540	13.540	1.07	395181		4000	
U	238	1	No Gas	17.246	17.246	1.06	670511		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1274063	2.93	1211532	105.16	80	120	
Ge (IS)	72	1	No Gas	157889	2.47	171388	92.12	80	120	
In-115 (IS)	115	1	No Gas	1157572	2.56	1261514	91.76	80	120	
Tb-159 (IS)	159	1	No Gas	2360055	2.10	2431320	97.07	80	120	

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Sample Table

Sample Name	440-145066-b-5-c msd@5
Data File Name	019SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:06:29-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	12.892	12.892	0.49	117187		4000	
Na	23	1	No Gas	OR	OR	#VALUE!	OR		125000	
Mg	24	1	No Gas	187191.771	187191.771	0.57	3070526598		125000	>LDR
Al	27	1	No Gas	15.941	15.941	0.13	300843		4000	
K	39	1	No Gas	139056.919	139056.919	1.86	1852382931		125000	>LDR
Ca	44	1	No Gas	100570.648	100570.648	0.75	41747375		250000	
V	51	1	No Gas	16.506	16.506	0.54	237023		4000	
Cr	52	1	No Gas	19.394	19.394	0.32	268368		4000	
Mn	55	1	No Gas	13.528	13.528	0.40	239179		4000	
Fe	56	1	No Gas	160.994	160.994	0.10	2658951		40000	
Co	59	1	No Gas	12.974	12.974	0.89	168789		4000	
Ni	60	1	No Gas	14.365	14.365	1.38	39378		4000	
Cu	65	1	No Gas	16.502	16.502	0.66	48133		4000	
Zn	66	1	No Gas	17.090	17.090	0.61	29340		4000	
As	75	1	No Gas	25.105	25.105	2.23	26026		4000	
Se	82	1	No Gas	18.194	18.194	2.10	1973		3000	
Sr	88	1	No Gas	2008.769	2008.769	1.61	25346537		4000	
Mo	95	1	No Gas	50.429	50.429	1.62	120667		4000	
Ag	107	1	No Gas	13.496	13.496	1.83	84203		100	
Cd	111	1	No Gas	13.298	13.298	1.69	19836		4000	
[Cd]	114	1	No Gas	13.119	13.119	2.57	44766		4000	
Sn	118	1	No Gas	15.494	15.494	1.92	64113		4000	
Sb	123	1	No Gas	15.082	15.082	1.83	58945		4000	
Ba	137	1	No Gas	18.365	18.365	3.74	34160		4000	
Ce	140	1	No Gas	14.511	14.511	1.54	258382		4000	
Tl	205	1	No Gas	13.602	13.602	0.64	291323		4000	
Pb	208	1	No Gas	13.403	13.403	0.67	398564		4000	
U	238	1	No Gas	17.076	17.076	1.01	676496		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1330137	2.60	1211532	109.79	80	120	
Ge (IS)	72	1	No Gas	162315	2.67	171388	94.71	80	120	
In-115 (IS)	115	1	No Gas	1197935	1.38	1261514	94.96	80	120	
Tb-159 (IS)	159	1	No Gas	2405055	2.11	2431320	98.92	80	120	

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Sample Table

Sample Name	440-145066-b-4-a@5
Data File Name	020SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:09:09-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.004	0.004	36.12	67		4000	
Na	23	1	No Gas	106788.115	106788.115	1.15	2636521637		125000	
Mg	24	1	No Gas	23717.801	23717.801	0.99	377550189		125000	
Al	27	1	No Gas	2.017	2.017	10.25	42341		4000	
K	39	1	No Gas	14989.831	14989.831	1.18	195374606		125000	
Ca	44	1	No Gas	55224.642	55224.642	1.56	22244899		250000	
V	51	1	No Gas	1.934	1.934	6.70	24921		4000	
Cr	52	1	No Gas	2.859	2.859	3.54	52042		4000	
Mn	55	1	No Gas	0.494	0.494	1.33	12020		4000	
Fe	56	1	No Gas	0.091	0.091	1564.36	565800		40000	
Co	59	1	No Gas	0.124	0.124	2.70	1665		4000	
Ni	60	1	No Gas	1.127	1.127	3.52	3443		4000	
Cu	65	1	No Gas	1.553	1.553	1.64	5646		4000	
Zn	66	1	No Gas	5.989	5.989	2.59	11328		4000	
As	75	1	No Gas	10.993	10.993	2.61	11600		4000	
Se	82	1	No Gas	0.903	0.903	17.03	94		3000	
Sr	88	1	No Gas	1368.158	1368.158	1.92	17883405		4000	
Mo	95	1	No Gas	5.203	5.203	0.88	12929		4000	
Ag	107	1	No Gas	0.012	0.012	35.86	113		100	
Cd	111	1	No Gas	0.029	0.029	33.86	49		4000	
[Cd]	114	1	No Gas	0.020	0.020	38.59	71		4000	
Sn	118	1	No Gas	1.015	1.015	3.53	4501		4000	
Sb	123	1	No Gas	0.075	0.075	9.99	498		4000	
Ba	137	1	No Gas	2.552	2.552	3.32	4935		4000	
Ce	140	1	No Gas	0.009	0.009	22.73	202		4000	
Tl	205	1	No Gas	0.091	0.091	2.64	2086		4000	
Pb	208	1	No Gas	0.048	0.048	5.27	1709		4000	
U	238	1	No Gas	0.836	0.836	1.31	33801		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1290633	0.52	1211532	106.53	80	120	
Ge (IS)	72	1	No Gas	165924	0.43	171388	96.81	80	120	
In-115 (IS)	115	1	No Gas	1241074	0.42	1261514	98.38	80	120	
Tb-159 (IS)	159	1	No Gas	2450711	0.43	2431320	100.80	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	021SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:11:49-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.009	0.009	21.00	112		4000	
Na	23	1	No Gas	155.657	155.657	10.18	4467443		125000	
Mg	24	1	No Gas	33.829	33.829	6.80	560568		125000	
Al	27	1	No Gas	3.652	3.652	1.27	69409		4000	
K	39	1	No Gas	30.416	30.416	18.66	2219115		125000	
Ca	44	1	No Gas	34.510	34.510	6.48	21448		250000	
V	51	1	No Gas	-0.016	-0.016	-897.35	-2445		4000	
Cr	52	1	No Gas	0.049	0.049	105.40	16112		4000	
Mn	55	1	No Gas	0.026	0.026	12.10	3994		4000	
Fe	56	1	No Gas	-1.652	-1.652	-21.14	526921		40000	
Co	59	1	No Gas	0.012	0.012	16.56	240		4000	
Ni	60	1	No Gas	0.099	0.099	13.18	719		4000	
Cu	65	1	No Gas	0.149	0.149	7.60	1732		4000	
Zn	66	1	No Gas	0.349	0.349	3.40	1965		4000	
As	75	1	No Gas	0.007	0.007	6342.15	-89		4000	
Se	82	1	No Gas	0.091	0.091	193.68	4		3000	
Sr	88	1	No Gas	0.525	0.525	12.73	7620		4000	
Mo	95	1	No Gas	0.115	0.115	5.01	338		4000	
Ag	107	1	No Gas	0.011	0.011	37.82	107		100	
Cd	111	1	No Gas	0.013	0.013	56.44	26		4000	
[Cd]	114	1	No Gas	0.006	0.006	102.18	20		4000	
Sn	118	1	No Gas	0.051	0.051	8.43	397		4000	
Sb	123	1	No Gas	0.024	0.024	65.53	303		4000	
Ba	137	1	No Gas	0.037	0.037	21.22	99		4000	
Ce	140	1	No Gas	0.009	0.009	12.76	218		4000	
Tl	205	1	No Gas	0.022	0.022	11.26	598		4000	
Pb	208	1	No Gas	0.013	0.013	13.39	680		4000	
U	238	1	No Gas	0.013	0.013	5.63	601		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1250283	0.51	1211532	103.20	80	120	
Ge (IS)	72	1	No Gas	176491	1.07	171388	102.98	80	120	
In-115 (IS)	115	1	No Gas	1303900	1.05	1261514	103.36	80	120	
Tb-159 (IS)	159	1	No Gas	2534249	1.52	2431320	104.23	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	028SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160505-2.b
Acq Date Time	2016-05-05T19:56:35-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.040	0.040	7.69	239		4000	
Na	23	1	No Gas	183.376	183.376	1.86	4493645		125000	
Mg	24	1	No Gas	59.524	59.524	0.64	776531		125000	
Al	27	1	No Gas	3.781	3.781	0.81	57839		4000	
K	39	1	No Gas	35.389	35.389	2.23	1984190		125000	
Ca	44	1	No Gas	24.900	24.900	2.23	12354		250000	
V	51	1	No Gas	0.082	0.082	201.30	-375		4000	
Cr	52	1	No Gas	-0.444	-0.444	-5.25	7096		4000	
Mn	55	1	No Gas	0.001	0.001	867.33	3811		4000	
Fe	56	1	No Gas	-5.674	-5.674	-6.16	345620		40000	
Co	59	1	No Gas	0.053	0.053	8.89	621		4000	
Ni	60	1	No Gas	0.178	0.178	18.68	726		4000	
Cu	65	1	No Gas	-0.009	-0.009	-332.82	750		4000	
Zn	66	1	No Gas	0.113	0.113	129.93	2087		4000	
As	75	1	No Gas	0.174	0.174	110.00	34		4000	
Se	82	1	No Gas	0.116	0.116	148.78	23		3000	
Sr	88	1	No Gas	0.221	0.221	3.64	3119		4000	
Mo	95	1	No Gas	0.203	0.203	7.85	534		4000	
Ag	107	1	No Gas	0.036	0.036	16.28	276		100	
Cd	111	1	No Gas	0.029	0.029	36.40	56		4000	
[Cd]	114	1	No Gas	0.022	0.022	9.04	56		4000	
Sn	118	1	No Gas	0.138	0.138	12.46	811		4000	
Sb	123	1	No Gas	0.078	0.078	43.63	404		4000	
Ba	137	1	No Gas	0.072	0.072	16.81	201		4000	
Ce	140	1	No Gas	0.027	0.027	9.16	579		4000	
Tl	205	1	No Gas	0.033	0.033	3.98	806		4000	
Pb	208	1	No Gas	0.032	0.032	4.44	1268		4000	
U	238	1	No Gas	0.032	0.032	3.96	1427		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1158052	0.40	1495030	77.46	80	120	ISTD Failed
Ge (IS)	72	1	No Gas	176425	1.98	227801	77.45	80	120	ISTD Failed
In-115 (IS)	115	1	No Gas	1444406	0.76	1740791	82.97	80	120	
Tb-159 (IS)	159	1	No Gas	2970594	0.97	3377572	87.95	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	022SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:14:30-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.009	0.009	44.17	110		4000	
Na	23	1	No Gas	100.159	100.159	4.03	3069221		125000	
Mg	24	1	No Gas	27.526	27.526	1.95	452793		125000	
Al	27	1	No Gas	3.516	3.516	1.24	65494		4000	
K	39	1	No Gas	20.376	20.376	5.96	2045439		125000	
Ca	44	1	No Gas	27.278	27.278	2.17	18200		250000	
V	51	1	No Gas	-0.095	-0.095	-219.90	-3431		4000	
Cr	52	1	No Gas	0.270	0.270	16.52	18377		4000	
Mn	55	1	No Gas	0.027	0.027	16.07	3905		4000	
Fe	56	1	No Gas	-1.416	-1.416	-22.74	517540		40000	
Co	59	1	No Gas	0.015	0.015	3.27	267		4000	
Ni	60	1	No Gas	0.046	0.046	97.95	571		4000	
Cu	65	1	No Gas	0.175	0.175	18.93	1759		4000	
Zn	66	1	No Gas	0.334	0.334	5.70	1893		4000	
As	75	1	No Gas	-0.309	-0.309	-95.01	-437		4000	
Se	82	1	No Gas	0.212	0.212	80.43	18		3000	
Sr	88	1	No Gas	0.365	0.365	5.06	5339		4000	
Mo	95	1	No Gas	0.105	0.105	13.14	306		4000	
Ag	107	1	No Gas	0.013	0.013	29.93	119		100	
Cd	111	1	No Gas	0.008	0.008	14.08	18		4000	
[Cd]	114	1	No Gas	0.012	0.012	28.10	44		4000	
Sn	118	1	No Gas	0.037	0.037	56.12	327		4000	
Sb	123	1	No Gas	0.021	0.021	48.47	289		4000	
Ba	137	1	No Gas	0.018	0.018	38.61	59		4000	
Ce	140	1	No Gas	0.010	0.010	23.40	232		4000	
Tl	205	1	No Gas	0.020	0.020	3.80	546		4000	
Pb	208	1	No Gas	0.011	0.011	7.55	610		4000	
U	238	1	No Gas	0.011	0.011	4.91	536		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1221415	0.39	1211532	100.82	80	120	
Ge (IS)	72	1	No Gas	172477	1.16	171388	100.64	80	120	
In-115 (IS)	115	1	No Gas	1279915	0.82	1261514	101.46	80	120	
Tb-159 (IS)	159	1	No Gas	2501505	0.55	2431320	102.89	80	120	

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Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3322986
Data File Name	023_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:17:11-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	No Gas	48.137	0.644	400309	0.50	50	96.3	89.5	110.49	
Na	23	1	No Gas	1320.505	0.922	31465587	1.05	1250	105.6	89.5	110.49	
Mg	24	1	No Gas	1282.636	1.749	19291870	1.79	1250	102.6	89.5	110.49	
Al	27	1	No Gas	49.528	0.828	843031	0.70	50	99.1	89.5	110.49	
K	39	1	No Gas	1246.574	1.070	16964345	0.68	1250	99.7	89.5	110.49	
Ca	44	1	No Gas	2452.788	0.390	939232	0.21	2500	98.1	89.5	110.49	
V	51	1	No Gas	47.972	2.222	634391	1.95	50	95.9	89.5	110.49	
Cr	52	1	No Gas	48.418	1.409	590447	1.20	50	96.8	89.5	110.49	
Mn	55	1	No Gas	48.941	0.146	782701	0.21	50	97.9	89.5	110.49	
Fe	56	1	No Gas	499.218	0.590	6426095	0.54	500	99.8	89.5	110.49	
Co	59	1	No Gas	48.072	0.164	572148	0.29	50	96.1	89.5	110.49	
Ni	60	1	No Gas	47.629	1.584	118438	1.41	50	95.3	89.5	110.49	
Cu	65	1	No Gas	47.726	0.616	124916	0.45	50	95.5	89.5	110.49	
Zn	66	1	No Gas	49.011	2.357	86533	1.28	50	98.0	89.5	110.49	
As	75	1	No Gas	48.279	3.392	53031	2.44	50	96.6	89.5	110.49	
Se	82	1	No Gas	48.617	3.670	5587	2.61	50	97.2	89.5	110.49	
Sr	88	1	No Gas	48.500	0.369	649822	0.41	50	97.0	89.5	110.49	
Mo	95	1	No Gas	48.379	0.631	122861	0.82	50	96.8	89.5	110.49	
Ag	107	1	No Gas	48.464	1.357	320794	1.09	50	96.9	89.5	110.49	
Cd	111	1	No Gas	49.272	0.194	77981	0.45	50	98.5	89.5	110.49	
[Cd]	114	1	No Gas	49.314	0.401	178581	0.28	50	98.6	89.5	110.49	
Sn	118	1	No Gas	49.418	0.751	216644	1.02	50	98.8	89.5	110.49	
Sb	123	1	No Gas	49.405	0.307	204448	0.39	50	98.8	89.5	110.49	
Ba	137	1	No Gas	48.723	0.661	96124	0.95	50	97.4	89.5	110.49	
Ce	140	1	No Gas	48.101	0.707	908804	0.93	50	96.2	89.5	110.49	
Tl	205	1	No Gas	49.205	0.216	1087682	0.60	50	98.4	89.5	110.49	
Pb	208	1	No Gas	49.688	0.751	1524861	0.80	50	99.4	89.5	110.49	
U	238	1	No Gas	48.896	0.429	1999748	0.34	50	97.8	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1217158	0.28	1211532	100.46	80	120	
Ge (IS)	72	1	No Gas	171674	1.06	171388	100.17	80	120	
In-115 (IS)	115	1	No Gas	1271421	0.35	1261514	100.79	80	120	
Tb-159 (IS)	159	1	No Gas	2483158	0.77	2431320	102.13	80	120	

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Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3322984
Data File Name	024_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:19:51-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.014	31.4	147	23.7	0.5	
Na	23	1	No Gas	8.630	13.2	911095	1.9	110	
Mg	24	1	No Gas	1.656	17.3	61720	5.9	110	
Al	27	1	No Gas	0.283	3.5	10425	1.4	10	
K	39	1	No Gas	1.569	9.9	1777119	1.0	110	
Ca	44	1	No Gas	5.474	15.5	9682	4.2	110	
V	51	1	No Gas	0.002	5310.2	-2098	-51.1	2	
Cr	52	1	No Gas	-0.194	-16.6	12568	3.9	2	
Mn	55	1	No Gas	0.013	24.8	3603	1.1	1	
Fe	56	1	No Gas	-2.170	-3.2	497805	1.1	10	
Co	59	1	No Gas	0.012	41.4	228	24.3	1	
Ni	60	1	No Gas	0.025	53.4	507	5.7	2	
Cu	65	1	No Gas	0.404	9.5	2305	4.2	1	
Zn	66	1	No Gas	0.240	27.5	1673	5.9	20	
As	75	1	No Gas	-0.012	-2591.4	-105	-306.9	1	
Se	82	1	No Gas	0.035	306.8	-3	-452.1	2	
Sr	88	1	No Gas	0.055	14.0	1139	8.5	2	
Mo	95	1	No Gas	0.077	14.2	231	11.7	2	
Ag	107	1	No Gas	0.022	18.4	181	14.9	1	
Cd	111	1	No Gas	0.009	123.6	18	92.5	1	
[Cd]	114	1	No Gas	0.006	64.9	22	68.1	1	
Sn	118	1	No Gas	0.061	9.9	428	5.6	2	
Sb	123	1	No Gas	0.172	5.3	901	3.7	1	
Ba	137	1	No Gas	0.024	38.1	71	25.8	1	
Ce	140	1	No Gas	0.014	22.9	303	19.9	1	
Tl	205	1	No Gas	0.020	12.6	548	9.7	1	
Pb	208	1	No Gas	0.015	15.0	728	8.5	1	
U	238	1	No Gas	0.020	20.7	866	18.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1195439	0.94	1211532	98.67	80	120	
Ge (IS)	72	1	No Gas	166980	1.62	171388	97.43	80	120	
In-115 (IS)	115	1	No Gas	1261268	0.53	1261514	99.98	80	120	
Tb-159 (IS)	159	1	No Gas	2449710	0.93	2431320	100.76	80	120	

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Sample Table

Sample Name	440-145066-b-3-a@5
Data File Name	025SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:22:32-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.000	0.000	250.09	36		4000	
Na	23	1	No Gas	119500.302	119500.302	1.21	2666089779		125000	>LDR
Mg	24	1	No Gas	23066.783	23066.783	0.99	331831533		125000	
Al	27	1	No Gas	1.303	1.303	2.33	26696		4000	
K	39	1	No Gas	17324.245	17324.245	0.10	203804312		125000	
Ca	44	1	No Gas	45606.820	45606.820	0.40	16604269		250000	
V	51	1	No Gas	3.683	3.683	2.30	44758		4000	
Cr	52	1	No Gas	3.352	3.352	2.20	52646		4000	
Mn	55	1	No Gas	0.136	0.136	5.14	5402		4000	
Fe	56	1	No Gas	-7.853	-7.853	-18.41	421487		40000	
Co	59	1	No Gas	0.091	0.091	4.20	1123		4000	
Ni	60	1	No Gas	0.687	0.687	7.69	2065		4000	
Cu	65	1	No Gas	1.397	1.397	2.66	4713		4000	
Zn	66	1	No Gas	1.501	1.501	0.98	3482		4000	
As	75	1	No Gas	10.372	10.372	1.47	10071		4000	
Se	82	1	No Gas	1.880	1.880	8.97	187		3000	
Sr	88	1	No Gas	1190.419	1190.419	1.29	14453610		4000	
Mo	95	1	No Gas	5.377	5.377	2.29	12412		4000	
Ag	107	1	No Gas	0.000	0.000	462.30	32		100	
Cd	111	1	No Gas	0.015	0.015	62.98	26		4000	
[Cd]	114	1	No Gas	0.006	0.006	72.81	17		4000	
Sn	118	1	No Gas	0.163	0.163	13.20	796		4000	
Sb	123	1	No Gas	0.087	0.087	21.80	508		4000	
Ba	137	1	No Gas	2.280	2.280	3.43	4098		4000	
Ce	140	1	No Gas	0.005	0.005	29.53	111		4000	
Tl	205	1	No Gas	0.132	0.132	3.40	2866		4000	
Pb	208	1	No Gas	0.010	0.010	30.28	556		4000	
U	238	1	No Gas	1.280	1.280	0.83	49549		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1166379	1.21	1211532	96.27	80	120	
Ge (IS)	72	1	No Gas	152720	1.50	171388	89.11	80	120	
In-115 (IS)	115	1	No Gas	1152816	0.54	1261514	91.38	80	120	
Tb-159 (IS)	159	1	No Gas	2348255	0.98	2431320	96.58	80	120	

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Sample Report

Sample Table

Sample Name	440-145066-b-2-a@5
Data File Name	026SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:25:12-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.001	0.001	159.29	42		4000	
Na	23	1	No Gas	75200.299	75200.299	0.15	1692312857		125000	
Mg	24	1	No Gas	22558.583	22558.583	1.39	327271347		125000	
Al	27	1	No Gas	0.744	0.744	1.27	17783		4000	
K	39	1	No Gas	7931.208	7931.208	1.73	95025858		125000	
Ca	44	1	No Gas	52971.329	52971.329	0.37	19446969		250000	
V	51	1	No Gas	3.941	3.941	4.93	48450		4000	
Cr	52	1	No Gas	3.663	3.663	2.52	56659		4000	
Mn	55	1	No Gas	0.044	0.044	8.15	4021		4000	
Fe	56	1	No Gas	-3.099	-3.099	-14.43	479198		40000	
Co	59	1	No Gas	0.106	0.106	6.73	1305		4000	
Ni	60	1	No Gas	0.794	0.794	2.12	2339		4000	
Cu	65	1	No Gas	1.065	1.065	4.88	3923		4000	
Zn	66	1	No Gas	1.354	1.354	3.84	3324		4000	
As	75	1	No Gas	8.617	8.617	4.37	8531		4000	
Se	82	1	No Gas	1.416	1.416	23.94	142		3000	
Sr	88	1	No Gas	1040.492	1040.492	1.34	12879132		4000	
Mo	95	1	No Gas	3.217	3.217	2.12	7584		4000	
Ag	107	1	No Gas	-0.001	-0.001	-175.33	27		100	
Cd	111	1	No Gas	0.005	0.005	100.40	11		4000	
[Cd]	114	1	No Gas	-0.002	-0.002	-288.68	-9		4000	
Sn	118	1	No Gas	0.127	0.127	10.74	666		4000	
Sb	123	1	No Gas	0.066	0.066	19.06	434		4000	
Ba	137	1	No Gas	4.026	4.026	2.54	7361		4000	
Ce	140	1	No Gas	0.001	0.001	100.74	41		4000	
Tl	205	1	No Gas	0.020	0.020	7.73	530		4000	
Pb	208	1	No Gas	0.005	0.005	41.72	404		4000	
U	238	1	No Gas	0.689	0.689	1.82	27024		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1176217	0.27	1211532	97.09	80	120	
Ge (IS)	72	1	No Gas	155957	0.97	171388	91.00	80	120	
In-115 (IS)	115	1	No Gas	1175445	1.52	1261514	93.18	80	120	
Tb-159 (IS)	159	1	No Gas	2377410	0.60	2431320	97.78	80	120	

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Sample Table

Sample Name	440-145066-a-1-a@5
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:27:52-07:00
Sample Type	Sample
Dilution	1
Comment	CR 200.8 440-326386 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.001	0.001	383.71	37		4000	
Na	23	1	No Gas	150665.021	150665.021	2.04	3330807121		125000	>LDR
Mg	24	1	No Gas	55228.536	55228.536	0.49	787289906		125000	
Al	27	1	No Gas	0.737	0.737	5.75	17364		4000	
K	39	1	No Gas	16395.985	16395.985	1.65	191228690		125000	
Ca	44	1	No Gas	130387.141	130387.141	1.40	47027517		250000	
V	51	1	No Gas	9.545	9.545	0.81	118218		4000	
Cr	52	1	No Gas	17.397	17.397	1.45	210648		4000	
Mn	55	1	No Gas	0.068	0.068	16.50	4328		4000	
Fe	56	1	No Gas	8.087	8.087	8.35	596275		40000	
Co	59	1	No Gas	0.337	0.337	4.66	3897		4000	
Ni	60	1	No Gas	2.143	2.143	4.53	5472		4000	
Cu	65	1	No Gas	2.051	2.051	5.13	6279		4000	
Zn	66	1	No Gas	5.219	5.219	2.06	8981		4000	
As	75	1	No Gas	19.732	19.732	0.29	18704		4000	
Se	82	1	No Gas	6.570	6.570	6.14	648		3000	
Sr	88	1	No Gas	2704.958	2704.958	1.51	32115103		4000	
Mo	95	1	No Gas	20.578	20.578	2.35	46356		4000	
Ag	107	1	No Gas	0.005	0.005	127.72	58		100	
Cd	111	1	No Gas	0.021	0.021	69.19	33		4000	
[Cd]	114	1	No Gas	-0.001	-0.001	-459.51	-5		4000	
Sn	118	1	No Gas	0.097	0.097	30.39	520		4000	
Sb	123	1	No Gas	0.095	0.095	28.16	522		4000	
Ba	137	1	No Gas	6.554	6.554	5.34	11484		4000	
Ce	140	1	No Gas	0.002	0.002	41.67	56		4000	
Tl	205	1	No Gas	0.073	0.073	5.77	1622		4000	
Pb	208	1	No Gas	0.006	0.006	12.36	421		4000	
U	238	1	No Gas	4.812	4.812	0.10	184353		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1155786	0.76	1211532	95.40	80	120	
Ge (IS)	72	1	No Gas	148496	1.22	171388	86.64	80	120	
In-115 (IS)	115	1	No Gas	1127299	0.45	1261514	89.36	80	120	
Tb-159 (IS)	159	1	No Gas	2325210	1.49	2431320	95.64	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	028SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:30:32-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.009	0.009	26.17	108		4000	
Na	23	1	No Gas	118.498	118.498	8.36	3355157		125000	
Mg	24	1	No Gas	31.946	31.946	8.34	498216		125000	
Al	27	1	No Gas	3.760	3.760	0.65	66815		4000	
K	39	1	No Gas	34.759	34.759	21.81	2130932		125000	
Ca	44	1	No Gas	42.798	42.798	13.90	23131		250000	
V	51	1	No Gas	0.125	0.125	54.47	-481		4000	
Cr	52	1	No Gas	0.120	0.120	21.02	15918		4000	
Mn	55	1	No Gas	0.026	0.026	20.16	3733		4000	
Fe	56	1	No Gas	-3.933	-3.933	-5.65	467964		40000	
Co	59	1	No Gas	0.011	0.011	37.03	212		4000	
Ni	60	1	No Gas	0.046	0.046	48.71	547		4000	
Cu	65	1	No Gas	0.090	0.090	28.81	1477		4000	
Zn	66	1	No Gas	0.336	0.336	9.32	1825		4000	
As	75	1	No Gas	-0.508	-0.508	-79.53	-631		4000	
Se	82	1	No Gas	0.094	0.094	33.19	4		3000	
Sr	88	1	No Gas	0.710	0.710	17.81	9612		4000	
Mo	95	1	No Gas	0.123	0.123	10.49	338		4000	
Ag	107	1	No Gas	0.007	0.007	54.27	77		100	
Cd	111	1	No Gas	0.011	0.011	98.16	21		4000	
[Cd]	114	1	No Gas	0.010	0.010	90.12	35		4000	
Sn	118	1	No Gas	0.035	0.035	44.52	308		4000	
Sb	123	1	No Gas	0.022	0.022	39.70	279		4000	
Ba	137	1	No Gas	0.022	0.022	18.57	64		4000	
Ce	140	1	No Gas	0.011	0.011	8.09	241		4000	
Tl	205	1	No Gas	0.017	0.017	7.40	477		4000	
Pb	208	1	No Gas	0.012	0.012	12.74	617		4000	
U	238	1	No Gas	0.014	0.014	5.53	644		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1171935	0.46	1211532	96.73	80	120	
Ge (IS)	72	1	No Gas	165931	0.87	171388	96.82	80	120	
In-115 (IS)	115	1	No Gas	1232566	0.11	1261514	97.71	80	120	
Tb-159 (IS)	159	1	No Gas	2442211	0.73	2431320	100.45	80	120	

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Sample Report

Sample Table

Sample Name	RINSE
Data File Name	029SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:33:14-07:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.011	0.011	29.21	124		4000	
Na	23	1	No Gas	81.157	81.157	3.40	2527631		125000	
Mg	24	1	No Gas	25.369	25.369	0.72	404685		125000	
Al	27	1	No Gas	3.504	3.504	0.57	62876		4000	
K	39	1	No Gas	16.626	16.626	6.30	1925477		125000	
Ca	44	1	No Gas	28.896	28.896	3.42	18117		250000	
V	51	1	No Gas	0.229	0.229	105.41	849		4000	
Cr	52	1	No Gas	0.265	0.265	16.81	17638		4000	
Mn	55	1	No Gas	0.028	0.028	10.39	3783		4000	
Fe	56	1	No Gas	-4.728	-4.728	-3.39	460570		40000	
Co	59	1	No Gas	0.016	0.016	28.31	269		4000	
Ni	60	1	No Gas	0.039	0.039	24.11	533		4000	
Cu	65	1	No Gas	0.029	0.029	97.26	1328		4000	
Zn	66	1	No Gas	0.282	0.282	33.41	1742		4000	
As	75	1	No Gas	-0.350	-0.350	-74.02	-467		4000	
Se	82	1	No Gas	0.183	0.183	92.87	14		3000	
Sr	88	1	No Gas	0.433	0.433	3.43	6041		4000	
Mo	95	1	No Gas	0.107	0.107	11.73	301		4000	
Ag	107	1	No Gas	0.009	0.009	32.27	94		100	
Cd	111	1	No Gas	0.010	0.010	35.29	20		4000	
[Cd]	114	1	No Gas	0.004	0.004	69.19	14		4000	
Sn	118	1	No Gas	0.037	0.037	34.40	314		4000	
Sb	123	1	No Gas	0.028	0.028	32.10	304		4000	
Ba	137	1	No Gas	0.026	0.026	23.22	73		4000	
Ce	140	1	No Gas	0.011	0.011	19.68	239		4000	
Tl	205	1	No Gas	0.018	0.018	6.94	497		4000	
Pb	208	1	No Gas	0.013	0.013	5.26	653		4000	
U	238	1	No Gas	0.012	0.012	14.13	546		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1176098	0.57	1211532	97.08	80	120	
Ge (IS)	72	1	No Gas	166579	1.36	171388	97.19	80	120	
In-115 (IS)	115	1	No Gas	1237314	1.41	1261514	98.08	80	120	
Tb-159 (IS)	159	1	No Gas	2429836	0.78	2431320	99.94	80	120	

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Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3322986
Data File Name	030_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:35:55-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	No Gas	48.544	0.988	396513	0.75	50	97.1	89.5	110.49	
Na	23	1	No Gas	1304.085	0.676	30530699	0.57	1250	104.3	89.5	110.49	
Mg	24	1	No Gas	1276.288	1.329	18855299	1.26	1250	102.1	89.5	110.49	
Al	27	1	No Gas	49.530	0.317	828096	0.25	50	99.1	89.5	110.49	
K	39	1	No Gas	1231.786	1.090	16486144	0.72	1250	98.5	89.5	110.49	
Ca	44	1	No Gas	2470.629	0.417	929199	0.23	2500	98.8	89.5	110.49	
V	51	1	No Gas	47.861	0.787	621695	0.79	50	95.7	89.5	110.49	
Cr	52	1	No Gas	48.288	1.003	578436	0.73	50	96.6	89.5	110.49	
Mn	55	1	No Gas	48.814	0.899	766792	0.68	50	97.6	89.5	110.49	
Fe	56	1	No Gas	495.039	0.597	6263423	0.35	500	99.0	89.5	110.49	
Co	59	1	No Gas	47.906	1.003	560039	0.76	50	95.8	89.5	110.49	
Ni	60	1	No Gas	47.472	1.531	115951	1.28	50	94.9	89.5	110.49	
Cu	65	1	No Gas	47.938	0.375	123236	0.42	50	95.9	89.5	110.49	
Zn	66	1	No Gas	49.212	1.083	84897	0.55	50	98.4	89.5	110.49	
As	75	1	No Gas	47.398	1.217	50879	1.74	50	94.8	89.5	110.49	
Se	82	1	No Gas	49.587	2.697	5570	3.22	50	99.2	89.5	110.49	
Sr	88	1	No Gas	48.336	1.240	636392	1.28	50	96.7	89.5	110.49	
Mo	95	1	No Gas	48.227	0.553	120349	0.64	50	96.5	89.5	110.49	
Ag	107	1	No Gas	48.111	0.403	312935	0.32	50	96.2	89.5	110.49	
Cd	111	1	No Gas	49.855	1.422	77536	1.49	50	99.7	89.5	110.49	
[Cd]	114	1	No Gas	49.235	0.691	175204	0.74	50	98.5	89.5	110.49	
Sn	118	1	No Gas	49.176	0.261	211843	0.24	50	98.4	89.5	110.49	
Sb	123	1	No Gas	49.453	0.352	201093	0.43	50	98.9	89.5	110.49	
Ba	137	1	No Gas	48.863	1.122	94726	1.12	50	97.7	89.5	110.49	
Ce	140	1	No Gas	48.134	0.492	893646	0.54	50	96.3	89.5	110.49	
Tl	205	1	No Gas	49.251	0.831	1069486	0.17	50	98.5	89.5	110.49	
Pb	208	1	No Gas	49.382	0.595	1488725	0.25	50	98.8	89.5	110.49	
U	238	1	No Gas	48.832	0.426	1961954	0.32	50	97.7	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1195533	0.25	1211532	98.68	80	120	
Ge (IS)	72	1	No Gas	167730	0.57	171388	97.87	80	120	
In-115 (IS)	115	1	No Gas	1249356	0.09	1261514	99.04	80	120	
Tb-159 (IS)	159	1	No Gas	2439391	0.72	2431320	100.33	80	120	

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Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3322984
Data File Name	031_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T15:38:37-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.012	18.7	131	14.0	0.5	
Na	23	1	No Gas	0.886	65.5	728542	1.7	110	
Mg	24	1	No Gas	0.217	80.0	40225	6.3	110	
Al	27	1	No Gas	0.209	4.2	9127	1.3	10	
K	39	1	No Gas	0.651	237.0	1752568	1.1	110	
Ca	44	1	No Gas	4.125	0.9	9106	0.2	110	
V	51	1	No Gas	-0.055	-479.6	-2824	-121.3	2	
Cr	52	1	No Gas	-0.212	-3.4	12266	0.6	2	
Mn	55	1	No Gas	0.008	83.3	3506	2.8	1	
Fe	56	1	No Gas	-4.960	-10.6	461870	1.3	10	
Co	59	1	No Gas	0.017	21.1	291	14.9	1	
Ni	60	1	No Gas	0.017	199.4	484	17.2	2	
Cu	65	1	No Gas	0.490	14.0	2504	6.7	1	
Zn	66	1	No Gas	0.189	30.8	1575	6.0	20	
As	75	1	No Gas	-0.414	-21.1	-533	-17.2	1	
Se	82	1	No Gas	0.093	223.2	4	576.6	2	
Sr	88	1	No Gas	0.064	6.1	1231	3.6	2	
Mo	95	1	No Gas	0.056	24.3	174	18.6	2	
Ag	107	1	No Gas	0.024	40.0	189	32.4	1	
Cd	111	1	No Gas	0.007	68.9	14	48.0	1	
[Cd]	114	1	No Gas	0.007	63.8	23	66.5	1	
Sn	118	1	No Gas	0.068	11.9	447	8.1	2	
Sb	123	1	No Gas	0.182	12.2	926	9.0	1	
Ba	137	1	No Gas	0.023	35.2	67	22.9	1	
Ce	140	1	No Gas	0.014	12.1	297	10.1	1	
Tl	205	1	No Gas	0.020	22.2	538	18.1	1	
Pb	208	1	No Gas	0.013	15.4	650	8.7	1	
U	238	1	No Gas	0.022	8.4	952	7.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1186251	0.31	1211532	97.91	80	120	
Ge (IS)	72	1	No Gas	165659	1.17	171388	96.66	80	120	
In-115 (IS)	115	1	No Gas	1236041	0.70	1261514	97.98	80	120	
Tb-159 (IS)	159	1	No Gas	2418565	0.38	2431320	99.48	80	120	

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Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326260/1-a
Data File Name	032_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:23:21-07:00
Sample Type	MB
Dilution	1
Comment	CAM 200.8 440-326260 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.001	167.3	39	32.4	0.5	
Na	23	1	No Gas	-16.891	-2.9	311217	2.8	110	
Mg	24	1	No Gas	-1.580	-8.1	13321	12.9	110	
Al	27	1	No Gas	0.000	2072.8	5441	1.1	10	
K	39	1	No Gas	1.379	93.3	1685474	1.4	110	
Ca	44	1	No Gas	-2.194	-19.8	6476	2.0	110	
V	51	1	No Gas	0.205	45.8	518	223.1	2	
Cr	52	1	No Gas	-0.109	-24.4	12876	2.9	2	
Mn	55	1	No Gas	-0.019	-34.2	2955	3.2	1	
Fe	56	1	No Gas	-10.821	-1.2	377463	0.9	10	
Co	59	1	No Gas	0.001	649.3	90	40.7	1	
Ni	60	1	No Gas	-0.027	-74.8	362	12.7	2	
Cu	65	1	No Gas	-0.074	-35.1	1035	6.7	1	
Zn	66	1	No Gas	-0.094	-39.1	1066	5.3	20	
As	75	1	No Gas	-0.106	-616.1	-206	-331.4	1	
Se	82	1	No Gas	0.114	28.3	6	57.7	2	
Sr	88	1	No Gas	-0.004	-57.7	337	7.9	2	
Mo	95	1	No Gas	0.120	6.2	319	5.8	2	
Ag	107	1	No Gas	-0.002	-169.4	20	104.1	1	
Cd	111	1	No Gas	-0.002	-62.3	1	173.2	1	
[Cd]	114	1	No Gas	-0.001	-198.0	-5	-166.4	1	
Sn	118	1	No Gas	0.070	22.1	440	14.7	2	
Sb	123	1	No Gas	0.142	14.3	733	11.0	1	
Ba	137	1	No Gas	0.006	125.6	33	43.6	1	
Ce	140	1	No Gas	0.000	440.4	34	40.3	1	
Tl	205	1	No Gas	0.008	34.8	264	22.2	1	
Pb	208	1	No Gas	0.002	29.6	324	7.4	1	
U	238	1	No Gas	0.004	23.3	230	17.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1135209	0.59	1211532	93.70	80	120	
Ge (IS)	72	1	No Gas	160603	1.43	171388	93.71	80	120	
In-115 (IS)	115	1	No Gas	1185791	0.40	1261514	94.00	80	120	
Tb-159 (IS)	159	1	No Gas	2303422	1.01	2431320	94.74	80	120	

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Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326260/2-a
Data File Name	033_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:26:02-07:00
Sample Type	LCS
Dilution	1
Comment	CAM 200.8 440-326260 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	No Gas	82.248	82.248	9.395	585530	0.68	80	102.8	85	115	
Na	23	1	No Gas	2093.358	2093.358	8.925	42353281	0.55	2000	104.7	85	115	
Mg	24	1	No Gas	2092.576	2092.576	9.442	26923666	0.76	2000	104.6	85	115	
Al	27	1	No Gas	84.936	84.936	9.461	1234110	0.87	80	106.2	85	115	
K	39	1	No Gas	2049.470	2049.470	7.607	22919698	1.57	2000	102.5	85	115	
Ca	44	1	No Gas	4046.789	4046.789	9.395	1322330	0.63	4000	101.2	85	115	
V	51	1	No Gas	79.784	79.784	8.339	905064	1.21	80	99.7	85	115	
Cr	52	1	No Gas	80.406	80.406	8.740	831268	0.53	80	100.5	85	115	
Mn	55	1	No Gas	81.341	81.341	8.844	1112049	0.15	80	101.7	85	115	
Fe	56	1	No Gas	817.094	817.094	8.991	8718823	1.38	800	102.1	85	115	
Co	59	1	No Gas	79.203	79.203	9.239	807033	0.55	80	99.0	85	115	
Ni	60	1	No Gas	78.568	78.568	10.627	166895	1.79	80	98.2	85	115	
Cu	65	1	No Gas	78.944	78.944	9.474	176161	0.71	80	98.7	85	115	
Zn	66	1	No Gas	81.274	81.274	8.617	123117	1.49	80	101.6	85	115	
As	75	1	No Gas	79.978	79.978	7.804	75911	0.84	80	100.0	85	115	
Se	82	1	No Gas	79.621	79.621	5.586	7914	2.79	80	99.5	85	115	
Sr	88	1	No Gas	82.050	82.050	7.603	945466	0.41	80	102.6	85	115	
Mo	95	1	No Gas	80.066	80.066	7.503	174905	0.72	80	100.1	85	115	
Ag	107	1	No Gas	81.704	81.704	8.905	464917	0.88	80	102.1	85	115	
Cd	111	1	No Gas	82.421	82.421	9.151	112126	1.22	80	103.0	85	115	
[Cd]	114	1	No Gas	80.942	80.942	8.601	252026	0.64	80	101.2	85	115	
Sn	118	1	No Gas	81.838	81.838	9.058	308311	1.07	80	102.3	85	115	
Sb	123	1	No Gas	82.331	82.331	7.684	292967	0.58	80	102.9	85	115	
Ba	137	1	No Gas	81.170	81.170	9.007	137646	1.20	80	101.5	85	115	
Ce	140	1	No Gas	80.058	80.058	7.188	1301505	1.23	80	100.1	85	115	
Tl	205	1	No Gas	81.515	81.515	9.278	1548498	0.48	80	101.9	85	115	
Pb	208	1	No Gas	82.317	82.317	9.142	2171041	0.37	80	102.9	85	115	
U	238	1	No Gas	81.390	81.390	9.323	2860616	0.55	80	101.7	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1047461	8.32	1211532	86.46	80	120	
Ge (IS)	72	1	No Gas	148725	6.73	171388	86.78	80	120	
In-115 (IS)	115	1	No Gas	1098011	7.67	1261514	87.04	80	120	
Tb-159 (IS)	159	1	No Gas	2145931	8.99	2431320	88.26	80	120	

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Sample Report

Sample Table

Sample Name	440-145060-a-1-a
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:28:42-07:00
Sample Type	Sample
Dilution	1
Comment	CUMNZN 200.8 440-326260 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.044	0.044	9.97	372		4000	
Na	23	1	No Gas	47350.037	47350.037	1.24	1021705773		125000	
Mg	24	1	No Gas	9479.617	9479.617	0.29	131863790		125000	
Al	27	1	No Gas	518.598	518.598	1.41	8125966		4000	
K	39	1	No Gas	14213.335	14213.335	1.68	161929851		125000	
Ca	44	1	No Gas	65830.539	65830.539	1.07	23165855		250000	
V	51	1	No Gas	6.782	6.782	1.97	81367		4000	
Cr	52	1	No Gas	3.593	3.593	2.25	53545		4000	
Mn	55	1	No Gas	115.534	115.534	1.27	1707304		4000	
Fe	56	1	No Gas	2545.671	2545.671	0.52	28335236		40000	
Co	59	1	No Gas	0.982	0.982	3.37	10908		4000	
Ni	60	1	No Gas	2.821	2.821	2.38	6893		4000	
Cu	65	1	No Gas	143.782	143.782	1.54	346190		4000	
Zn	66	1	No Gas	90.007	90.007	0.29	135374		4000	
As	75	1	No Gas	1.706	1.706	36.33	1533		4000	
Se	82	1	No Gas	0.835	0.835	4.21	77		3000	
Sr	88	1	No Gas	485.267	485.267	1.50	5658302		4000	
Mo	95	1	No Gas	4.958	4.958	0.95	10994		4000	
Ag	107	1	No Gas	0.048	0.048	19.20	304		100	
Cd	111	1	No Gas	0.068	0.068	13.55	98		4000	
[Cd]	114	1	No Gas	0.068	0.068	30.49	213		4000	
Sn	118	1	No Gas	0.623	0.623	3.49	2519		4000	
Sb	123	1	No Gas	0.529	0.529	5.51	2076		4000	
Ba	137	1	No Gas	55.767	55.767	1.22	95797		4000	
Ce	140	1	No Gas	1.185	1.185	2.68	19519		4000	
Tl	205	1	No Gas	0.075	0.075	10.51	1593		4000	
Pb	208	1	No Gas	0.754	0.754	0.93	21025		4000	
U	238	1	No Gas	9.220	9.220	1.61	338811		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1127617	1.06	1211532	93.07	80	120	
Ge (IS)	72	1	No Gas	147234	1.56	171388	85.91	80	120	
In-115 (IS)	115	1	No Gas	1107123	0.58	1261514	87.76	80	120	
Tb-159 (IS)	159	1	No Gas	2231023	1.09	2431320	91.76	80	120	

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Sample Report

Sample Table

Sample Name	440-145060-a-1-b ms
Data File Name	035SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:31:24-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8 440-326260 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	74.013	74.013	0.65	574561		4000	
Na	23	1	No Gas	52152.503	52152.503	0.91	1133962479		125000	
Mg	24	1	No Gas	11949.421	11949.421	0.45	167481584		125000	
Al	27	1	No Gas	697.611	697.611	3.34	11014384		4000	
K	39	1	No Gas	16893.356	16893.356	1.69	193644268		125000	
Ca	44	1	No Gas	73839.390	73839.390	0.67	26183807		250000	
V	51	1	No Gas	81.304	81.304	0.71	1005114		4000	
Cr	52	1	No Gas	76.362	76.362	0.38	861167		4000	
Mn	55	1	No Gas	197.329	197.329	0.84	2936196		4000	
Fe	56	1	No Gas	3470.651	3470.651	1.49	38747462		40000	
Co	59	1	No Gas	72.026	72.026	0.61	800212		4000	
Ni	60	1	No Gas	71.676	71.676	0.43	166172		4000	
Cu	65	1	No Gas	221.203	221.203	0.71	536049		4000	
Zn	66	1	No Gas	166.254	166.254	1.18	250665		4000	
As	75	1	No Gas	81.761	81.761	2.29	77568		4000	
Se	82	1	No Gas	74.462	74.462	2.52	7389		3000	
Sr	88	1	No Gas	602.710	602.710	1.20	7005246		4000	
Mo	95	1	No Gas	85.182	85.182	0.38	187749		4000	
Ag	107	1	No Gas	77.380	77.380	0.79	444564		100	
Cd	111	1	No Gas	77.498	77.498	1.09	106455		4000	
[Cd]	114	1	No Gas	76.637	76.637	0.43	240895		4000	
Sn	118	1	No Gas	79.308	79.308	0.57	301706		4000	
Sb	123	1	No Gas	80.744	80.744	0.81	289908		4000	
Ba	137	1	No Gas	140.952	140.952	1.23	241316		4000	
Ce	140	1	No Gas	81.512	81.512	1.01	1336758		4000	
Tl	205	1	No Gas	76.480	76.480	0.51	1530833		4000	
Pb	208	1	No Gas	77.885	77.885	0.04	2164243		4000	
U	238	1	No Gas	90.348	90.348	0.52	3346007		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1136222	0.40	1211532	93.78	80	120	
Ge (IS)	72	1	No Gas	148168	1.51	171388	86.45	80	120	
In-115 (IS)	115	1	No Gas	1103601	1.00	1261514	87.48	80	120	
Tb-159 (IS)	159	1	No Gas	2248550	1.10	2431320	92.48	80	120	

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Sample Report

Sample Table

Sample Name	440-145060-a-1-c msd
Data File Name	036SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:34:04-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8 440-326260 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	71.667	71.667	0.98	558617		4000	
Na	23	1	No Gas	50862.448	50862.448	0.38	1110476720		125000	
Mg	24	1	No Gas	11556.502	11556.502	2.17	162626451		125000	
Al	27	1	No Gas	719.073	719.073	2.12	11397685		4000	
K	39	1	No Gas	16882.789	16882.789	2.03	194314179		125000	
Ca	44	1	No Gas	72874.416	72874.416	1.64	25947509		250000	
V	51	1	No Gas	79.777	79.777	0.37	990287		4000	
Cr	52	1	No Gas	74.661	74.661	1.00	845781		4000	
Mn	55	1	No Gas	195.306	195.306	0.56	2918054		4000	
Fe	56	1	No Gas	3441.935	3441.935	0.41	38588514		40000	
Co	59	1	No Gas	70.467	70.467	0.92	786097		4000	
Ni	60	1	No Gas	70.417	70.417	0.70	163929		4000	
Cu	65	1	No Gas	217.158	217.158	0.73	528438		4000	
Zn	66	1	No Gas	166.017	166.017	1.17	250699		4000	
As	75	1	No Gas	80.030	80.030	1.64	76061		4000	
Se	82	1	No Gas	75.285	75.285	0.15	7484		3000	
Sr	88	1	No Gas	582.113	582.113	1.47	6858923		4000	
Mo	95	1	No Gas	83.722	83.722	0.66	187066		4000	
Ag	107	1	No Gas	75.074	75.074	0.54	437238		100	
Cd	111	1	No Gas	74.913	74.913	0.51	104321		4000	
[Cd]	114	1	No Gas	74.611	74.611	0.15	237747		4000	
Sn	118	1	No Gas	77.010	77.010	0.81	296983		4000	
Sb	123	1	No Gas	79.261	79.261	0.80	288514		4000	
Ba	137	1	No Gas	137.133	137.133	0.80	238021		4000	
Ce	140	1	No Gas	79.133	79.133	1.00	1315605		4000	
Tl	205	1	No Gas	73.828	73.828	0.21	1500908		4000	
Pb	208	1	No Gas	75.788	75.788	0.19	2139036		4000	
U	238	1	No Gas	87.664	87.664	0.54	3297633		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1140938	1.02	1211532	94.17	80	120	
Ge (IS)	72	1	No Gas	148401	1.82	171388	86.59	80	120	
In-115 (IS)	115	1	No Gas	1118740	0.70	1261514	88.68	80	120	
Tb-159 (IS)	159	1	No Gas	2283823	1.02	2431320	93.93	80	120	

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Sample Report

Sample Table

Sample Name	440-145080-g-1-c@5
Data File Name	037SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:36:45-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8 440-326260 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.037	0.037	30.54	344		4000	
Na	23	1	No Gas	193795.263	193795.263	1.45	4549847428		125000	>LDR
Mg	24	1	No Gas	7784.427	7784.427	1.23	117882906		125000	
Al	27	1	No Gas	911.446	911.446	1.27	15540108		4000	
K	39	1	No Gas	163923.055	163923.055	0.59	2013887707		125000	>LDR
Ca	44	1	No Gas	43662.432	43662.432	0.65	16727702		250000	
V	51	1	No Gas	3.271	3.271	2.96	41585		4000	
Cr	52	1	No Gas	5.293	5.293	3.20	78679		4000	
Mn	55	1	No Gas	92.633	92.633	0.97	1490807		4000	
Fe	56	1	No Gas	1001.882	1001.882	0.48	12462221		40000	
Co	59	1	No Gas	0.900	0.900	1.10	10888		4000	
Ni	60	1	No Gas	7.793	7.793	2.04	19929		4000	
Cu	65	1	No Gas	37.444	37.444	0.64	99094		4000	
Zn	66	1	No Gas	394.093	394.093	0.90	642671		4000	
As	75	1	No Gas	3.956	3.956	4.51	3987		4000	
Se	82	1	No Gas	12.707	12.707	5.31	1362		3000	
Sr	88	1	No Gas	191.111	191.111	1.89	2367274		4000	
Mo	95	1	No Gas	2.254	2.254	1.47	5326		4000	
Ag	107	1	No Gas	0.075	0.075	12.22	491		100	
Cd	111	1	No Gas	0.413	0.413	14.13	608		4000	
[Cd]	114	1	No Gas	0.310	0.310	12.60	1041		4000	
Sn	118	1	No Gas	4.611	4.611	1.51	18835		4000	
Sb	123	1	No Gas	0.177	0.177	2.62	859		4000	
Ba	137	1	No Gas	34.021	34.021	1.63	62086		4000	
Ce	140	1	No Gas	0.784	0.784	1.51	13730		4000	
Tl	205	1	No Gas	0.116	0.116	9.94	2600		4000	
Pb	208	1	No Gas	1.790	1.790	0.67	53434		4000	
U	238	1	No Gas	0.584	0.584	0.77	23172		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1227190	2.96	1211532	101.29	80	120	
Ge (IS)	72	1	No Gas	160658	3.17	171388	93.74	80	120	
In-115 (IS)	115	1	No Gas	1175651	2.68	1261514	93.19	80	120	
Tb-159 (IS)	159	1	No Gas	2404418	2.23	2431320	98.89	80	120	

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Sample Report

Sample Table

Sample Name	440-145056-a-1-a
Data File Name	038SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:39:25-07:00
Sample Type	Sample
Dilution	1
Comment	CUMNZN 200.8 440-326260 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.026	0.026	21.28	253		4000	
Na	23	1	No Gas	64696.271	64696.271	1.18	1515396349		125000	
Mg	24	1	No Gas	8306.581	8306.581	0.98	125440577		125000	
Al	27	1	No Gas	641.315	641.315	1.79	10907965		4000	
K	39	1	No Gas	40823.498	40823.498	1.17	501589082		125000	
Ca	44	1	No Gas	58273.631	58273.631	0.82	22264558		250000	
V	51	1	No Gas	7.169	7.169	0.85	93498		4000	
Cr	52	1	No Gas	6.579	6.579	0.46	93815		4000	
Mn	55	1	No Gas	385.312	385.312	1.17	6173449		4000	
Fe	56	1	No Gas	2022.707	2022.707	0.31	24551839		40000	
Co	59	1	No Gas	1.367	1.367	1.83	16452		4000	
Ni	60	1	No Gas	4.274	4.274	2.16	11104		4000	
Cu	65	1	No Gas	187.132	187.132	1.26	488757		4000	
Zn	66	1	No Gas	470.157	470.157	1.21	763940		4000	
As	75	1	No Gas	1.872	1.872	14.30	1834		4000	
Se	82	1	No Gas	0.742	0.742	29.32	73		3000	
Sr	88	1	No Gas	408.046	408.046	1.31	5096057		4000	
Mo	95	1	No Gas	4.680	4.680	1.97	11116		4000	
Ag	107	1	No Gas	0.030	0.030	8.96	219		100	
Cd	111	1	No Gas	0.103	0.103	7.81	157		4000	
[Cd]	114	1	No Gas	0.104	0.104	28.13	349		4000	
Sn	118	1	No Gas	1.488	1.488	0.77	6230		4000	
Sb	123	1	No Gas	1.021	1.021	3.19	4123		4000	
Ba	137	1	No Gas	41.493	41.493	1.16	76347		4000	
Ce	140	1	No Gas	1.048	1.048	0.70	18491		4000	
Tl	205	1	No Gas	0.063	0.063	2.58	1442		4000	
Pb	208	1	No Gas	1.559	1.559	0.80	46228		4000	
U	238	1	No Gas	6.335	6.335	1.15	248965		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1224130	0.48	1211532	101.04	80	120	
Ge (IS)	72	1	No Gas	160141	1.23	171388	93.44	80	120	
In-115 (IS)	115	1	No Gas	1185784	0.15	1261514	94.00	80	120	
Tb-159 (IS)	159	1	No Gas	2385530	0.90	2431320	98.12	80	120	

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Sample Report

Sample Table

Sample Name	440-145138-b-1-a
Data File Name	039SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:42:06-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8 440-326260 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.003	0.003	84.13	57		4000	
Na	23	1	No Gas	60298.609	60298.609	0.76	1376801439		125000	
Mg	24	1	No Gas	8107.594	8107.594	0.66	119350066		125000	
Al	27	1	No Gas	205.224	205.224	1.20	3406575		4000	
K	39	1	No Gas	7615.436	7615.436	1.01	92636690		125000	
Ca	44	1	No Gas	56230.162	56230.162	0.24	20942103		250000	
V	51	1	No Gas	6.612	6.612	2.26	83893		4000	
Cr	52	1	No Gas	18.985	18.985	0.98	235982		4000	
Mn	55	1	No Gas	7.814	7.814	0.84	125374		4000	
Fe	56	1	No Gas	718.935	718.935	0.67	8843127		40000	
Co	59	1	No Gas	0.492	0.492	2.87	5828		4000	
Ni	60	1	No Gas	9.602	9.602	1.17	23764		4000	
Cu	65	1	No Gas	171.422	171.422	0.42	436567		4000	
Zn	66	1	No Gas	40.088	40.088	0.74	64686		4000	
As	75	1	No Gas	1.909	1.909	11.13	1827		4000	
Se	82	1	No Gas	0.688	0.688	13.22	66		3000	
Sr	88	1	No Gas	432.112	432.112	0.36	5332322		4000	
Mo	95	1	No Gas	4.600	4.600	1.37	10794		4000	
Ag	107	1	No Gas	0.024	0.024	38.18	180		100	
Cd	111	1	No Gas	0.050	0.050	7.66	77		4000	
[Cd]	114	1	No Gas	0.036	0.036	21.69	120		4000	
Sn	118	1	No Gas	1.785	1.785	2.55	7356		4000	
Sb	123	1	No Gas	0.264	0.264	8.68	1188		4000	
Ba	137	1	No Gas	40.852	40.852	1.26	74271		4000	
Ce	140	1	No Gas	0.084	0.084	2.56	1498		4000	
Tl	205	1	No Gas	0.012	0.012	25.86	366		4000	
Pb	208	1	No Gas	0.615	0.615	0.77	18215		4000	
U	238	1	No Gas	10.607	10.607	1.39	412721		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1193266	0.44	1211532	98.49	80	120	
Ge (IS)	72	1	No Gas	156360	1.90	171388	91.23	80	120	
In-115 (IS)	115	1	No Gas	1171659	0.90	1261514	92.88	80	120	
Tb-159 (IS)	159	1	No Gas	2361993	0.60	2431320	97.15	80	120	

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Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3322986
Data File Name	040_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:44:47-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	No Gas	48.683	1.097	389572	0.55	50	97.4	89.5	110.49	
Na	23	1	No Gas	1276.488	0.876	29292712	0.90	1250	102.1	89.5	110.49	
Mg	24	1	No Gas	1256.207	1.255	18182567	1.33	1250	100.5	89.5	110.49	
Al	27	1	No Gas	49.756	1.442	814921	0.87	50	99.5	89.5	110.49	
K	39	1	No Gas	1268.783	1.194	16584553	0.63	1250	101.5	89.5	110.49	
Ca	44	1	No Gas	2485.833	0.506	915896	0.68	2500	99.4	89.5	110.49	
V	51	1	No Gas	48.844	1.744	621613	1.58	50	97.7	89.5	110.49	
Cr	52	1	No Gas	48.800	1.069	572530	0.52	50	97.6	89.5	110.49	
Mn	55	1	No Gas	49.213	0.547	757336	0.12	50	98.4	89.5	110.49	
Fe	56	1	No Gas	494.462	1.472	6129460	0.76	500	98.9	89.5	110.49	
Co	59	1	No Gas	48.811	0.113	559036	0.50	50	97.6	89.5	110.49	
Ni	60	1	No Gas	48.753	1.289	116652	1.23	50	97.5	89.5	110.49	
Cu	65	1	No Gas	48.391	0.503	121861	0.11	50	96.8	89.5	110.49	
Zn	66	1	No Gas	49.346	0.370	83620	0.52	50	98.7	89.5	110.49	
As	75	1	No Gas	49.475	1.532	52174	2.26	50	99.0	89.5	110.49	
Se	82	1	No Gas	49.592	3.049	5472	3.58	50	99.2	89.5	110.49	
Sr	88	1	No Gas	49.078	0.956	642973	0.75	50	98.2	89.5	110.49	
Mo	95	1	No Gas	48.890	0.537	121404	0.25	50	97.8	89.5	110.49	
Ag	107	1	No Gas	48.636	0.607	314798	0.34	50	97.3	89.5	110.49	
Cd	111	1	No Gas	49.949	0.399	77300	0.39	50	99.9	89.5	110.49	
[Cd]	114	1	No Gas	49.138	0.531	173998	0.80	50	98.3	89.5	110.49	
Sn	118	1	No Gas	49.411	0.778	211806	0.81	50	98.8	89.5	110.49	
Sb	123	1	No Gas	49.639	1.084	200855	0.81	50	99.3	89.5	110.49	
Ba	137	1	No Gas	49.289	1.440	95079	1.15	50	98.6	89.5	110.49	
Ce	140	1	No Gas	48.797	0.656	901500	0.42	50	97.6	89.5	110.49	
Tl	205	1	No Gas	49.533	0.510	1066298	0.53	50	99.1	89.5	110.49	
Pb	208	1	No Gas	49.674	0.545	1484563	0.63	50	99.3	89.5	110.49	
U	238	1	No Gas	48.821	0.808	1944495	0.73	50	97.6	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1171266	0.59	1211532	96.68	80	120	
Ge (IS)	72	1	No Gas	164761	0.84	171388	96.13	80	120	
In-115 (IS)	115	1	No Gas	1243218	0.29	1261514	98.55	80	120	
Tb-159 (IS)	159	1	No Gas	2418205	0.27	2431320	99.46	80	120	

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Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3322984
Data File Name	041_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:47:27-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.013	11.8	136	9.3	0.5	
Na	23	1	No Gas	4.809	35.4	799101	4.5	110	
Mg	24	1	No Gas	-0.602	-37.8	27591	11.6	110	
Al	27	1	No Gas	0.121	15.0	7508	3.9	10	
K	39	1	No Gas	31.084	2.2	2066021	0.1	110	
Ca	44	1	No Gas	5.441	33.3	9376	6.8	110	
V	51	1	No Gas	0.188	109.1	317	820.1	2	
Cr	52	1	No Gas	-0.376	-5.1	10130	2.0	2	
Mn	55	1	No Gas	0.002	47.7	3339	0.3	1	
Fe	56	1	No Gas	-7.666	-0.8	421034	0.4	10	
Co	59	1	No Gas	0.012	3.9	228	2.2	1	
Ni	60	1	No Gas	0.016	238.6	471	19.3	2	
Cu	65	1	No Gas	0.258	5.1	1875	1.9	1	
Zn	66	1	No Gas	0.074	52.8	1357	4.5	20	
As	75	1	No Gas	0.151	204.9	63	508.3	1	
Se	82	1	No Gas	0.145	106.0	9	179.7	2	
Sr	88	1	No Gas	0.041	9.7	921	5.2	2	
Mo	95	1	No Gas	0.070	26.9	206	21.6	2	
Ag	107	1	No Gas	0.021	24.8	167	19.1	1	
Cd	111	1	No Gas	0.009	87.5	18	65.8	1	
[Cd]	114	1	No Gas	0.002	402.0	7	462.1	1	
Sn	118	1	No Gas	0.058	15.4	400	9.8	2	
Sb	123	1	No Gas	0.160	12.3	826	8.6	1	
Ba	137	1	No Gas	0.023	6.2	67	5.0	1	
Ce	140	1	No Gas	0.015	11.4	298	10.2	1	
Tl	205	1	No Gas	0.028	22.2	698	17.7	1	
Pb	208	1	No Gas	0.012	30.4	618	16.5	1	
U	238	1	No Gas	0.024	13.3	1013	11.5	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1159547	0.26	1211532	95.71	80	120	
Ge (IS)	72	1	No Gas	162742	1.82	171388	94.96	80	120	
In-115 (IS)	115	1	No Gas	1222425	0.95	1261514	96.90	80	120	
Tb-159 (IS)	159	1	No Gas	2367527	1.03	2431320	97.38	80	120	

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Sample Report

Sample Table

Sample Name	440-145274-a-1-a@5
Data File Name	042SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T16:57:30-07:00
Sample Type	Sample
Dilution	1
Comment	SE 200.8 440-326330 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.003	0.003	135.48	57		4000	
Na	23	1	No Gas	162461.467	162461.467	0.18	3633041989		125000	>LDR
Mg	24	1	No Gas	4674.292	4674.292	0.46	67425933		125000	
Al	27	1	No Gas	72.182	72.182	0.36	1177547		4000	
K	39	1	No Gas	8403.169	8403.169	0.21	99965583		125000	
Ca	44	1	No Gas	10162.561	10162.561	0.34	3714367		250000	
V	51	1	No Gas	18.864	18.864	0.84	238325		4000	
Cr	52	1	No Gas	17.471	17.471	0.66	213919		4000	
Mn	55	1	No Gas	37.137	37.137	0.23	571241		4000	
Fe	56	1	No Gas	65.591	65.591	0.77	1255175		40000	
Co	59	1	No Gas	18.007	18.007	1.16	205924		4000	
Ni	60	1	No Gas	21.195	21.195	1.08	50858		4000	
Cu	65	1	No Gas	25.505	25.505	1.11	64699		4000	
Zn	66	1	No Gas	76.207	76.207	1.81	123535		4000	
As	75	1	No Gas	18.118	18.118	2.94	18313		4000	
Se	82	1	No Gas	57.634	57.634	0.66	6117		3000	
Sr	88	1	No Gas	197.862	197.862	0.71	2444249		4000	
Mo	95	1	No Gas	24.402	24.402	0.27	57176		4000	
Ag	107	1	No Gas	0.085	0.085	7.48	551		100	
Cd	111	1	No Gas	18.386	18.386	2.19	26838		4000	
[Cd]	114	1	No Gas	17.828	17.828	1.88	59559		4000	
Sn	118	1	No Gas	0.102	0.102	13.83	561		4000	
Sb	123	1	No Gas	0.081	0.081	10.18	490		4000	
Ba	137	1	No Gas	52.875	52.875	0.28	96215		4000	
Ce	140	1	No Gas	0.030	0.030	8.35	556		4000	
Tl	205	1	No Gas	0.002	0.002	32.16	141		4000	
Pb	208	1	No Gas	17.779	17.779	0.68	511804		4000	
U	238	1	No Gas	0.361	0.361	2.28	13904		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1169048	1.83	1211532	96.49	80	120	
Ge (IS)	72	1	No Gas	158479	1.86	171388	92.47	80	120	
In-115 (IS)	115	1	No Gas	1172714	2.04	1261514	92.96	80	120	
Tb-159 (IS)	159	1	No Gas	2328304	1.41	2431320	95.76	80	120	

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Sample Report

Sample Table

Sample Name	440-145274-a-1-b ms@5
Data File Name	043SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:00:12-07:00
Sample Type	Sample
Dilution	1
Comment	SE 200.8 440-326330 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	14.757	14.757	1.24	119558		4000	
Na	23	1	No Gas	159191.804	159191.804	1.82	3610067768		125000	>LDR
Mg	24	1	No Gas	4981.933	4981.933	1.58	72874377		125000	
Al	27	1	No Gas	85.853	85.853	1.10	1419213		4000	
K	39	1	No Gas	8639.374	8639.374	1.14	104178938		125000	
Ca	44	1	No Gas	10725.268	10725.268	0.81	3974726		250000	
V	51	1	No Gas	33.992	33.992	0.84	437236		4000	
Cr	52	1	No Gas	32.269	32.269	1.25	388209		4000	
Mn	55	1	No Gas	51.496	51.496	0.50	801983		4000	
Fe	56	1	No Gas	238.689	238.689	1.15	3263348		40000	
Co	59	1	No Gas	32.253	32.253	0.75	373923		4000	
Ni	60	1	No Gas	35.721	35.721	1.83	86634		4000	
Cu	65	1	No Gas	38.531	38.531	0.88	98475		4000	
Zn	66	1	No Gas	90.304	90.304	0.32	147555		4000	
As	75	1	No Gas	34.236	34.236	4.51	35034		4000	
Se	82	1	No Gas	71.269	71.269	2.40	7637		3000	
Sr	88	1	No Gas	212.116	212.116	1.61	2640162		4000	
Mo	95	1	No Gas	39.935	39.935	1.32	94267		4000	
Ag	107	1	No Gas	15.068	15.068	0.22	92724		100	
Cd	111	1	No Gas	33.042	33.042	0.40	48604		4000	
[Cd]	114	1	No Gas	32.402	32.402	0.77	109059		4000	
Sn	118	1	No Gas	15.944	15.944	1.92	65071		4000	
Sb	123	1	No Gas	16.093	16.093	1.86	62025		4000	
Ba	137	1	No Gas	67.449	67.449	2.11	123657		4000	
Ce	140	1	No Gas	15.490	15.490	1.92	272046		4000	
Tl	205	1	No Gas	14.611	14.611	0.82	306196		4000	
Pb	208	1	No Gas	32.379	32.379	0.74	941863		4000	
U	238	1	No Gas	15.588	15.588	0.81	604259		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1185477	1.14	1211532	97.85	80	120	
Ge (IS)	72	1	No Gas	159953	1.52	171388	93.33	80	120	
In-115 (IS)	115	1	No Gas	1181661	1.11	1261514	93.67	80	120	
Tb-159 (IS)	159	1	No Gas	2353434	1.43	2431320	96.80	80	120	

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Sample Report

Sample Table

Sample Name	440-145274-a-1-c msd@5
Data File Name	044SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:02:55-07:00
Sample Type	Sample
Dilution	1
Comment	SE 200.8 440-326330 TK
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	14.613	14.613	0.39	118207		4000	
Na	23	1	No Gas	156777.787	156777.787	1.91	3549368037		125000	>LDR
Mg	24	1	No Gas	4853.849	4853.849	1.52	70889919		125000	
Al	27	1	No Gas	84.678	84.678	0.63	1397683		4000	
K	39	1	No Gas	8491.041	8491.041	0.50	102266725		125000	
Ca	44	1	No Gas	10655.099	10655.099	0.58	3942787		250000	
V	51	1	No Gas	33.599	33.599	0.89	431481		4000	
Cr	52	1	No Gas	31.772	31.772	0.23	381872		4000	
Mn	55	1	No Gas	50.821	50.821	0.28	790298		4000	
Fe	56	1	No Gas	235.796	235.796	1.15	3225007		40000	
Co	59	1	No Gas	32.079	32.079	1.53	371304		4000	
Ni	60	1	No Gas	34.818	34.818	0.45	84325		4000	
Cu	65	1	No Gas	38.386	38.386	0.48	97954		4000	
Zn	66	1	No Gas	86.959	86.959	0.25	144121		4000	
As	75	1	No Gas	32.873	32.873	1.83	34087		4000	
Se	82	1	No Gas	70.096	70.096	3.54	7615		3000	
Sr	88	1	No Gas	207.826	207.826	1.52	2595961		4000	
Mo	95	1	No Gas	39.752	39.752	0.69	94170		4000	
Ag	107	1	No Gas	14.849	14.849	0.71	91700		100	
Cd	111	1	No Gas	32.300	32.300	0.26	47687		4000	
[Cd]	114	1	No Gas	31.790	31.790	1.02	107388		4000	
Sn	118	1	No Gas	16.032	16.032	1.65	65655		4000	
Sb	123	1	No Gas	15.575	15.575	1.83	60238		4000	
Ba	137	1	No Gas	66.633	66.633	2.08	122601		4000	
Ce	140	1	No Gas	15.244	15.244	1.75	268665		4000	
Tl	205	1	No Gas	14.373	14.373	0.82	302523		4000	
Pb	208	1	No Gas	31.756	31.756	0.83	927638		4000	
U	238	1	No Gas	15.285	15.285	0.91	595035		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1183734	1.25	1211532	97.71	80	120	
Ge (IS)	72	1	No Gas	162186	1.44	171388	94.63	80	120	
In-115 (IS)	115	1	No Gas	1185974	1.28	1261514	94.01	80	120	
Tb-159 (IS)	159	1	No Gas	2363551	1.70	2431320	97.21	80	120	

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Sample Report

Sample Table

Sample Name	145160-1@5
Data File Name	045SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:09:05-07:00
Sample Type	Sample
Dilution	1
Comment	SE 200.8 CONFIRM
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.003	0.003	51.40	53		4000	
Na	23	1	No Gas	155333.511	155333.511	1.16	3493629941		125000	>LDR
Mg	24	1	No Gas	4441.426	4441.426	1.83	64435900		125000	
Al	27	1	No Gas	70.120	70.120	0.39	1150734		4000	
K	39	1	No Gas	8032.285	8032.285	1.00	96202041		125000	
Ca	44	1	No Gas	9768.951	9768.951	0.19	3591768		250000	
V	51	1	No Gas	18.224	18.224	0.66	231569		4000	
Cr	52	1	No Gas	16.857	16.857	0.78	208139		4000	
Mn	55	1	No Gas	35.353	35.353	0.56	547168		4000	
Fe	56	1	No Gas	66.350	66.350	1.06	1271172		40000	
Co	59	1	No Gas	17.301	17.301	0.88	198983		4000	
Ni	60	1	No Gas	20.671	20.671	1.35	49905		4000	
Cu	65	1	No Gas	24.303	24.303	1.36	62069		4000	
Zn	66	1	No Gas	73.776	73.776	0.45	120388		4000	
As	75	1	No Gas	18.140	18.140	4.22	18458		4000	
Se	82	1	No Gas	57.286	57.286	0.44	6117		3000	
Sr	88	1	No Gas	190.667	190.667	0.80	2359816		4000	
Mo	95	1	No Gas	23.980	23.980	1.79	56302		4000	
Ag	107	1	No Gas	0.083	0.083	7.30	538		100	
Cd	111	1	No Gas	17.384	17.384	1.80	25431		4000	
[Cd]	114	1	No Gas	17.120	17.120	1.19	57290		4000	
Sn	118	1	No Gas	0.110	0.110	13.93	597		4000	
Sb	123	1	No Gas	0.058	0.058	13.78	404		4000	
Ba	137	1	No Gas	50.771	50.771	1.87	92572		4000	
Ce	140	1	No Gas	0.030	0.030	5.50	554		4000	
Tl	205	1	No Gas	0.009	0.009	20.67	283		4000	
Pb	208	1	No Gas	17.026	17.026	0.62	491966		4000	
U	238	1	No Gas	0.347	0.347	3.46	13433		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1175946	1.83	1211532	97.06	80	120	
Ge (IS)	72	1	No Gas	159452	1.65	171388	93.04	80	120	
In-115 (IS)	115	1	No Gas	1174957	0.91	1261514	93.14	80	120	
Tb-159 (IS)	159	1	No Gas	2337042	1.28	2431320	96.12	80	120	

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Sample Report

Sample Table

Sample Name	145160-1 MS@5
Data File Name	046SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:11:50-07:00
Sample Type	Sample
Dilution	1
Comment	SE 200.8 CONFIRM
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	14.526	14.526	0.04	118038		4000	
Na	23	1	No Gas	151546.529	151546.529	1.36	3446676343		125000	>LDR
Mg	24	1	No Gas	4705.276	4705.276	1.10	69033764		125000	
Al	27	1	No Gas	83.474	83.474	0.33	1384133		4000	
K	39	1	No Gas	8291.166	8291.166	0.60	100351223		125000	
Ca	44	1	No Gas	10323.934	10323.934	0.14	3837709		250000	
V	51	1	No Gas	32.879	32.879	1.26	424131		4000	
Cr	52	1	No Gas	31.406	31.406	0.87	379350		4000	
Mn	55	1	No Gas	49.810	49.810	0.41	778173		4000	
Fe	56	1	No Gas	237.672	237.672	0.47	3261404		40000	
Co	59	1	No Gas	31.452	31.452	0.19	365735		4000	
Ni	60	1	No Gas	34.298	34.298	0.44	83447		4000	
Cu	65	1	No Gas	37.810	37.810	0.79	96947		4000	
Zn	66	1	No Gas	86.382	86.382	0.55	141440		4000	
As	75	1	No Gas	33.169	33.169	3.13	33979		4000	
Se	82	1	No Gas	68.856	68.856	1.00	7390		3000	
Sr	88	1	No Gas	203.541	203.541	0.67	2531746		4000	
Mo	95	1	No Gas	38.833	38.833	1.08	91606		4000	
Ag	107	1	No Gas	15.161	15.161	0.27	93230		100	
Cd	111	1	No Gas	31.870	31.870	1.67	46853		4000	
[Cd]	114	1	No Gas	31.416	31.416	0.79	105660		4000	
Sn	118	1	No Gas	15.967	15.967	0.43	65115		4000	
Sb	123	1	No Gas	15.990	15.990	1.25	61584		4000	
Ba	137	1	No Gas	65.496	65.496	1.67	120016		4000	
Ce	140	1	No Gas	15.369	15.369	1.40	269749		4000	
Tl	205	1	No Gas	14.474	14.474	0.30	305271		4000	
Pb	208	1	No Gas	31.318	31.318	0.30	916881		4000	
U	238	1	No Gas	15.243	15.243	0.72	594716		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1189075	1.04	1211532	98.15	80	120	
Ge (IS)	72	1	No Gas	160222	0.85	171388	93.49	80	120	
In-115 (IS)	115	1	No Gas	1180873	1.07	1261514	93.61	80	120	
Tb-159 (IS)	159	1	No Gas	2368560	1.37	2431320	97.42	80	120	

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Sample Table

Sample Name	145160-1 MSD@5
Data File Name	047SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:14:32-07:00
Sample Type	Sample
Dilution	1
Comment	SE 200.8 CONFIRM
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	14.797	14.797	1.57	120077		4000	
Na	23	1	No Gas	150304.027	150304.027	1.71	3413557411		125000	>LDR
Mg	24	1	No Gas	4709.604	4709.604	2.30	68993773		125000	
Al	27	1	No Gas	82.249	82.249	0.83	1362049		4000	
K	39	1	No Gas	8183.417	8183.417	1.33	98926712		125000	
Ca	44	1	No Gas	10178.903	10178.903	0.65	3778682		250000	
V	51	1	No Gas	33.114	33.114	0.57	426586		4000	
Cr	52	1	No Gas	31.541	31.541	1.22	380384		4000	
Mn	55	1	No Gas	49.628	49.628	0.86	774232		4000	
Fe	56	1	No Gas	239.273	239.273	1.13	3275150		40000	
Co	59	1	No Gas	31.676	31.676	1.06	367810		4000	
Ni	60	1	No Gas	34.278	34.278	0.99	83287		4000	
Cu	65	1	No Gas	37.705	37.705	1.24	96538		4000	
Zn	66	1	No Gas	84.756	84.756	1.06	140271		4000	
As	75	1	No Gas	33.113	33.113	0.42	34284		4000	
Se	82	1	No Gas	70.009	70.009	0.71	7593		3000	
Sr	88	1	No Gas	199.552	199.552	0.83	2510239		4000	
Mo	95	1	No Gas	38.474	38.474	0.17	91780		4000	
Ag	107	1	No Gas	15.333	15.333	0.74	95350		100	
Cd	111	1	No Gas	31.813	31.813	0.17	47294		4000	
[Cd]	114	1	No Gas	31.236	31.236	0.93	106240		4000	
Sn	118	1	No Gas	16.222	16.222	0.76	66894		4000	
Sb	123	1	No Gas	16.205	16.205	0.55	63108		4000	
Ba	137	1	No Gas	65.349	65.349	0.53	121090		4000	
Ce	140	1	No Gas	15.578	15.578	1.21	276486		4000	
Tl	205	1	No Gas	14.568	14.568	0.88	307147		4000	
Pb	208	1	No Gas	31.476	31.476	0.56	921176		4000	
U	238	1	No Gas	15.661	15.661	0.22	610785		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1187528	1.87	1211532	98.02	80	120	
Ge (IS)	72	1	No Gas	161922	1.67	171388	94.48	80	120	
In-115 (IS)	115	1	No Gas	1194200	1.05	1261514	94.66	80	120	
Tb-159 (IS)	159	1	No Gas	2367720	1.19	2431320	97.38	80	120	

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Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3322986
Data File Name	048_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:17:14-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	No Gas	49.028	0.342	388088	0.44	50	98.1	89.5	110.49	
Na	23	1	No Gas	1325.618	0.478	30063254	0.39	1250	106.0	89.5	110.49	
Mg	24	1	No Gas	1250.492	0.946	17903679	1.11	1250	100.0	89.5	110.49	
Al	27	1	No Gas	49.678	0.958	804848	0.64	50	99.4	89.5	110.49	
K	39	1	No Gas	1256.795	0.308	16266235	0.59	1250	100.5	89.5	110.49	
Ca	44	1	No Gas	2479.261	0.596	903567	0.31	2500	99.2	89.5	110.49	
V	51	1	No Gas	48.629	1.122	612150	0.79	50	97.3	89.5	110.49	
Cr	52	1	No Gas	48.687	1.216	565050	0.80	50	97.4	89.5	110.49	
Mn	55	1	No Gas	49.301	0.885	750449	0.41	50	98.6	89.5	110.49	
Fe	56	1	No Gas	497.219	0.990	6094361	1.32	500	99.4	89.5	110.49	
Co	59	1	No Gas	48.888	0.818	553848	0.93	50	97.8	89.5	110.49	
Ni	60	1	No Gas	48.644	0.095	115129	0.45	50	97.3	89.5	110.49	
Cu	65	1	No Gas	48.378	0.330	120509	0.24	50	96.8	89.5	110.49	
Zn	66	1	No Gas	49.735	1.911	83274	1.58	50	99.5	89.5	110.49	
As	75	1	No Gas	49.006	2.289	51067	2.56	50	98.0	89.5	110.49	
Se	82	1	No Gas	50.941	4.381	5554	4.68	50	101.9	89.5	110.49	
Sr	88	1	No Gas	49.330	0.493	632525	0.65	50	98.7	89.5	110.49	
Mo	95	1	No Gas	49.381	0.424	120012	0.07	50	98.8	89.5	110.49	
Ag	107	1	No Gas	48.464	1.015	306998	0.57	50	96.9	89.5	110.49	
Cd	111	1	No Gas	50.018	0.778	75758	0.68	50	100.0	89.5	110.49	
[Cd]	114	1	No Gas	49.192	0.350	170482	0.63	50	98.4	89.5	110.49	
Sn	118	1	No Gas	49.924	0.778	209450	0.85	50	99.8	89.5	110.49	
Sb	123	1	No Gas	50.143	0.794	198582	1.17	50	100.3	89.5	110.49	
Ba	137	1	No Gas	49.764	0.520	93955	0.78	50	99.5	89.5	110.49	
Ce	140	1	No Gas	49.401	1.245	893238	1.45	50	98.8	89.5	110.49	
Tl	205	1	No Gas	49.876	0.809	1055420	0.95	50	99.8	89.5	110.49	
Pb	208	1	No Gas	49.928	0.776	1466740	0.54	50	99.9	89.5	110.49	
U	238	1	No Gas	49.200	0.523	1926317	0.99	50	98.4	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1158551	0.48	1211532	95.63	80	120	
Ge (IS)	72	1	No Gas	162818	0.30	171388	95.00	80	120	
In-115 (IS)	115	1	No Gas	1216756	0.45	1261514	96.45	80	120	
Tb-159 (IS)	159	1	No Gas	2377085	0.58	2431320	97.77	80	120	

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Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3322984
Data File Name	049_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:19:54-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.010	9.0	111	6.2	0.5	
Na	23	1	No Gas	18.233	11.8	1068818	4.4	110	
Mg	24	1	No Gas	-1.066	-10.2	20424	7.4	110	
Al	27	1	No Gas	0.093	13.3	6879	3.0	10	
K	39	1	No Gas	9.323	7.9	1767340	0.5	110	
Ca	44	1	No Gas	1.104	45.2	7609	2.1	110	
V	51	1	No Gas	0.052	396.3	-1376	-183.6	2	
Cr	52	1	No Gas	-0.473	-7.7	8806	4.5	2	
Mn	55	1	No Gas	0.002	270.8	3255	2.8	1	
Fe	56	1	No Gas	-7.878	-5.9	407958	1.3	10	
Co	59	1	No Gas	0.015	20.3	249	13.5	1	
Ni	60	1	No Gas	0.015	84.5	456	6.1	2	
Cu	65	1	No Gas	0.260	9.2	1832	3.4	1	
Zn	66	1	No Gas	0.100	48.1	1360	5.3	20	
As	75	1	No Gas	-0.260	-159.8	-352	-119.2	1	
Se	82	1	No Gas	0.108	128.6	5	276.4	2	
Sr	88	1	No Gas	0.013	46.4	556	14.0	2	
Mo	95	1	No Gas	0.067	13.7	196	10.4	2	
Ag	107	1	No Gas	0.023	28.7	179	23.6	1	
Cd	111	1	No Gas	0.010	68.6	19	53.9	1	
[Cd]	114	1	No Gas	0.007	158.6	22	165.1	1	
Sn	118	1	No Gas	0.055	15.5	381	9.6	2	
Sb	123	1	No Gas	0.155	19.1	791	14.3	1	
Ba	137	1	No Gas	0.021	57.8	61	36.3	1	
Ce	140	1	No Gas	0.011	24.1	227	19.9	1	
Tl	205	1	No Gas	0.018	21.3	472	16.4	1	
Pb	208	1	No Gas	0.013	43.0	618	24.0	1	
U	238	1	No Gas	0.023	14.1	951	12.2	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1129924	0.23	1211532	93.26	80	120	
Ge (IS)	72	1	No Gas	158116	0.73	171388	92.26	80	120	
In-115 (IS)	115	1	No Gas	1199002	0.99	1261514	95.04	80	120	
Tb-159 (IS)	159	1	No Gas	2338026	1.04	2431320	96.16	80	120	

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Method Blank (MB) Report

Sample Table

Sample Name	mb 440-326590/1-a
Data File Name	050_MB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:22:35-07:00
Sample Type	MB
Dilution	1
Comment	CAM 200.8DW 440-326590 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.002	9.8	49	3.9	0.5	
Na	23	1	No Gas	11.838	9.2	913391	2.3	110	
Mg	24	1	No Gas	-1.605	-0.8	12674	1.4	110	
Al	27	1	No Gas	1.919	1.8	34868	1.2	10	
K	39	1	No Gas	7.078	8.1	1709788	0.6	110	
Ca	44	1	No Gas	2.262	19.3	7869	1.7	110	
V	51	1	No Gas	0.001	28816.3	-1966	-103.9	2	
Cr	52	1	No Gas	-0.272	-7.9	10818	2.2	2	
Mn	55	1	No Gas	0.016	20.5	3397	1.7	1	
Fe	56	1	No Gas	-7.468	-4.5	404824	0.7	10	
Co	59	1	No Gas	0.008	7.7	167	4.0	1	
Ni	60	1	No Gas	0.034	93.8	490	14.8	2	
Cu	65	1	No Gas	0.059	65.0	1325	7.1	1	
Zn	66	1	No Gas	0.271	28.7	1612	7.3	20	
As	75	1	No Gas	0.016	2383.8	-72	-533.7	1	
Se	82	1	No Gas	0.116	44.2	6	88.2	2	
Sr	88	1	No Gas	-0.004	-55.8	332	7.5	2	
Mo	95	1	No Gas	0.044	19.4	138	14.0	2	
Ag	107	1	No Gas	0.001	168.6	40	33.3	1	
Cd	111	1	No Gas	0.006	35.7	13	25.0	1	
[Cd]	114	1	No Gas	-0.006	-97.9	-21	-93.9	1	
Sn	118	1	No Gas	0.022	32.4	242	12.4	2	
Sb	123	1	No Gas	0.063	4.8	423	2.1	1	
Ba	137	1	No Gas	0.012	41.9	43	20.3	1	
Ce	140	1	No Gas	0.002	96.1	59	45.4	1	
Tl	205	1	No Gas	0.003	35.9	153	12.1	1	
Pb	208	1	No Gas	0.007	3.0	461	1.1	1	
U	238	1	No Gas	0.004	22.4	200	15.9	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1109041	0.27	1211532	91.54	80	120	
Ge (IS)	72	1	No Gas	155955	1.31	171388	91.00	80	120	
In-115 (IS)	115	1	No Gas	1175678	0.65	1261514	93.20	80	120	
Tb-159 (IS)	159	1	No Gas	2283569	0.32	2431320	93.92	80	120	

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Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 440-326590/2-a
Data File Name	051_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:27:20-07:00
Sample Type	LCS
Dilution	1
Comment	CAM 200.8DW 440-326590 RD
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	No Gas	69.279	69.279	0.796	513727	0.55	80	86.6	85	115	
Na	23	1	No Gas	1770.875	1770.875	0.193	37406955	0.50	2000	88.5	85	115	
Mg	24	1	No Gas	1743.977	1743.977	0.958	23378776	1.26	2000	87.2	85	115	
Al	27	1	No Gas	70.087	70.087	0.327	1061646	0.13	80	87.6	85	115	
K	39	1	No Gas	1743.552	1743.552	1.047	20521986	0.72	2000	87.2	85	115	
Ca	44	1	No Gas	3430.914	3430.914	0.365	1168760	0.16	4000	85.8	85	115	
V	51	1	No Gas	68.440	68.440	0.502	807909	0.23	80	85.5	85	115	
Cr	52	1	No Gas	68.115	68.115	0.415	735232	0.21	80	85.1	85	115	
Mn	55	1	No Gas	69.075	69.075	0.497	983812	0.46	80	86.3	85	115	
Fe	56	1	No Gas	687.251	687.251	0.440	7709744	0.10	800	85.9	85	115	
Co	59	1	No Gas	67.422	67.422	0.093	715531	0.36	80	84.3	85	115	>+/-15%
Ni	60	1	No Gas	67.008	67.008	0.730	148421	0.62	80	83.8	85	115	>+/-15%
Cu	65	1	No Gas	66.648	66.648	0.052	155093	0.31	80	83.3	85	115	>+/-15%
Zn	66	1	No Gas	69.948	69.948	1.856	108194	1.08	80	87.4	85	115	
As	75	1	No Gas	70.680	70.680	0.195	68374	0.88	80	88.3	85	115	
Se	82	1	No Gas	72.525	72.525	1.680	7339	0.98	80	90.7	85	115	
Sr	88	1	No Gas	69.761	69.761	0.756	841822	0.69	80	87.2	85	115	
Mo	95	1	No Gas	67.453	67.453	0.795	154297	0.71	80	84.3	85	115	>+/-15%
Ag	107	1	No Gas	69.248	69.248	0.248	412906	0.22	80	86.6	85	115	
Cd	111	1	No Gas	70.245	70.245	0.693	100147	0.61	80	87.8	85	115	
[Cd]	114	1	No Gas	69.730	69.730	0.439	227473	0.45	80	87.2	85	115	
Sn	118	1	No Gas	69.582	69.582	1.275	274725	1.20	80	87.0	85	115	
Sb	123	1	No Gas	70.165	70.165	1.590	261482	1.55	80	87.7	85	115	
Ba	137	1	No Gas	68.572	68.572	1.383	121855	1.36	80	85.7	85	115	
Ce	140	1	No Gas	67.978	67.978	1.315	1156954	1.27	80	85.0	85	115	>+/-15%
Tl	205	1	No Gas	68.956	68.956	0.985	1374887	0.93	80	86.2	85	115	
Pb	208	1	No Gas	70.183	70.183	0.762	1942702	0.82	80	87.7	85	115	
U	238	1	No Gas	69.088	69.088	0.630	2548768	0.84	80	86.4	85	115	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1085367	0.32	1211532	89.59	80	120	
Ge (IS)	72	1	No Gas	151070	0.77	171388	88.15	80	120	
In-115 (IS)	115	1	No Gas	1145324	0.08	1261514	90.79	80	120	
Tb-159 (IS)	159	1	No Gas	2239853	0.43	2431320	92.12	80	120	

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Sample Report

Sample Table

Sample Name	440-143048-c-1-d
Data File Name	052SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:30:02-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8DW 440-326590 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.013	0.013	27.24	134		4000	
Na	23	1	No Gas	126087.385	126087.385	0.18	2741258771		125000	>LDR
Mg	24	1	No Gas	2518.532	2518.532	1.42	35336761		125000	
Al	27	1	No Gas	17.205	17.205	1.35	276990		4000	
K	39	1	No Gas	5290.991	5290.991	0.55	61811158		125000	
Ca	44	1	No Gas	6624.565	6624.565	0.80	2356342		250000	
V	51	1	No Gas	0.218	0.218	11.88	688		4000	
Cr	52	1	No Gas	-0.538	-0.538	-3.85	8131		4000	
Mn	55	1	No Gas	2.664	2.664	1.87	42840		4000	
Fe	56	1	No Gas	60.407	60.407	0.94	1163152		40000	
Co	59	1	No Gas	0.042	0.042	1.60	554		4000	
Ni	60	1	No Gas	0.770	0.770	7.20	2207		4000	
Cu	65	1	No Gas	3.341	3.341	1.83	9295		4000	
Zn	66	1	No Gas	37.912	37.912	1.10	60903		4000	
As	75	1	No Gas	1.059	1.059	29.68	972		4000	
Se	82	1	No Gas	3.620	3.620	11.27	371		3000	
Sr	88	1	No Gas	17.800	17.800	1.66	214063		4000	
Mo	95	1	No Gas	0.109	0.109	11.33	281		4000	
Ag	107	1	No Gas	0.017	0.017	20.44	130		100	
Cd	111	1	No Gas	0.011	0.011	86.25	19		4000	
[Cd]	114	1	No Gas	0.006	0.006	166.50	19		4000	
Sn	118	1	No Gas	0.237	0.237	4.65	1078		4000	
Sb	123	1	No Gas	0.047	0.047	4.13	350		4000	
Ba	137	1	No Gas	5.901	5.901	3.04	10454		4000	
Ce	140	1	No Gas	0.048	0.048	3.92	848		4000	
Tl	205	1	No Gas	0.034	0.034	12.81	797		4000	
Pb	208	1	No Gas	0.548	0.548	4.15	15703		4000	
U	238	1	No Gas	0.035	0.035	11.88	1362		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1136534	1.21	1211532	93.81	80	120	
Ge (IS)	72	1	No Gas	155510	2.04	171388	90.74	80	120	
In-115 (IS)	115	1	No Gas	1139852	1.36	1261514	90.36	80	120	
Tb-159 (IS)	159	1	No Gas	2281479	2.22	2431320	93.84	80	120	

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Sample Report

Sample Table

Sample Name	440-143048-c-1-e ms
Data File Name	053SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:32:43-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8DW 440-326590 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	67.097	67.097	0.63	523238		4000	
Na	23	1	No Gas	125682.914	125682.914	1.26	2743932122		125000	>LDR
Mg	24	1	No Gas	4174.253	4174.253	0.93	58791995		125000	
Al	27	1	No Gas	86.628	86.628	0.63	1378626		4000	
K	39	1	No Gas	6959.008	6959.008	0.81	81121003		125000	
Ca	44	1	No Gas	10189.801	10189.801	0.50	3636086		250000	
V	51	1	No Gas	69.286	69.286	0.54	860217		4000	
Cr	52	1	No Gas	67.113	67.113	0.79	762097		4000	
Mn	55	1	No Gas	69.599	69.599	0.48	1042449		4000	
Fe	56	1	No Gas	736.612	736.612	0.59	8654434		40000	
Co	59	1	No Gas	65.528	65.528	0.63	731309		4000	
Ni	60	1	No Gas	64.932	64.932	0.91	151263		4000	
Cu	65	1	No Gas	67.769	67.769	0.75	165814		4000	
Zn	66	1	No Gas	101.497	101.497	0.49	161413		4000	
As	75	1	No Gas	71.454	71.454	1.57	71298		4000	
Se	82	1	No Gas	68.984	68.984	1.61	7199		3000	
Sr	88	1	No Gas	90.389	90.389	0.71	1088946		4000	
Mo	95	1	No Gas	71.079	71.079	0.43	162336		4000	
Ag	107	1	No Gas	67.084	67.084	0.67	399385		100	
Cd	111	1	No Gas	67.416	67.416	0.50	95963		4000	
[Cd]	114	1	No Gas	66.659	66.659	0.60	217119		4000	
Sn	118	1	No Gas	70.343	70.343	1.05	277279		4000	
Sb	123	1	No Gas	71.522	71.522	0.07	266120		4000	
Ba	137	1	No Gas	76.668	76.668	0.24	136028		4000	
Ce	140	1	No Gas	69.241	69.241	0.65	1176632		4000	
Tl	205	1	No Gas	65.550	65.550	0.77	1336210		4000	
Pb	208	1	No Gas	66.734	66.734	1.13	1888563		4000	
U	238	1	No Gas	67.953	67.953	0.76	2562884		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1141419	1.39	1211532	94.21	80	120	
Ge (IS)	72	1	No Gas	155824	1.25	171388	90.92	80	120	
In-115 (IS)	115	1	No Gas	1143524	0.76	1261514	90.65	80	120	
Tb-159 (IS)	159	1	No Gas	2289832	0.67	2431320	94.18	80	120	

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Sample Report

Sample Table

Sample Name	440-143048-c-1-f msd
Data File Name	054SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:35:25-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8DW 440-326590 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	67.775	67.775	0.96	531040		4000	
Na	23	1	No Gas	125615.724	125615.724	0.91	2755713882		125000	>LDR
Mg	24	1	No Gas	4199.368	4199.368	0.35	59428162		125000	
Al	27	1	No Gas	86.112	86.112	0.95	1376892		4000	
K	39	1	No Gas	6939.899	6939.899	0.69	81285030		125000	
Ca	44	1	No Gas	10161.018	10161.018	0.64	3642831		250000	
V	51	1	No Gas	70.301	70.301	1.36	876879		4000	
Cr	52	1	No Gas	67.885	67.885	1.31	774240		4000	
Mn	55	1	No Gas	70.575	70.575	0.63	1061951		4000	
Fe	56	1	No Gas	750.391	750.391	1.14	8847932		40000	
Co	59	1	No Gas	66.880	66.880	1.28	749903		4000	
Ni	60	1	No Gas	65.718	65.718	1.71	153799		4000	
Cu	65	1	No Gas	68.160	68.160	1.38	167548		4000	
Zn	66	1	No Gas	103.010	103.010	0.70	163191		4000	
As	75	1	No Gas	72.680	72.680	2.62	72268		4000	
Se	82	1	No Gas	68.618	68.618	2.01	7137		3000	
Sr	88	1	No Gas	91.140	91.140	0.97	1107387		4000	
Mo	95	1	No Gas	72.071	72.071	0.33	166010		4000	
Ag	107	1	No Gas	68.037	68.037	0.54	408522		100	
Cd	111	1	No Gas	67.911	67.911	0.60	97495		4000	
[Cd]	114	1	No Gas	67.303	67.303	0.52	221092		4000	
Sn	118	1	No Gas	71.734	71.734	0.66	285191		4000	
Sb	123	1	No Gas	72.781	72.781	0.97	273129		4000	
Ba	137	1	No Gas	77.052	77.052	0.93	137876		4000	
Ce	140	1	No Gas	69.816	69.816	0.91	1196539		4000	
Tl	205	1	No Gas	66.389	66.389	0.22	1359590		4000	
Pb	208	1	No Gas	67.315	67.315	0.67	1913702		4000	
U	238	1	No Gas	69.002	69.002	0.88	2614359		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1146803	1.03	1211532	94.66	80	120	
Ge (IS)	72	1	No Gas	155247	1.10	171388	90.58	80	120	
In-115 (IS)	115	1	No Gas	1153327	0.61	1261514	91.42	80	120	
Tb-159 (IS)	159	1	No Gas	2300523	1.45	2431320	94.62	80	120	

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Sample Report

Sample Table

Sample Name	440-143045-b-1-b
Data File Name	055SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T17:38:04-07:00
Sample Type	Sample
Dilution	1
Comment	CAM 200.8DW 440-326590 RD
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	No Gas	0.016	0.016	22.48	157		4000	
Na	23	1	No Gas	3764.526	3764.526	1.56	81424423		125000	
Mg	24	1	No Gas	175.948	175.948	1.40	2469017		125000	
Al	27	1	No Gas	5.696	5.696	0.76	94122		4000	
K	39	1	No Gas	61.591	61.591	2.41	2340886		125000	
Ca	44	1	No Gas	3552.599	3552.599	0.67	1250515		250000	
V	51	1	No Gas	0.259	0.259	77.33	1156		4000	
Cr	52	1	No Gas	0.487	0.487	12.32	19245		4000	
Mn	55	1	No Gas	0.737	0.737	5.50	14009		4000	
Fe	56	1	No Gas	18.180	18.180	3.66	688519		40000	
Co	59	1	No Gas	0.035	0.035	20.19	471		4000	
Ni	60	1	No Gas	2.139	2.139	5.02	5301		4000	
Cu	65	1	No Gas	25.426	25.426	1.24	61895		4000	
Zn	66	1	No Gas	12.300	12.300	1.51	20692		4000	
As	75	1	No Gas	0.230	0.230	46.81	142		4000	
Se	82	1	No Gas	0.446	0.446	29.57	41		3000	
Sr	88	1	No Gas	1.995	1.995	1.81	25278		4000	
Mo	95	1	No Gas	0.131	0.131	15.65	346		4000	
Ag	107	1	No Gas	0.029	0.029	30.81	212		100	
Cd	111	1	No Gas	0.021	0.021	30.63	36		4000	
[Cd]	114	1	No Gas	0.018	0.018	21.22	59		4000	
Sn	118	1	No Gas	0.084	0.084	13.33	497		4000	
Sb	123	1	No Gas	0.048	0.048	33.81	368		4000	
Ba	137	1	No Gas	0.104	0.104	16.22	212		4000	
Ce	140	1	No Gas	0.017	0.017	26.99	327		4000	
Tl	205	1	No Gas	0.038	0.038	7.52	892		4000	
Pb	208	1	No Gas	0.049	0.049	6.02	1653		4000	
U	238	1	No Gas	0.035	0.035	12.50	1383		4000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1121784	1.08	1211532	92.59	80	120	
Ge (IS)	72	1	No Gas	156527	1.47	171388	91.33	80	120	
In-115 (IS)	115	1	No Gas	1184832	1.22	1261514	93.92	80	120	
Tb-159 (IS)	159	1	No Gas	2309670	1.18	2431320	95.00	80	120	

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Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	Xlcs 440-326590/2-a
Data File Name	056_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T18:35:05-07:00
Sample Type	LCS
Dilution	1
Comment	CAM 200.8DW 440-326590 RD **NO SOLN**
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

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Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-3322986
Data File Name	057_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T18:37:47-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	No Gas	50.142	1.380	358475	0.50	50	100.3	89.5	110.49	
Na	23	1	No Gas	1251.975	0.652	25679953	0.46	1250	100.2	89.5	110.49	
Mg	24	1	No Gas	1247.668	1.196	16133999	0.83	1250	99.8	89.5	110.49	
Al	27	1	No Gas	49.597	0.780	725776	0.38	50	99.2	89.5	110.49	
K	39	1	No Gas	1263.342	0.338	14760717	0.82	1250	101.1	89.5	110.49	
Ca	44	1	No Gas	2474.089	0.568	814451	0.81	2500	99.0	89.5	110.49	
V	51	1	No Gas	48.838	0.579	555302	0.59	50	97.7	89.5	110.49	
Cr	52	1	No Gas	48.798	0.823	511510	0.70	50	97.6	89.5	110.49	
Mn	55	1	No Gas	49.433	0.704	679649	0.72	50	98.9	89.5	110.49	
Fe	56	1	No Gas	494.241	1.070	5474067	0.59	500	98.8	89.5	110.49	
Co	59	1	No Gas	48.973	1.265	501090	0.57	50	97.9	89.5	110.49	
Ni	60	1	No Gas	48.468	0.331	103613	0.72	50	96.9	89.5	110.49	
Cu	65	1	No Gas	47.850	0.612	107670	0.63	50	95.7	89.5	110.49	
Zn	66	1	No Gas	49.301	1.578	73915	0.24	50	98.6	89.5	110.49	
As	75	1	No Gas	49.401	1.597	46087	0.90	50	98.8	89.5	110.49	
Se	82	1	No Gas	51.522	1.371	5030	2.56	50	103.0	89.5	110.49	
Sr	88	1	No Gas	48.981	0.146	570203	0.50	50	98.0	89.5	110.49	
Mo	95	1	No Gas	48.536	1.513	107089	1.01	50	97.1	89.5	110.49	
Ag	107	1	No Gas	48.565	0.288	279314	0.73	50	97.1	89.5	110.49	
Cd	111	1	No Gas	50.273	0.452	69133	0.94	50	100.5	89.5	110.49	
[Cd]	114	1	No Gas	49.693	0.338	156356	0.71	50	99.4	89.5	110.49	
Sn	118	1	No Gas	49.893	0.895	190033	0.42	50	99.8	89.5	110.49	
Sb	123	1	No Gas	49.835	1.195	179176	0.88	50	99.7	89.5	110.49	
Ba	137	1	No Gas	49.355	0.359	84598	0.25	50	98.7	89.5	110.49	
Ce	140	1	No Gas	49.372	1.165	810472	1.01	50	98.7	89.5	110.49	
Tl	205	1	No Gas	50.182	0.342	976082	1.21	50	100.4	89.5	110.49	
Pb	208	1	No Gas	50.091	0.463	1352635	1.11	50	100.2	89.5	110.49	
U	238	1	No Gas	49.723	0.630	1789449	1.43	50	99.4	89.5	110.49	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1046450	0.89	1211532	86.37	80	120	
Ge (IS)	72	1	No Gas	145788	1.45	171388	85.06	80	120	
In-115 (IS)	115	1	No Gas	1104682	0.52	1261514	87.57	80	120	
Tb-159 (IS)	159	1	No Gas	2184955	1.03	2431320	89.87	80	120	

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Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-3322984
Data File Name	058_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160426-2.b
Acq Date Time	2016-04-26T18:40:27-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	No Gas	0.013	48.4	121	37.2	0.5	
Na	23	1	No Gas	-14.960	-1.1	322250	0.3	110	
Mg	24	1	No Gas	-1.413	-4.9	14297	5.5	110	
Al	27	1	No Gas	0.086	15.8	6194	2.6	10	
K	39	1	No Gas	2.466	32.7	1549162	0.8	110	
Ca	44	1	No Gas	-1.448	-24.9	6150	1.2	110	
V	51	1	No Gas	0.217	44.9	610	179.7	2	
Cr	52	1	No Gas	-0.532	-3.7	7470	2.4	2	
Mn	55	1	No Gas	-0.005	-49.8	2877	1.7	1	
Fe	56	1	No Gas	-17.617	-0.7	276150	1.0	10	
Co	59	1	No Gas	0.013	28.6	206	17.2	1	
Ni	60	1	No Gas	-0.009	-152.4	367	8.1	2	
Cu	65	1	No Gas	0.216	23.8	1583	7.8	1	
Zn	66	1	No Gas	0.037	326.5	1159	16.2	20	
As	75	1	No Gas	-0.315	-59.9	-374	-46.6	1	
Se	82	1	No Gas	0.072	43.7	1	229.1	2	
Sr	88	1	No Gas	0.004	106.9	401	11.8	2	
Mo	95	1	No Gas	0.062	14.3	169	11.9	2	
Ag	107	1	No Gas	0.017	29.8	127	22.5	1	
Cd	111	1	No Gas	0.013	22.6	21	18.2	1	
[Cd]	114	1	No Gas	0.005	104.8	16	109.9	1	
Sn	118	1	No Gas	0.067	13.8	397	8.5	2	
Sb	123	1	No Gas	0.166	4.6	763	3.4	1	
Ba	137	1	No Gas	0.010	28.4	38	13.5	1	
Ce	140	1	No Gas	0.010	12.0	200	10.1	1	
Tl	205	1	No Gas	0.017	9.1	418	6.4	1	
Pb	208	1	No Gas	0.016	32.2	657	19.8	1	
U	238	1	No Gas	0.020	12.7	774	10.8	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	1	No Gas	1035855	0.69	1211532	85.50	80	120	
Ge (IS)	72	1	No Gas	145283	0.85	171388	84.77	80	120	
In-115 (IS)	115	1	No Gas	1099217	0.36	1261514	87.13	80	120	
Tb-159 (IS)	159	1	No Gas	2162374	1.15	2431320	88.94	80	120	

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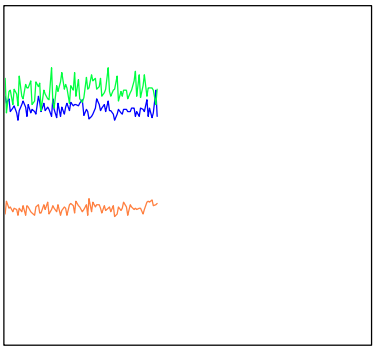
Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	5000	3371	3485.9	2.55
89	2000	1514	1508.7	3.88
205	5000	2088	2012.6	3.20
156/140	2	0.788 %	0.831 %	37.06
70/140	2	1.030 %	0.826 %	37.09
23	100000	85508	88546.8	1.90
6	500	365	341.6	7.63
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1600	W	Carrier Gas	0.60	L/min
RF Matching	1.90	V	Option Gas	0.0	%
Smpl Depth	7.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	7	℃			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	7.3	V
Extract 2	-130.0	V	Cell Entrance	-60	V
Omega Bias	-55	V	Cell Exit	-50	V
Deflect	18.4	V			

Cell Parameters

Use Gas	false		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-8.0	V
H2 Flow	0.0	mL/min	OctP RF	200	V
Energy Discrimination	5.0	V			

Meters

IF/BK Press	3.32E+2	Pa	Internal Temp	31.9	℃
Analyzer Press	1.55E-4	Pa	Inlet Temp	23.3	℃
Carrier Gas(BP)	1.39E+2	kPa			

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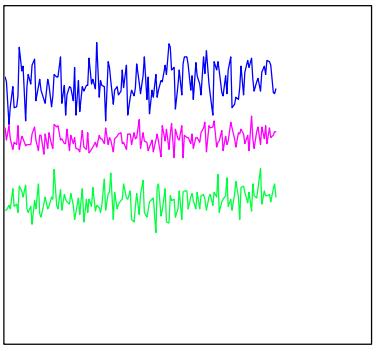
Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	500	378	387.1	6.59
89	500	217	211.9	8.22
140	1000	694	637.9	4.83
205	2000	1259	1216.2	4.28
156/140	2	0.288 %	0.339 %	80.08
70/140	5	1.152 %	0.925 %	50.19
51	20	6	10.3	37.19
78	20	0	0.2	331.25
56	1000	284	283.0	13.46
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1600	W	Carrier Gas	0.60	L/min
RF Matching	1.90	V	Option Gas	0.0	%
Smpl Depth	7.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	7	℃			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	7.3	V
Extract 2	-130.0	V	Cell Entrance	-50	V
Omega Bias	-55	V	Cell Exit	-70	V
Deflect	3.6	V			

Cell Parameters

Use Gas	true		3rd Gas Flow	0	%
He Flow	3.7	mL/min	OctP Bias	-18.0	V
H2 Flow	0.0	mL/min	OctP RF	200	V
Energy Discrimination	4.0	V			

Meters

IF/BK Press	3.34E+2	Pa	Internal Temp	31.9	℃
Analyzer Press	2.51E-4	Pa	Inlet Temp	23.2	℃
Carrier Gas(BP)	1.38E+2	kPa			

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200.8 Tune Check Sample Report

Batch Folder C:\Agilent\ICPMH\1\DATA\160426-1.b
Report Comment
Instrument Name ICPMS04 JP09480189

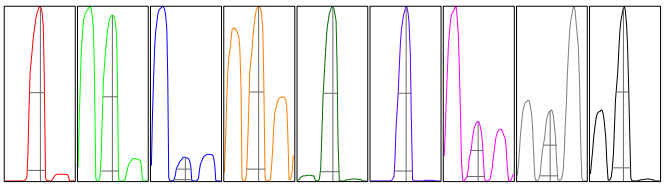
[No Gas]

Mass	Count (Actual)
9	44837
24	83711
25	10981
26	12878
59	61827
115	85081
206	36107
207	32266
208	77388

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	0.34	5.00	
24	0.49	5.00	
25	0.38	5.00	
26	0.65	5.00	
59	0.42	5.00	
115	0.89	5.00	
206	0.59	5.00	
207	1.20	5.00	
208	1.18	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	44850	45076	44833	44665	44760
24	84370	83596	83806	83442	83341
25	11001	11029	10962	10918	10993
26	12882	12854	12802	12835	13019
59	61415	61925	61862	61804	62127
115	84079	84754	84898	85893	85782
206	35796	36016	36145	36351	36226
207	31941	31875	32555	32192	32768
208	76339	76627	77488	77919	78567

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	7375	9.05	8.9 - 9.1		0.782	0.900	
24	13720	24.00	23.9 - 24.1		0.780	0.900	
25	1833	25.00	24.9 - 25.1		0.744	0.900	
26	2109	26.00	25.9 - 26.1		0.787	0.900	
59	10476	59.05	58.9 - 59.1		0.804	0.900	
115	15213	115.05	114.9 - 115.1		0.776	0.900	
206	6811	206.00	205.9 - 206.1		0.745	0.900	
207	5885	206.95	206.9 - 207.1		0.768	0.900	
208	14466	207.95	207.9 - 208.1		0.783	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

## Plasma Paramters ##			
RF Power	1600 W	Carrier Gas	0.60 L/min
RF Matching	1.90 V	Option Gas	0.0 %
Smpl Depth	7.0 mm	Nebulizer Pump	0.10 rps
S/C Temp	7 ℃		
## Lenses Parameters ##			
Extract 1	0.0 V	Omega Lens	7.3 V
Extract 2	-130.0 V	Cell Entrance	-60 V
Omega Bias	-55 V	Cell Exit	-50 V
Deflect	18.4 V		
## Cell Parameters ##			
Use Gas	false	3rd Gas Flow	0 %
He Flow	0.0 mL/min	OctP Bias	-8.0 V
H2 Flow	0.0 mL/min	OctP RF	200 V
Energy Discrimination	5.0 V		

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200.8 Tune Check Sample Report

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)

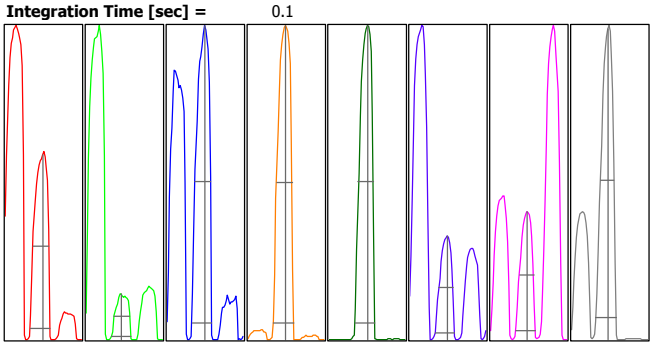
[He]

Mass	Count (Actual)
24	2901
25	411
26	481
59	21428
115	15734
206	21667
207	19486
208	46476

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	1.98	5.00	
25	4.66	5.00	
26	4.72	5.00	
59	0.85	5.00	
115	1.71	5.00	
206	1.38	5.00	
207	1.14	5.00	
208	1.62	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	2857	2860	2944	2865	2981
25	386	417	429	427	395
26	497	464	471	461	513
59	21216	21274	21452	21647	21552
115	15370	15577	15740	15996	15987
206	21466	21378	21714	21634	22145
207	19260	19393	19328	19711	19738
208	45524	45894	46786	46799	47377

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	480	24.000	23.9 - 24.1		0.779	0.900	
25	71	24.900	24.9 - 25.1		0.752	0.900	
26	83	26.000	25.9 - 26.1		0.780	0.900	
59	3681	59.000	58.9 - 59.1		0.792	0.900	
115	2785	115.050	114.9 - 115.1		0.770	0.900	
206	4022	206.000	205.9 - 206.1		0.744	0.900	
207	3572	206.950	206.9 - 207.1		0.765	0.900	
208	8679	207.950	207.9 - 208.1		0.780	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 197.6 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.60 L/min
RF Matching	1.90 V	Option Gas	0.0 %
Smpl Depth	7.0 mm	Nebulizer Pump	0.10 rps
S/C Temp	7 ℃		

Lenses Parameters

Extract 1	0.0 V	Omega Lens	7.3 V
Extract 2	-130.0 V	Cell Entrance	-50 V
Omega Bias	-55 V	Cell Exit	-70 V
Deflect	3.6 V		

Cell Parameters

Use Gas	true	3rd Gas Flow	0 %
He Flow	3.7 mL/min	OctP Bias	-18.0 V
H2 Flow	0.0 mL/min	OctP RF	200 V
Energy Discrimination	4.0 V		

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P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: STD1-3322983
Data File: 003CALS.d
Acquired: 04/26/2016 12:09:13

========= Detector Parameters and P/A Factors =========
Discriminator: 5 mV
AnalogHV: 1741 V
PulseHV: 1087 V

Acquired: 04/26/2016 11:24:59

Mass[u]	Element	P/A Factor
6		0.104394
9		0.121315
24		0.136336
27		0.141278
39		0.141956
45		0.143900
48		0.148100
51		0.147409
52		0.154047
55		0.152369
56		0.138075
59		0.160162
60		0.158195
65		0.160162
66		0.161246
72		0.159210
75		0.159330
95		0.159327
96		0.161417
98		0.162536
99		0.161792
100		0.163180
101		0.163098
102		0.165652
104		0.166306
105		0.166591
106		0.168421
108		0.168101
110		0.169443
111		0.167531

114	0.167189
115	0.167297
118	0.168877
121	0.170189
138	0.171936
193	0.172656
205	0.175431
209	0.175651
232	0.177577
238	0.178475

METALS BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145066-2

SDG No.:

Batch Number: 326386 Batch Start Date: 04/25/16 16:14 Batch Analyst: Nguyen, Quynh 1

Batch Method: 200.2 Batch End Date: 04/25/16 16:47

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME HCl 00317	ME HNO3 00327	ME ICPMS CAL 00027
MB 440-326386/1		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	
LCS 440-326386/2		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-145066-B-5	MW-04-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145066-B-5 MS	MW-04-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-145066-B-5 MSD	MW-04-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-145066-B-4	MW-18-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145066-B-3	MW-05-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145066-B-2	MW-11-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145066-A-1	DBMW-4-20160419	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	

Batch Notes	
Lot # of Nitric Acid	0000129810 HCl:4115100
Pipette ID	51
Digestion Tube/Cup ID	1509104

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zoe Diermier	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Perform MS/MSD (Y/N)	2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate	Total Number of containers	Special Instructions/Note:
DBMW-4-20160419	4-19-16	1100	G	W	Y		X			
MW-11-20160420	4-20-16	0835	G	W	Y	X	X	X		
MW-05-20160420	4-20-16	1015	G	W	Y	X	X	X		
MW-18-20160420	4-20-16	1210	G	W	Y	X	X	X		
MW-04-20160420	4-20-16	1400	G	W	Y	X	X	X		MS/MSD
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

440-145066 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Zoe Diermier	4-20-16 1445	Aecom	[signature]	4-20-16 1445	TA
[signature]	4-20-16 1600	TA			
			Margarita Salas	4/21/16 10:00	TA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: #6589-2840-7038
Cooler Temperature(s) °C and Other Remarks: 1.3 | 1.1 2.6 | 2.4 | 1.9 | 1.7 | 2.1 | 1.9 1.7 | 1.5 ~~2.78~~ 7.6 TALAS

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-145066-2

Login Number: 145066
List Number: 1
Creator: Chavez, Yonny 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-145213-1

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Patty Mata
Senior Project Manager
6/16/2016 3:48 PM

Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
06/16/2016

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
440-145213-1

Comments
Chromium results are reported separately as requested.

Receipt
The samples were received on 4/22/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.0º C and 3.3º C.

HPLC/IC
Method(s) 300.1B: The following samples were diluted for chlorate analyte due to the nature of the sample matrix: WMW7.8N-20160420 (440-145213-2), WMW6.9N-20160420 (440-145213-3), WMW6.9N-20160420-FD (440-145213-4) and WMW6.15N-20160420 (440-145213-5). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Bromide due to the nature of the sample matrix: AA-22-20160420 (440-145213-1), WMW6.9N-20160420 (440-145213-3), WMW6.9N-20160420-FD (440-145213-4) and WMW6.15N-20160420 (440-145213-5). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Due to the relatively high concentration of Chloride in the batch QC source sample, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-325963 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The continuing calibration blank (CCB) for analytical batch 440-325963 contained Chloride above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Client Sample ID: AA-22-20160420 — Lab Sample ID: 440-145213-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300		100	50	mg/L	200		300.0	Total/NA
Chlorate	100000		10000	5000	ug/L	500		300.1B	Total/NA
Perchlorate	7100		400	95	ug/L	100		314.0	Total/NA
Total Dissolved Solids	3600		100	50	mg/L	1		SM 2540C	Total/NA

Client Sample ID: WMW7.8N-20160420 — Lab Sample ID: 440-145213-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.28	J	0.50	0.25	mg/L	1		300.0	Total/NA
Chloride	230		25	13	mg/L	50		300.0	Total/NA
Total Dissolved Solids	1400		20	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.67	J	1.0	0.50	mg/L	2		300.0	Total/NA
Chloride	310		50	25	mg/L	100		300.0	Total/NA
Total Dissolved Solids	2400		20	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: WMW6.9N-20160420-FD — Lab Sample ID: 440-145213-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.72	J	1.0	0.50	mg/L	2		300.0	Total/NA
Chloride	300		50	25	mg/L	100		300.0	Total/NA
Total Dissolved Solids	2400		20	10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: WMW6.15N-20160420 — Lab Sample ID: 440-145213-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	360		100	50	mg/L	200		300.0	Total/NA
Total Dissolved Solids	4500		50	25	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Client Sample ID: AA-22-20160420 — Lab Sample ID: 440-145213-1

Date Collected: 04/20/16 07:05
Date Received: 04/22/16 09:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			04/23/16 03:52	10
Chloride	**1300**		100	50	mg/L			04/23/16 03:39	200

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	**100000**		10000	5000	ug/L			04/23/16 21:59	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*106*		*90 - 115*		*04/23/16 21:59*	*500*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**7100**		400	95	ug/L			05/04/16 14:48	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3600**		100	50	mg/L			04/26/16 14:42	1

Client Sample ID: WMW7.8N-20160420 — Lab Sample ID: 440-145213-2

Date Collected: 04/20/16 09:55
Date Received: 04/22/16 09:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.28**	**J**	0.50	0.25	mg/L			04/23/16 05:02	1
Chloride	**230**		25	13	mg/L			04/23/16 05:16	50

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		100	50	ug/L			05/01/16 11:37	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*101*		*90 - 115*		*05/01/16 11:37*	*5*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/03/16 23:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1400**		20	10	mg/L			04/26/16 14:42	1

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.67**	**J**	1.0	0.50	mg/L			04/23/16 05:29	2
Chloride	**310**		50	25	mg/L			04/23/16 05:43	100

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		100	50	ug/L			04/27/16 13:21	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*102*		*90 - 115*		*04/27/16 13:21*	*5*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/03/16 23:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2400**		20	10	mg/L			04/26/16 14:42	1

Client Sample ID: WMW6.9N-20160420-FD — Lab Sample ID: 440-145213-4

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.72**	**J**	1.0	0.50	mg/L			04/23/16 05:57	2
Chloride	**300**		50	25	mg/L			04/23/16 06:11	100

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		100	50	ug/L			04/27/16 13:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*103*		*90 - 115*		*04/27/16 13:54*	*5*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/04/16 00:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2400**		20	10	mg/L			04/26/16 14:42	1

Client Sample ID: WMW6.15N-20160420 — Lab Sample ID: 440-145213-5

Date Collected: 04/20/16 14:10
Date Received: 04/22/16 09:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			04/23/16 06:25	5
Chloride	**360**		100	50	mg/L			04/23/16 06:39	200

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		100	50	ug/L			04/27/16 14:27	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/27/16 14:27*	*5*

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Client Sample ID: WMW6.15N-20160420

Lab Sample ID: 440-145213-5

Date Collected: 04/20/16 14:10
Matrix: Water
Date Received: 04/22/16 09:45

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/04/16 14:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4500**		50	25	mg/L			04/26/16 14:42	1

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units	Method
Bromide	0.50	0.25	mg/L	300.0
Chloride	0.50	0.25	mg/L	300.0

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	RL	MDL	Units	Method
Chlorate	20	10	ug/L	300.1B

Method: 314.0 - Perchlorate (IC)

Analyte	RL	MDL	Units	Method
Perchlorate	4.0	0.95	ug/L	314.0

General Chemistry

Analyte	RL	MDL	Units	Method
Total Dissolved Solids	10	5.0	mg/L	SM 2540C

Surrogate Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Method: 300.1B - Disinfection By-Products, (IC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		ɔacetic ac							
Lab Sample ID	**Client Sample ID**	**(90-115)**							
440-145185-A-2 MS	Matrix Spike	106							
440-145185-A-2 MSD	Matrix Spike Duplicate	104							
440-145213-1	AA-22-20160420	106							
440-145213-2	WMW7.8N-20160420	101							
440-145213-3	WMW6.9N-20160420	102							
440-145213-4	WMW6.9N-20160420-FD	103							
440-145213-5	WMW6.15N-20160420	104							
440-145296-A-3 MS	Matrix Spike	105							
440-145296-A-3 MSD	Matrix Spike Duplicate	107							
440-145851-A-2 MS	Matrix Spike	111							
440-145851-A-2 MSD	Matrix Spike Duplicate	113							
LCS 440-326094/4	Lab Control Sample	105							
LCS 440-326441/2	Lab Control Sample	105							
LCS 440-327553/3	Lab Control Sample	104							
MB 440-326094/5	Method Blank	104							
MB 440-326441/3	Method Blank	108							
MB 440-327553/4	Method Blank	110							
MRL 440-326094/3	Lab Control Sample	106							
MRL 440-326441/1	Lab Control Sample	107							
MRL 440-327553/2	Lab Control Sample	105							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-325963/59
Matrix: Water
Analysis Batch: 325963

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/23/16 02:43	1
Chloride	ND		0.50	0.25	mg/L			04/23/16 02:43	1

Lab Sample ID: LCS 440-325963/62
Matrix: Water
Analysis Batch: 325963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.97		mg/L		99	90 - 110
Chloride	5.00	4.79		mg/L		96	90 - 110

Lab Sample ID: 440-145213-1 MS
Matrix: Water
Analysis Batch: 325963

Client Sample ID: AA-22-20160420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		50.0	52.3		mg/L		105	80 - 120

Lab Sample ID: 440-145213-1 MSD
Matrix: Water
Analysis Batch: 325963

Client Sample ID: AA-22-20160420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND		50.0	51.7		mg/L		103	80 - 120	1	20

Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 440-326094/5
Matrix: Water
Analysis Batch: 326094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/23/16 10:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*104*		*90 - 115*		*04/23/16 10:22*	*1*

Lab Sample ID: LCS 440-326094/4
Matrix: Water
Analysis Batch: 326094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorate	100	98.0		ug/L		98	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-326094/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	19.0	J	ug/L		95	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: 440-145185-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	250		200	437		ug/L		95	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*106*		*90 - 115*

Lab Sample ID: 440-145185-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	250		200	446		ug/L		100	75 - 125	2	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Lab Sample ID: MB 440-326441/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/26/16 03:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*108*		*90 - 115*		*04/26/16 03:32*	*1*

Lab Sample ID: LCS 440-326441/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			100	101		ug/L		101	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-326441/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	19.5	J	ug/L		97	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*107*		*90 - 115*

Lab Sample ID: 440-145296-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	240		200	414		ug/L		89	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-145296-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 326441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	240		200	421		ug/L		92	75 - 125	2	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*107*		*90 - 115*

Lab Sample ID: MB 440-327553/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327553

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	ND		20	10	ug/L			04/30/16 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*110*		*90 - 115*		*04/30/16 11:25*	*1*

Lab Sample ID: LCS 440-327553/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327553

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			100	98.2		ug/L		98	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*104*		*90 - 115*

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-327553/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327553

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate			20.0	19.9	J	ug/L		100	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*105*		*90 - 115*

Lab Sample ID: 440-145851-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327553

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorate	290		200	476		ug/L		92	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*111*		*90 - 115*

Lab Sample ID: 440-145851-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327553

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorate	290		200	479		ug/L		93	75 - 125	1	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dichloroacetic acid(Surr)	*113*		*90 - 115*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-327943/36 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/03/16 19:52	1

Lab Sample ID: LCS 440-327943/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	25.4		ug/L		101	85 - 115		

Lab Sample ID: 550-62674-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	360		125	462		ug/L		85	80 - 120		

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 550-62674-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 327943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	360		125	455		ug/L		80	80 - 120	1	20

Lab Sample ID: MB 440-328200/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 328200

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/04/16 09:38	1

Lab Sample ID: LCS 440-328200/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 328200

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	25.2		ug/L		101	85 - 115		

Lab Sample ID: MRL 440-328200/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 328200

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.71	J	ug/L		93	75 - 125		

Lab Sample ID: 440-145452-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 328200

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	3.0	J	25.0	26.6		ug/L		94	80 - 120		

Lab Sample ID: 440-145452-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 328200

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	3.0	J	25.0	26.8		ug/L		95	80 - 120	1	20

Lab Sample ID: INF 440-328200/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water
Analysis Batch: 328200

Analyte			Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			25.0	22.6		ug/L		90	80 - 120		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-326631/1
Matrix: Water
Analysis Batch: 326631

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/26/16 14:42	1

Lab Sample ID: LCS 440-326631/2
Matrix: Water
Analysis Batch: 326631

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	942		mg/L		94	90 - 110		

Lab Sample ID: 440-145100-A-1 DU
Matrix: Water
Analysis Batch: 326631

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1500			1520		mg/L				4	5

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

HPLC/IC

Analysis Batch: 325963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-1	AA-22-20160420	Total/NA	Water	300.0	
440-145213-1	AA-22-20160420	Total/NA	Water	300.0	
440-145213-1 MS	AA-22-20160420	Total/NA	Water	300.0	
440-145213-1 MSD	AA-22-20160420	Total/NA	Water	300.0	
440-145213-2	WMW7.8N-20160420	Total/NA	Water	300.0	
440-145213-2	WMW7.8N-20160420	Total/NA	Water	300.0	
440-145213-3	WMW6.9N-20160420	Total/NA	Water	300.0	
440-145213-3	WMW6.9N-20160420	Total/NA	Water	300.0	
440-145213-4	WMW6.9N-20160420-FD	Total/NA	Water	300.0	
440-145213-4	WMW6.9N-20160420-FD	Total/NA	Water	300.0	
440-145213-5	WMW6.15N-20160420	Total/NA	Water	300.0	
440-145213-5	WMW6.15N-20160420	Total/NA	Water	300.0	
LCS 440-325963/62	Lab Control Sample	Total/NA	Water	300.0	
MB 440-325963/59	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 326094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145185-A-2 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145185-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
440-145213-1	AA-22-20160420	Total/NA	Water	300.1B	
LCS 440-326094/4	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-326094/5	Method Blank	Total/NA	Water	300.1B	
MRL 440-326094/3	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 326441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-3	WMW6.9N-20160420	Total/NA	Water	300.1B	
440-145213-4	WMW6.9N-20160420-FD	Total/NA	Water	300.1B	
440-145213-5	WMW6.15N-20160420	Total/NA	Water	300.1B	
440-145296-A-3 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145296-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
LCS 440-326441/2	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-326441/3	Method Blank	Total/NA	Water	300.1B	
MRL 440-326441/1	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 327553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-2	WMW7.8N-20160420	Total/NA	Water	300.1B	
440-145851-A-2 MS	Matrix Spike	Total/NA	Water	300.1B	
440-145851-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.1B	
LCS 440-327553/3	Lab Control Sample	Total/NA	Water	300.1B	
MB 440-327553/4	Method Blank	Total/NA	Water	300.1B	
MRL 440-327553/2	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 327943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-2	WMW7.8N-20160420	Total/NA	Water	314.0	
440-145213-3	WMW6.9N-20160420	Total/NA	Water	314.0	
440-145213-4	WMW6.9N-20160420-FD	Total/NA	Water	314.0	
550-62674-A-1 MS	Matrix Spike	Total/NA	Water	314.0	
550-62674-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 327943 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-327943/37	Lab Control Sample	Total/NA	Water	314.0	
MB 440-327943/36	Method Blank	Total/NA	Water	314.0	

Analysis Batch: 328200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-1	AA-22-20160420	Total/NA	Water	314.0	
440-145213-5	WMW6.15N-20160420	Total/NA	Water	314.0	
440-145452-A-4 MS	Matrix Spike	Total/NA	Water	314.0	
440-145452-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
INF 440-328200/4	Lab Control Sample		Water	314.0	
LCS 440-328200/2	Lab Control Sample	Total/NA	Water	314.0	
MB 440-328200/3	Method Blank	Total/NA	Water	314.0	
MRL 440-328200/5	Lab Control Sample	Total/NA	Water	314.0	

General Chemistry

Analysis Batch: 326631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145100-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
440-145213-1	AA-22-20160420	Total/NA	Water	SM 2540C	
440-145213-2	WMW7.8N-20160420	Total/NA	Water	SM 2540C	
440-145213-3	WMW6.9N-20160420	Total/NA	Water	SM 2540C	
440-145213-4	WMW6.9N-20160420-FD	Total/NA	Water	SM 2540C	
440-145213-5	WMW6.15N-20160420	Total/NA	Water	SM 2540C	
LCS 440-326631/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-326631/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Client Sample ID: AA-22-20160420 — Lab Sample ID: 440-145213-1

Date Collected: 04/20/16 07:05
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	325963	04/23/16 03:39	NTN	TAL IRV
Total/NA	Analysis	300.0		10	325963	04/23/16 03:52	NTN	TAL IRV
Total/NA	Analysis	300.1B		500	326094	04/23/16 21:59	YZ	TAL IRV
Total/NA	Analysis	314.0		100	328200	05/04/16 14:48	CTH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326631	04/26/16 14:42	MMH	TAL IRV

Client Sample ID: WMW7.8N-20160420 — Lab Sample ID: 440-145213-2

Date Collected: 04/20/16 09:55
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	325963	04/23/16 05:02	NTN	TAL IRV
Total/NA	Analysis	300.0		50	325963	04/23/16 05:16	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	327553	05/01/16 11:37	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327943	05/03/16 23:32	CTH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326631	04/26/16 14:42	MMH	TAL IRV

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	325963	04/23/16 05:29	NTN	TAL IRV
Total/NA	Analysis	300.0		100	325963	04/23/16 05:43	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	326441	04/27/16 13:21	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327943	05/03/16 23:48	CTH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326631	04/26/16 14:42	MMH	TAL IRV

Client Sample ID: WMW6.9N-20160420-FD — Lab Sample ID: 440-145213-4

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	325963	04/23/16 05:57	NTN	TAL IRV
Total/NA	Analysis	300.0		100	325963	04/23/16 06:11	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	326441	04/27/16 13:54	YZ	TAL IRV
Total/NA	Analysis	314.0		1	327943	05/04/16 00:05	CTH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326631	04/26/16 14:42	MMH	TAL IRV

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Client Sample ID: WMW6.15N-20160420

Date Collected: 04/20/16 14:10
Date Received: 04/22/16 09:45

Lab Sample ID: 440-145213-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	325963	04/23/16 06:25	NTN	TAL IRV
Total/NA	Analysis	300.0		200	325963	04/23/16 06:39	NTN	TAL IRV
Total/NA	Analysis	300.1B		5	326441	04/27/16 14:27	YZ	TAL IRV
Total/NA	Analysis	314.0		1	328200	05/04/16 14:14	CTH	TAL IRV
Total/NA	Analysis	SM 2540C		1	326631	04/26/16 14:42	MMH	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16 *
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16 *
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-145213-1	AA-22-20160420	Water	04/20/16 07:05	04/22/16 09:45
440-145213-2	WMW7.8N-20160420	Water	04/20/16 09:55	04/22/16 09:45
440-145213-3	WMW6.9N-20160420	Water	04/20/16 12:15	04/22/16 09:45
440-145213-4	WMW6.9N-20160420-FD	Water	04/20/16 12:15	04/22/16 09:45
440-145213-5	WMW6.15N-20160420	Water	04/20/16 14:10	04/22/16 09:45

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 308526

Lab Sample ID: ICV 440-308526/8 Client Sample ID:

Date Analyzed: 01/28/16 11:30 Lab File ID: 20160128a0008.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.62	Baseline Smoothing	zakhrabovy	01/28/16 12:06

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326094

Lab Sample ID: MRL 440-326094/3 Client Sample ID:

Date Analyzed: 04/23/16 09:16 Lab File ID: 201604230001a003.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorate	16.47	Incomplete Integration	zakhrabov y	04/23/16 12:23

Lab Sample ID: CCV 440-326094/28 Client Sample ID:

Date Analyzed: 04/23/16 23:05 Lab File ID: 201604230001a028.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.30	Baseline Smoothing	zakhrabov y	04/24/16 05:15

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 326441

Lab Sample ID: CCV 440-326441/61 Client Sample ID:

Date Analyzed: 04/27/16 16:07 Lab File ID: 201604260001a061.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.36	Baseline Smoothing	zakhrabovy	04/29/16 08:59

300.1B

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Analysis Batch Number: 327553

Lab Sample ID: CCV 440-327553/15 Client Sample ID:

Date Analyzed: 04/30/16 17:29 Lab File ID: 201604300001a015.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.33	Baseline Smoothing	zakhrabov y	05/01/16 08:37

Lab Sample ID: CCV 440-327553/27 Client Sample ID:

Date Analyzed: 05/01/16 00:08 Lab File ID: 201604300001a027.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.30	Baseline Smoothing	zakhrabov y	05/01/16 08:42

Lab Sample ID: CCV 440-327553/51 Client Sample ID:

Date Analyzed: 05/01/16 13:50 Lab File ID: 201604300001a051.d GC Column: AS9-HC ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromate	8.31	Baseline Smoothing	zakhrabov y	05/02/16 05:17

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-25 Analysis Batch Number: 328200

Lab Sample ID: LCS 440-328200/2 Client Sample ID:

Date Analyzed: 05/04/16 09:21 Lab File ID: 20160504_2.d GC Column: AS7 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	12.45	Incomplete Integration	hoangch	05/04/16 11:55
Perchlorate	12.45	Incomplete Integration	hoangch	05/04/16 11:55

314.0

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WC3001ICV_00023	06/30/16	01/28/16	Di Water, Lot 20160128	100 mL	WC2CHLORATE_00003	0.4 mL	Chlorate	4.004 mg/L
.WC2CHLORATE_00003	12/31/16		Ultra Scientific, Lot P01208		(Purchased Reagent)		Chlorate	1001 mg/L
WC3001LCS_00034	07/28/16	01/28/16	Di Water, Lot 20160128	100 mL	WC1BROMATE_00005	0.1 mL	Bromate	1.001 mg/L
					WC1CHLORATE_00006	0.4 mL	Chlorate	4 mg/L
					wcbromide_00008	0.1 mL	Bromide	10 mg/L
.WC1BROMATE_00005	11/26/16		O2Si, Lot 1075653		(Purchased Reagent)		Bromate	1001 mg/L
.WC1CHLORATE_00006	11/26/16		O2Si, Lot 1075652		(Purchased Reagent)		Chlorate	1000 mg/L
.wcbromide_00008	12/23/16		high purity, Lot 1427506		(Purchased Reagent)		Bromide	10000 ug/mL
WCCLO41st-10_00001	06/22/16	03/22/16	Di Water, Lot 03/22/16	100 mg/L	WCCLO4-1st_00001	1 mg/L	Perchlorate	10 mg/L
.WCCLO4-1st_00001	03/30/17		SPEX CERTIPREP, Lot 3-149CLO4-2Y		(Purchased Reagent)		Perchlorate	1000 mg/L
WCCLO4ICV10_00019	05/16/16	02/16/16	Di Water, Lot 02/16/2016	100 mL	WCCLO4ICV_00009	1 mL	Perchlorate	10.0002 mg/L
.WCCLO4ICV_00009	07/29/16	07/29/15	Di Water, Lot 07/29/2015	250 mL	WCCLO4ICVSOLI_00001	0.3078 g	Perchlorate	1000.02 mg/L
..WCCLO4ICVSOLI_00001	03/14/19		SPECTRUM, Lot XK0226		(Purchased Reagent)		Perchlorate	0.81223 g/g
WCDCA_00031	04/11/16	01/11/16	Di Water, Lot 20160111	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCDCA_00032	07/12/16	04/12/16	Di Water, Lot 20160412	100 mL	WCKDCA_00003	0.065 g	Dichloroacetic acid(Surr)	496.855 mg/L
.WCKDCA_00003	02/28/20		Aldrich, Lot MKBR8264V		(Purchased Reagent)		Dichloroacetic acid(Surr)	0.764393 g/g
WCLCSANIONS_00113	04/20/16	03/21/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
					wcfluoride_00004	10 mL	Fluoride	1000 mg/L
					wcsulfate_00006	10 mL	Sulfate	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
.wcfluoride_00004	01/30/17		ricca, Lot 1507D81		(Purchased Reagent)		Fluoride	10000 ug/mL
.wcsulfate_00006	04/15/17		high purity, Lot 1522216		(Purchased Reagent)		Sulfate	10000 ug/mL
WCLCSANIONS_00114	05/08/16	04/09/16	Di Water, Lot 2/29/2016	100 mL	wcbromide_00010	10 mL	Bromide	1000 mg/L
					wcchloride_00001	10 mL	Chloride	1000 mg/L
.wcbromide_00010	08/09/17		high purity, Lot 1521536		(Purchased Reagent)		Bromide	10000 ug/mL
.wcchloride_00001	12/17/16		high purity, Lot 1417005		(Purchased Reagent)		Chloride	10000 ug/mL
wctdslcs_00061	08/15/16	02/15/16	Di Water, Lot 20160215	1 L	WCNACLTDSLCS_00001	1 g	Total Dissolved Solids	1000 ppm
.WCNACLTDSLCS_00001	04/04/21		FISHER CHEMICAL, Lot 103358		(Purchased Reagent)		Total Dissolved Solids	1 g/g

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160422062.d

Lab ID: LCS 440-325963/62 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	5.00	4.97	99	90-110	
Chloride	5.00	4.79	96	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160422067.d

Lab ID: 440-145213-1 MS Client ID: AA-22-20160420 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	50.0	ND	52.3	105	80-120	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160422068.d

Lab ID: 440-145213-1 MSD Client ID: AA-22-20160420 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Bromide	50.0	51.7	103	1	20	80-120	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab File ID: 20160422059.d Lab Sample ID: MB 440-325963/59

Matrix: Water Date Extracted:

Instrument ID: IC-9 Date Analyzed: 04/23/2016 02:43

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 440-325963/54	20160422054.d	04/23/2016 01:31
	LCS 440-325963/62	20160422062.d	04/23/2016 03:25
AA-22-20160420	440-145213-1	20160422063.d	04/23/2016 03:39
AA-22-20160420	440-145213-1	20160422064.d	04/23/2016 03:52
	CCB 440-325963/66	20160422066.d	04/23/2016 04:20
AA-22-20160420 MS	440-145213-1 MS	20160422067.d	04/23/2016 04:34
AA-22-20160420 MSD	440-145213-1 MSD	20160422068.d	04/23/2016 04:48
WMW7.8N-20160420	440-145213-2	20160422069.d	04/23/2016 05:02
WMW7.8N-20160420	440-145213-2	20160422070.d	04/23/2016 05:16
WMW6.9N-20160420	440-145213-3	20160422071.d	04/23/2016 05:29
WMW6.9N-20160420	440-145213-3	20160422072.d	04/23/2016 05:43
WMW6.9N-20160420-FD	440-145213-4	20160422073.d	04/23/2016 05:57
WMW6.9N-20160420-FD	440-145213-4	20160422074.d	04/23/2016 06:11
WMW6.15N-20160420	440-145213-5	20160422075.d	04/23/2016 06:25
WMW6.15N-20160420	440-145213-5	20160422076.d	04/23/2016 06:39
	CCB 440-325963/78	20160422078.d	04/23/2016 07:06

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: AA-22-20160420
Lab Sample ID: 440-145213-1
Matrix: Water
Lab File ID: 20160422064.d
Analysis Method: 300.0
Date Collected: 04/20/2016 07:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 03:52
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		5.0	2.5

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: AA-22-20160420
Lab Sample ID: 440-145213-1
Matrix: Water
Lab File ID: 20160422063.d
Analysis Method: 300.0
Date Collected: 04/20/2016 07:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 03:39
Con. Extract Vol.:
Dilution Factor: 200
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	1300		100	50

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW7.8N-20160420
Lab Sample ID: 440-145213-2
Matrix: Water
Lab File ID: 20160422069.d
Analysis Method: 300.0
Date Collected: 04/20/2016 09:55
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 05:02
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.28	J	0.50	0.25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW7.8N-20160420
Lab Sample ID: 440-145213-2
Matrix: Water
Lab File ID: 20160422070.d
Analysis Method: 300.0
Date Collected: 04/20/2016 09:55
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 05:16
Con. Extract Vol.:
Dilution Factor: 50
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	230		25	13

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420
Lab Sample ID: 440-145213-3
Matrix: Water
Lab File ID: 20160422071.d
Analysis Method: 300.0
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 05:29
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.67	J	1.0	0.50

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420
Lab Sample ID: 440-145213-3
Matrix: Water
Lab File ID: 20160422072.d
Analysis Method: 300.0
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 05:43
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	310		50	25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine | Job No.: 440-145213-1

SDG No.:

Client Sample ID: WMW6.9N-20160420-FD | Lab Sample ID: 440-145213-4

Matrix: Water | Lab File ID: 20160422073.d

Analysis Method: 300.0 | Date Collected: 04/20/2016 12:15

Extraction Method: | Date Extracted:

Sample wt/vol: 5(mL) | Date Analyzed: 04/23/2016 05:57

Con. Extract Vol.: | Dilution Factor: 2

Injection Volume: 1(uL) | GC Column: AS14 ID: 4(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 325963 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.72	J	1.0	0.50

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420-FD
Lab Sample ID: 440-145213-4
Matrix: Water
Lab File ID: 20160422074.d
Analysis Method: 300.0
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 06:11
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	300		50	25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.15N-20160420
Lab Sample ID: 440-145213-5
Matrix: Water
Lab File ID: 20160422075.d
Analysis Method: 300.0
Date Collected: 04/20/2016 14:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 06:25
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		2.5	1.3

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.15N-20160420
Lab Sample ID: 440-145213-5
Matrix: Water
Lab File ID: 20160422076.d
Analysis Method: 300.0
Date Collected: 04/20/2016 14:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 06:39
Con. Extract Vol.:
Dilution Factor: 200
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	360		100	50

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride		2.362	2.345	2.375	2.375	2.378	2.392	2.412	2.415		0.000 - 0.000	2.382
Chloride		3.353	3.325	3.358	3.357	3.348	3.360	+++++	+++++		0.000 - 0.000	3.350
Bromide		5.118	5.090	5.105	5.100	5.072	5.067	+++++	+++++		0.000 - 0.000	5.092
Sulfate		9.157	9.152	9.160	9.155	9.148	9.142	9.147	+++++		0.000 - 0.000	9.152

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	65877 70199	61212 68714	58686 70188	63710 71797	Lin	-18969.789	71059.0214							0.9990		0.9950
Chloride	41479 +++++	40154 44895	38506 46563	41144 +++++	Lin	-12592.548	46057.0259							0.9970		0.9950
Bromide	16747 +++++	12776 17391	15757 17642	17491 +++++	Lin	-2106.9510	17583.1001							0.9990		0.9950
Sulfate	29093 +++++	22462 30047	25575 30307	29989 31695	Lin	-9226.3425	31401.0643							0.9990		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 319859

SDG No.:

Instrument ID: IC-9 GC Column: AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2016 10:58 Calibration End Date: 03/24/2016 12:49 Calibration ID: 13875

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-319859/3	201603003.d
Level 2	STD1 440-319859/4	201603004.d
Level 3	STD2 440-319859/5	201603005.d
Level 4	STD3 440-319859/6	201603006.d
Level 5	STD4 440-319859/7	201603007.d
Level 6	STD5 440-319859/8	201603008.d
Level 7	STD6 440-319859/9	201603009.d
Level 8	STD7 440-319859/10	201603010.d
Level 9	STD8 440-319859/11	201603011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin	1030709	30606 1403750	58686 2153918	318548 2807955	658771	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 40.0	10.0
Chloride	Lin	673430	20077 931268	38506 +++++	205722 +++++	414786	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Bromide	Lin	260864	6388 352845	15757 +++++	87457 +++++	167470	0.000000 15.0	0.500 20.0	1.00 +++++	5.00 +++++	10.0
Sulfate	Lin	450709	11231 606140	25575 950847	149943 +++++	290931	0.000000 15.0	0.500 20.0	1.00 30.0	5.00 +++++	10.0

Curve Type Legend:

Lin = Linear

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-325963/53 Calibration Date: 04/23/2016 01:17

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422053.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		64419		9.33	10.0	-6.7	10.0
Chloride	Lin		44092		9.85	10.0	-1.5	10.0
Bromide	Lin		17347		9.99	10.0	-0.1	10.0
Sulfate	Lin		29556		9.71	10.0	-2.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-325963/53 Calibration Date: 04/23/2016 01:17

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422053.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.35	2.23	2.47
Chloride	3.33	3.16	3.49
Bromide	5.04	4.78	5.29
Sulfate	8.94	8.49	9.38

Form VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-325963/65 Calibration Date: 04/23/2016 04:06

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422065.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		64309		9.32	10.0	-6.8	10.0
Chloride	Lin		43895		9.80	10.0	-2.0	10.0
Bromide	Lin		17311		9.97	10.0	-0.3	10.0
Sulfate	Lin		29591		9.72	10.0	-2.8	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-325963/65 Calibration Date: 04/23/2016 04:06

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422065.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.35	2.23	2.46
Chloride	3.32	3.16	3.49
Bromide	5.04	4.79	5.29
Sulfate	8.87	8.43	9.32

Form VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-325963/77 Calibration Date: 04/23/2016 06:52

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422077.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		64901		9.40	10.0	-6.0	10.0
Chloride	Lin		43955		9.82	10.0	-1.8	10.0
Bromide	Lin		17540		10.1	10.0	1.0	10.0
Sulfate	Lin		29368		9.65	10.0	-3.5	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-325963/77 Calibration Date: 04/23/2016 06:52

Instrument ID: IC-9 Calib Start Date: 03/24/2016 10:58

GC Column: AS14 ID: 4.00(mm) Calib End Date: 03/24/2016 12:49

Lab File ID: 20160422077.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.36	2.24	2.48
Chloride	3.34	3.17	3.51
Bromide	5.07	4.82	5.33
Sulfate	8.93	8.49	9.38

Form VII 300.0

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-325963/59
Matrix: Water
Lab File ID: 20160422059.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 02:43
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325963/54
Matrix: Water
Lab File ID: 20160422054.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 01:31
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325963/66
Matrix: Water
Lab File ID: 20160422066.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 04:20
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	ND		0.50	0.25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-325963/78
Matrix: Water
Lab File ID: 20160422078.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 07:06
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: ug/mL

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.25
16887-00-6	Chloride	0.321	J	0.50	0.25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-325963/62
Matrix: Water
Lab File ID: 20160422062.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 03:25
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	4.97		0.50	0.25
16887-00-6	Chloride	4.79		0.50	0.25

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: AA-22-20160420 MS
Lab Sample ID: 440-145213-1 MS
Matrix: Water
Lab File ID: 20160422067.d
Analysis Method: 300.0
Date Collected: 04/20/2016 07:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 04:34
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	52.3		5.0	2.5

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: AA-22-20160420 MSD
Lab Sample ID: 440-145213-1 MSD
Matrix: Water
Lab File ID: 20160422068.d
Analysis Method: 300.0
Date Collected: 04/20/2016 07:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 04:48
Con. Extract Vol.:
Dilution Factor: 10
Injection Volume: 1(uL)
GC Column: AS14 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325963
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	51.7		5.0	2.5

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-9 Start Date: 03/24/2016 10:58

Analysis Batch Number: 319859 End Date: 03/24/2016 17:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0 440-319859/3 IC		03/24/2016 10:58	1	201603003.d	AS14 4(mm)
STD1 440-319859/4 IC		03/24/2016 11:12	1	201603004.d	AS14 4(mm)
STD2 440-319859/5 IC		03/24/2016 11:26	1	201603005.d	AS14 4(mm)
STD3 440-319859/6 IC		03/24/2016 11:40	1	201603006.d	AS14 4(mm)
STD4 440-319859/7 IC		03/24/2016 11:54	1	201603007.d	AS14 4(mm)
STD5 440-319859/8 IC		03/24/2016 12:07	1	201603008.d	AS14 4(mm)
STD6 440-319859/9 IC		03/24/2016 12:21	1	201603009.d	AS14 4(mm)
STD7 440-319859/10 IC		03/24/2016 12:35	1	201603010.d	AS14 4(mm)
STD8 440-319859/11 IC		03/24/2016 12:49	1	201603011.d	AS14 4(mm)
ICV 440-319859/12		03/24/2016 13:10	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:16	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:30	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:44	1		AS14 4(mm)
ZZZZZ		03/24/2016 14:58	1		AS14 4(mm)
ZZZZZ		03/24/2016 15:11	1		AS14 4(mm)
ZZZZZ		03/24/2016 15:52	1		AS14 4(mm)
ZZZZZ		03/24/2016 16:05	50		AS14 4(mm)
ZZZZZ		03/24/2016 16:19	1		AS14 4(mm)
ZZZZZ		03/24/2016 16:33	50		AS14 4(mm)
ZZZZZ		03/24/2016 16:47	1		AS14 4(mm)
ZZZZZ		03/24/2016 17:01	50		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-9 Start Date: 04/22/2016 12:24

Analysis Batch Number: 325963 End Date: 04/23/2016 09:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/22/2016 12:24	1		AS14 4(mm)
ZZZZZ		04/22/2016 12:38	1		AS14 4(mm)
CCV 440-325963/1002		04/22/2016 12:38	1		AS14 4(mm)
ZZZZZ		04/22/2016 12:52	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:05	1		AS14 4(mm)
CCB 440-325963/1004		04/22/2016 13:05	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:19	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:33	1		AS14 4(mm)
ZZZZZ		04/22/2016 13:53	1		AS14 4(mm)
ZZZZZ		04/22/2016 14:07	50		AS14 4(mm)
ZZZZZ		04/22/2016 14:21	2		AS14 4(mm)
ZZZZZ		04/22/2016 14:35	100		AS14 4(mm)
ZZZZZ		04/22/2016 14:48	1		AS14 4(mm)
ZZZZZ		04/22/2016 15:02	50		AS14 4(mm)
ZZZZZ		04/22/2016 15:16	2		AS14 4(mm)
ZZZZZ		04/22/2016 15:30	100		AS14 4(mm)
ZZZZZ		04/22/2016 15:44	100		AS14 4(mm)
ZZZZZ		04/22/2016 15:58	100		AS14 4(mm)
CCV 440-325963/17		04/22/2016 16:11	1		AS14 4(mm)
CCB 440-325963/18		04/22/2016 16:25	1		AS14 4(mm)
ZZZZZ		04/22/2016 16:45	1		AS14 4(mm)
ZZZZZ		04/22/2016 16:59	1		AS14 4(mm)
ZZZZZ		04/22/2016 17:13	50		AS14 4(mm)
ZZZZZ		04/22/2016 17:26	1		AS14 4(mm)
ZZZZZ		04/22/2016 17:40	50		AS14 4(mm)
ZZZZZ		04/22/2016 17:54	2		AS14 4(mm)
ZZZZZ		04/22/2016 18:08	100		AS14 4(mm)
ZZZZZ		04/22/2016 18:22	1		AS14 4(mm)
ZZZZZ		04/22/2016 18:52	1		AS14 4(mm)
ZZZZZ		04/22/2016 19:06	5		AS14 4(mm)
CCV 440-325963/29		04/22/2016 19:19	1		AS14 4(mm)
CCB 440-325963/30		04/22/2016 19:50	1		AS14 4(mm)
ZZZZZ		04/22/2016 20:08	1		AS14 4(mm)
ZZZZZ		04/22/2016 20:22	5		AS14 4(mm)
ZZZZZ		04/22/2016 20:36	1		AS14 4(mm)
ZZZZZ		04/22/2016 20:49	2		AS14 4(mm)
ZZZZZ		04/22/2016 21:17	2000		AS14 4(mm)
ZZZZZ		04/22/2016 21:31	1		AS14 4(mm)
ZZZZZ		04/22/2016 21:45	2		AS14 4(mm)
ZZZZZ		04/22/2016 21:59	1		AS14 4(mm)
ZZZZZ		04/22/2016 22:13	50		AS14 4(mm)
CCV 440-325963/41		04/22/2016 22:26	1		AS14 4(mm)
CCB 440-325963/42		04/22/2016 22:40	1		AS14 4(mm)
ZZZZZ		04/22/2016 22:58	200		AS14 4(mm)
ZZZZZ		04/22/2016 23:12	200		AS14 4(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-9 Start Date: 04/22/2016 12:24

Analysis Batch Number: 325963 End Date: 04/23/2016 09:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/22/2016 23:26	2		AS14 4(mm)
ZZZZZ		04/22/2016 23:40	100		AS14 4(mm)
ZZZZZ		04/22/2016 23:54	5		AS14 4(mm)
ZZZZZ		04/23/2016 00:08	200		AS14 4(mm)
ZZZZZ		04/23/2016 00:21	500		AS14 4(mm)
ZZZZZ		04/23/2016 00:35	20		AS14 4(mm)
ZZZZZ		04/23/2016 00:49	20		AS14 4(mm)
ZZZZZ		04/23/2016 01:03	20		AS14 4(mm)
CCV 440-325963/53		04/23/2016 01:17	1	20160422053.d	AS14 4(mm)
CCB 440-325963/54		04/23/2016 01:31	1	20160422054.d	AS14 4(mm)
ZZZZZ		04/23/2016 01:48	5		AS14 4(mm)
ZZZZZ		04/23/2016 02:02	200		AS14 4(mm)
ZZZZZ		04/23/2016 02:16	20		AS14 4(mm)
ZZZZZ		04/23/2016 02:29	1		AS14 4(mm)
MB 440-325963/59		04/23/2016 02:43	1	20160422059.d	AS14 4(mm)
ZZZZZ		04/23/2016 02:57	1		AS14 4(mm)
LCS 440-325963/62		04/23/2016 03:25	1	20160422062.d	AS14 4(mm)
440-145213-1		04/23/2016 03:39	200	20160422063.d	AS14 4(mm)
440-145213-1		04/23/2016 03:52	10	20160422064.d	AS14 4(mm)
CCV 440-325963/65		04/23/2016 04:06	1	20160422065.d	AS14 4(mm)
CCB 440-325963/66		04/23/2016 04:20	1	20160422066.d	AS14 4(mm)
440-145213-1 MS		04/23/2016 04:34	10	20160422067.d	AS14 4(mm)
440-145213-1 MSD		04/23/2016 04:48	10	20160422068.d	AS14 4(mm)
440-145213-2		04/23/2016 05:02	1	20160422069.d	AS14 4(mm)
440-145213-2		04/23/2016 05:16	50	20160422070.d	AS14 4(mm)
440-145213-3		04/23/2016 05:29	2	20160422071.d	AS14 4(mm)
440-145213-3		04/23/2016 05:43	100	20160422072.d	AS14 4(mm)
440-145213-4		04/23/2016 05:57	2	20160422073.d	AS14 4(mm)
440-145213-4		04/23/2016 06:11	100	20160422074.d	AS14 4(mm)
440-145213-5		04/23/2016 06:25	5	20160422075.d	AS14 4(mm)
440-145213-5		04/23/2016 06:39	200	20160422076.d	AS14 4(mm)
CCV 440-325963/77		04/23/2016 06:52	1	20160422077.d	AS14 4(mm)
CCB 440-325963/78		04/23/2016 07:06	1	20160422078.d	AS14 4(mm)
ZZZZZ		04/23/2016 07:20	1		AS14 4(mm)
ZZZZZ		04/23/2016 07:34	50		AS14 4(mm)
ZZZZZ		04/23/2016 07:48	1000		AS14 4(mm)
ZZZZZ		04/23/2016 08:02	5		AS14 4(mm)
ZZZZZ		04/23/2016 08:16	200		AS14 4(mm)
ZZZZZ		04/23/2016 08:29	10		AS14 4(mm)
ZZZZZ		04/23/2016 08:43	200		AS14 4(mm)
ZZZZZ		04/23/2016 08:57	10		AS14 4(mm)
ZZZZZ		04/23/2016 09:11	200		AS14 4(mm)
CCV 440-325963/88		04/23/2016 09:25	1		AS14 4(mm)
CCB 440-325963/89		04/23/2016 09:39	1		AS14 4(mm)

300.0

Method 300.1

Disinfection By-Products (IC) by Method 300.1

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): AS9-HC ID: 4 (mm)

Client Sample ID	Lab Sample ID	DCAA #
AA-22-20160420	440-145213-1	106
WMW7.8N-20160420	440-145213-2	101
WMW6.9N-20160420	440-145213-3	102
WMW6.9N-20160420-FD	440-145213-4	103
WMW6.15N-20160420	440-145213-5	104
	MB 440-326094/5	104
	MB 440-326441/3	108
	MB 440-327553/4	110
	LCS 440-326094/4	105
	LCS 440-326441/2	105
	LCS 440-327553/3	104
	MRL 440-326094/3	106
	MRL 440-326441/1	107
	MRL 440-327553/2	105
	440-145185-A-2 MS	106
	440-145296-A-3 MS	105
	440-145851-A-2 MS	111
	440-145185-A-2 MSD	104
	440-145296-A-3 MSD	107
	440-145851-A-2 MSD	113

	QC LIMITS
DCAA = Dichloroacetic acid(Surr)	90-115

Column to be used to flag recovery values

FORM II 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a004.d

Lab ID: LCS 440-326094/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	98.0	98	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a002.d

Lab ID: LCS 440-326441/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	101	101	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604300001a003.d

Lab ID: LCS 440-327553/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chlorate	100	98.2	98	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a003.d

Lab ID: MRL 440-326094/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.0 J	95	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a001.d

Lab ID: MRL 440-326441/1 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.5 J	97	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604300001a002.d

Lab ID: MRL 440-327553/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Chlorate	20.0	19.9 J	100	50-150	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a019.d

Lab ID: 440-145185-A-2 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	250	437	95	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a017.d

Lab ID: 440-145296-A-3 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	240	414	89	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604300001a018.d

Lab ID: 440-145851-A-2 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chlorate	200	290	476	92	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604230001a020.d

Lab ID: 440-145185-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chlorate	200	446	100	2	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604260001a018.d

Lab ID: 440-145296-A-3 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Chlorate	200	421	92	2	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 201604300001a019.d

Lab ID: 440-145851-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chlorate	200	479	93	1	25	75-125	

Column to be used to flag recovery and RPD values

FORM III 300.1B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab File ID: 201604230001a005.d Lab Sample ID: MB 440-326094/5

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/23/2016 10:22

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-326094/4	201604230001a004.d	04/23/2016 09:49
	CCB 440-326094/17	201604230001a017.d	04/23/2016 17:00
	440-145185-A-2 MS	201604230001a019.d	04/23/2016 18:06
	440-145185-A-2 MSD	201604230001a020.d	04/23/2016 18:40
AA-22-20160420	440-145213-1	201604230001a026.d	04/23/2016 21:59
	CCB 440-326094/29	201604230001a029.d	04/23/2016 23:38

FORM IV 300.1B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab File ID: 201604260001a003.d Lab Sample ID: MB 440-326441/3

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/26/2016 03:32

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-326441/2	201604260001a002.d	04/26/2016 02:59
	CCB 440-326441/15	201604260001a015.d	04/26/2016 12:01
	440-145296-A-3 MS	201604260001a017.d	04/26/2016 13:07
	440-145296-A-3 MSD	201604260001a018.d	04/26/2016 13:40
	CCB 440-326441/27	201604260001a027.d	04/26/2016 18:39
	CCB 440-326441/51	201604260001a051.d	04/27/2016 10:35
WMW6.9N-20160420	440-145213-3	201604260001a056.d	04/27/2016 13:21
WMW6.9N-20160420-FD	440-145213-4	201604260001a057.d	04/27/2016 13:54
WMW6.15N-20160420	440-145213-5	201604260001a058.d	04/27/2016 14:27
	CCB 440-326441/62	201604260001a062.d	04/27/2016 16:40

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab File ID: 201604300001a004.d Lab Sample ID: MB 440-327553/4

Matrix: Water Date Extracted:

Instrument ID: IC-7 Date Analyzed: 04/30/2016 11:25

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-327553/3	201604300001a003.d	04/30/2016 10:51
	CCB 440-327553/16	201604300001a016.d	04/30/2016 18:03
	440-145851-A-2 MS	201604300001a018.d	04/30/2016 19:09
	440-145851-A-2 MSD	201604300001a019.d	04/30/2016 19:42
	CCB 440-327553/28	201604300001a028.d	05/01/2016 00:41
	CCB 440-327553/40	201604300001a040.d	05/01/2016 07:19
WMW7.8N-20160420	440-145213-2	201604300001a047.d	05/01/2016 11:37
	CCB 440-327553/52	201604300001a052.d	05/01/2016 14:23

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: AA-22-20160420
Lab Sample ID: 440-145213-1
Matrix: Water
Lab File ID: 201604230001a026.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 07:05
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 21:59
Con. Extract Vol.:
Dilution Factor: 500
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	100000		10000	5000

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW7.8N-20160420
Lab Sample ID: 440-145213-2
Matrix: Water
Lab File ID: 201604300001a047.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 09:55
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 05/01/2016 11:37
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	101		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420
Lab Sample ID: 440-145213-3
Matrix: Water
Lab File ID: 201604260001a056.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 13:21
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	102		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420-FD
Lab Sample ID: 440-145213-4
Matrix: Water
Lab File ID: 201604260001a057.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 13:54
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.15N-20160420
Lab Sample ID: 440-145213-5
Matrix: Water
Lab File ID: 201604260001a058.d
Analysis Method: 300.1B
Date Collected: 04/20/2016 14:10
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 14:27
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		100	50

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Bromate		8.617	8.637	8.630	8.637	8.637					0.000 - 0.000	8.632
Bromide		16.530	16.547	16.600	16.620	16.693					0.000 - 0.000	16.598
Chlorate		18.010	18.043	18.053	18.067	18.027					0.000 - 0.000	18.040
Dichloroacetic acid(Surr)	14.517	14.520	14.533	14.500	14.513	14.490					13.482 - 15.511	14.512

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Bromate	14349	19044 14698	14750	14388	Lin	3388.08196	14577.9338							1.0000		0.9950
Bromide	26042	23576 24541	25629	26061	Lin	160772.070	24672.7328							0.9990		0.9950
Chlorate	22433	21362 22252	23416	23379	Lin	35196.8608	22223.5543							1.0000		0.9950
Dichloroacetic acid(Surr)	13223 12831	13029 12797	13075	13067	Ave		13003.6499				1.2		15.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 308526

SDG No.:

Instrument ID: IC-7 GC Column: AS9-HC ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/28/2016 08:07 Calibration End Date: 01/28/2016 10:53 Calibration ID: 13525

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0 440-308526/2	20160128a0002.d
Level 2	STD1 440-308526/3	20160128a0003.d
Level 3	STD2 440-308526/4	20160128a0004.d
Level 4	STD3 440-308526/5	20160128a0005.d
Level 5	STD4 440-308526/6	20160128a0006.d
Level 6	STD5 440-308526/7	20160128a0007.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Bromate	Lin	1471315	95313	184560	360048	718151	0.000000 100	5.01	12.5	25.0	50.1
Bromide	Lin	24540865	1178813	3203639	6515129	13021197	0.000000 1000	50.0	125	250	500
Chlorate	Lin	8900719	427235	1170778	2337921	4486665	0.000000 400	20.0	50.0	100	200
Dichloroacetic acid(Surr)	Ave	13139591 12716735	12947051	12992376	12984873	12750586	994 994	994	994	994	994

Curve Type Legend:

Ave = Average
Lin = Linear

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		13546		27.7	30.0	-7.8	15.0
Bromide	Lin		25814		307	300	2.5	15.0
Chlorate	Lin		22301		119	120	-1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	12897		986	994	-0.8	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: ICV 440-308526/8 Calibration Date: 01/28/2016 11:30

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 20160128a0008.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.62	8.01	9.22
Bromide	16.52	15.37	17.69
Chlorate	17.98	17.11	18.91
Dichloroacetic acid(Surr)	14.51	13.48	15.51

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15365		52.5	50.1	4.9	15.0
Bromide	Lin		26519		531	500	6.2	15.0
Chlorate	Lin		22895		204	200	2.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	13554		1040	994	4.2	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326094/16 Calibration Date: 04/23/2016 16:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.35	7.64	8.79
Bromide	15.40	14.00	16.10
Chlorate	16.57	15.42	17.04
Dichloroacetic acid(Surr)	13.57	13.48	15.51

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326094/28 Calibration Date: 04/23/2016 23:05

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a028.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14896		253	250	1.3	15.0
Bromide	Lin		25645		2530	2500	1.3	15.0
Chlorate	Lin		22310		988	1000	-1.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	1366		10400	9940	-89.5*	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326094/28 Calibration Date: 04/23/2016 23:05

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604230001a028.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.30	7.64	8.79
Bromide	15.28	14.00	16.10
Chlorate	16.43	15.42	17.04
Dichloroacetic acid(Surr)	13.51	13.48	15.51

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/14 Calibration Date: 04/26/2016 11:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a014.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15659		53.5	50.1	7.0	15.0
Bromide	Lin		26160		524	500	4.7	15.0
Chlorate	Lin		22624		202	200	1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	13705		1050	994	5.4	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/14 Calibration Date: 04/26/2016 11:27

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a014.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.25	7.64	8.79
Bromide	15.16	14.00	16.10
Chlorate	16.22	15.42	17.04
Dichloroacetic acid(Surr)	13.33	13.48	15.51

Form VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/26 Calibration Date: 04/26/2016 18:06

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a026.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		15061		25.6	25.0	2.4	15.0
Bromide	Lin		25894		256	250	2.3	15.0
Chlorate	Lin		22702		101	100	0.6	15.0
Dichloroacetic acid(Surr)	Ave	13004	13922		1060	994	7.1	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/26 Calibration Date: 04/26/2016 18:06

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a026.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.25	7.64	8.79
Bromide	15.13	14.00	16.10
Chlorate	16.20	15.42	17.04
Dichloroacetic acid(Surr)	13.32	13.48	15.51

Form VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/50 Calibration Date: 04/27/2016 10:02

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a050.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14848		25.3	25.0	0.9	15.0
Bromide	Lin		26122		258	250	3.3	15.0
Chlorate	Lin		22821		101	100	1.1	15.0
Dichloroacetic acid(Surr)	Ave	13004	13874		1060	994	6.7	15.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/50 Calibration Date: 04/27/2016 10:02

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a050.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.35	7.64	8.79
Bromide	15.27	14.00	16.10
Chlorate	16.35	15.42	17.04
Dichloroacetic acid(Surr)	13.47	13.48	15.51

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/61 Calibration Date: 04/27/2016 16:07

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a061.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14419		49.3	50.1	-1.6	15.0
Bromide	Lin		26109		523	500	4.5	15.0
Chlorate	Lin		22704		203	200	1.4	15.0
Dichloroacetic acid(Surr)	Ave	13004	13469		1030	994	3.6	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-326441/61 Calibration Date: 04/27/2016 16:07

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604260001a061.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.36	7.64	8.79
Bromide	15.25	14.00	16.10
Chlorate	16.30	15.42	17.04
Dichloroacetic acid(Surr)	13.44	13.48	15.51

Form VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/15 Calibration Date: 04/30/2016 17:29

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a015.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14614		49.9	50.1	-0.2	15.0
Bromide	Lin		26298		526	500	5.3	15.0
Chlorate	Lin		22358		200	200	-0.2	15.0
Dichloroacetic acid(Surr)	Ave	13004	13414		1030	994	3.2	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/15 Calibration Date: 04/30/2016 17:29

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a015.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.33	7.64	8.79
Bromide	15.24	14.00	16.10
Chlorate	16.30	15.42	17.04
Dichloroacetic acid(Surr)	13.43	13.48	15.51

Form VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/27 Calibration Date: 05/01/2016 00:08

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a027.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14479		24.6	25.0	-1.6	15.0
Bromide	Lin		26216		259	250	3.6	15.0
Chlorate	Lin		22805		101	100	1.0	15.0
Dichloroacetic acid(Surr)	Ave	13004	13527		1030	994	4.0	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/27 Calibration Date: 05/01/2016 00:08

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a027.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.30	7.64	8.79
Bromide	15.15	14.00	16.10
Chlorate	16.22	15.42	17.04
Dichloroacetic acid(Surr)	13.42	13.48	15.51

Form VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/39 Calibration Date: 05/01/2016 06:46

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a039.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14653		50.1	50.1	0.0	15.0
Bromide	Lin		26055		521	500	4.3	15.0
Chlorate	Lin		22282		199	200	-0.5	15.0
Dichloroacetic acid(Surr)	Ave	13004	13520		1030	994	4.0	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/39 Calibration Date: 05/01/2016 06:46

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a039.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.31	7.64	8.79
Bromide	15.12	14.00	16.10
Chlorate	16.19	15.42	17.04
Dichloroacetic acid(Surr)	13.42	13.48	15.51

Form VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/51 Calibration Date: 05/01/2016 13:50

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a051.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromate	Lin		14734		25.1	25.0	0.1	15.0
Bromide	Lin		25814		255	250	2.0	15.0
Chlorate	Lin		22599		100	100	0.1	15.0
Dichloroacetic acid(Surr)	Ave	13004	13512		1030	994	3.9	15.0

FORM VII 300.1B

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327553/51 Calibration Date: 05/01/2016 13:50

Instrument ID: IC-7 Calib Start Date: 01/28/2016 08:07

GC Column: AS9-HC ID: 4.00(mm) Calib End Date: 01/28/2016 10:53

Lab File ID: 201604300001a051.d

Analyte	RT	RT WINDOW	
		FROM	TO
Bromate	8.31	7.64	8.79
Bromide	15.16	14.00	16.10
Chlorate	16.22	15.42	17.04
Dichloroacetic acid(Surr)	13.40	13.48	15.51

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-326094/5
Matrix: Water
Lab File ID: 201604230001a005.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 10:22
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-326441/3
Matrix: Water
Lab File ID: 201604260001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 03:32
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	108		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327553/4
Matrix: Water
Lab File ID: 201604300001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/30/2016 11:25
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	110		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/17
Matrix: Water
Lab File ID: 201604230001a017.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 17:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	103		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326094/29
Matrix: Water
Lab File ID: 201604230001a029.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 23:38
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/15
Matrix: Water
Lab File ID: 201604260001a015.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 12:01
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	108		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/27
Matrix: Water
Lab File ID: 201604260001a027.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 18:39
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/51
Matrix: Water
Lab File ID: 201604260001a051.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 10:35
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	108		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-326441/62
Matrix: Water
Lab File ID: 201604260001a062.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/27/2016 16:40
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327553/16
Matrix: Water
Lab File ID: 201604300001a016.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/30/2016 18:03
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327553/28
Matrix: Water
Lab File ID: 201604300001a028.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 05/01/2016 00:41
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	92		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327553/40
Matrix: Water
Lab File ID: 201604300001a040.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 05/01/2016 07:19
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	90		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327553/52
Matrix: Water
Lab File ID: 201604300001a052.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 05/01/2016 14:23
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	ND		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	100		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-326094/4
Matrix: Water
Lab File ID: 201604230001a004.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	98.0		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-326441/2
Matrix: Water
Lab File ID: 201604260001a002.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 02:59
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	101		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327553/3
Matrix: Water
Lab File ID: 201604300001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/30/2016 10:51
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	98.2		20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-326094/3
Matrix: Water
Lab File ID: 201604230001a003.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 09:16
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.0	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-326441/1
Matrix: Water
Lab File ID: 201604260001a001.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 02:25
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.5	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-327553/2
Matrix: Water
Lab File ID: 201604300001a002.d
Analysis Method: 300.1B
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/30/2016 10:18
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	19.9	J	20	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-2 MS
Matrix: Water
Lab File ID: 201604230001a019.d
Analysis Method: 300.1B
Date Collected: 04/22/2016 06:54
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 18:06
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	437		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	106		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145296-A-3 MS
Matrix: Water
Lab File ID: 201604260001a017.d
Analysis Method: 300.1B
Date Collected: 04/25/2016 07:40
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 13:07
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	414		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	105		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145851-A-2 MS
Matrix: Water
Lab File ID: 201604300001a018.d
Analysis Method: 300.1B
Date Collected: 04/29/2016 08:25
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/30/2016 19:09
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	476		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	111		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145185-A-2 MSD
Matrix: Water
Lab File ID: 201604230001a020.d
Analysis Method: 300.1B
Date Collected: 04/22/2016 06:54
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/23/2016 18:40
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	446		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	104		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145296-A-3 MSD
Matrix: Water
Lab File ID: 201604260001a018.d
Analysis Method: 300.1B
Date Collected: 04/25/2016 07:40
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/26/2016 13:40
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 326441
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	421		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	107		90-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145851-A-2 MSD
Matrix: Water
Lab File ID: 201604300001a019.d
Analysis Method: 300.1B
Date Collected: 04/29/2016 08:25
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 04/30/2016 19:42
Con. Extract Vol.:
Dilution Factor: 2
Injection Volume: 1(uL)
GC Column: AS9-HC ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327553
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14866-68-3	Chlorate	479		40	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
79-43-6	Dichloroacetic acid(Surr)	113		90-115

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		01/28/2016 07:34	1		AS9-HC 4(mm)
STD0 440-308526/2 IC		01/28/2016 08:07	1	20160128a0002.d	AS9-HC 4(mm)
STD1 440-308526/3 IC		01/28/2016 08:41	1	20160128a0003.d	AS9-HC 4(mm)
STD2 440-308526/4 IC		01/28/2016 09:14	1	20160128a0004.d	AS9-HC 4(mm)
STD3 440-308526/5 IC		01/28/2016 09:47	1	20160128a0005.d	AS9-HC 4(mm)
STD4 440-308526/6 IC		01/28/2016 10:20	1	20160128a0006.d	AS9-HC 4(mm)
STD5 440-308526/7 IC		01/28/2016 10:53	1	20160128a0007.d	AS9-HC 4(mm)
ICV 440-308526/8		01/28/2016 11:30	1	20160128a0008.d	AS9-HC 4(mm)
ICB 440-308526/9		01/28/2016 12:04	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 12:37	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:10	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 13:43	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:16	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 14:50	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:23	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 15:56	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 16:29	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 17:02	2		AS9-HC 4(mm)
ZZZZZ		01/28/2016 18:42	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 19:15	5		AS9-HC 4(mm)
CCV 440-308526/23		01/28/2016 19:48	1		AS9-HC 4(mm)
CCB 440-308526/24		01/28/2016 20:21	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 20:54	1		AS9-HC 4(mm)
ZZZZZ		01/28/2016 21:28	5		AS9-HC 4(mm)
ZZZZZ		01/28/2016 22:01	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:20	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 01:53	1		AS9-HC 4(mm)
CCV 440-308526/35		01/29/2016 02:26	1		AS9-HC 4(mm)
CCB 440-308526/36		01/29/2016 02:59	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 03:33	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 04:09	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:01	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 08:34	10		AS9-HC 4(mm)
CCV 440-308526/47		01/29/2016 09:08	1		AS9-HC 4(mm)
CCB 440-308526/48		01/29/2016 09:41	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 10:14	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:20	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 11:54	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 12:27	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:00	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 13:33	10		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:06	5		AS9-HC 4(mm)
ZZZZZ		01/29/2016 14:39	1		AS9-HC 4(mm)
ZZZZZ		01/29/2016 15:13	10		AS9-HC 4(mm)
CCV 440-308526/59		01/29/2016 15:46	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Start Date: 01/28/2016 07:34

Analysis Batch Number: 308526 End Date: 01/29/2016 16:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 440-308526/60		01/29/2016 16:19	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/23/2016 08:09

Analysis Batch Number: 326094 End Date: 04/24/2016 10:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/23/2016 08:09	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 08:42	1		AS9-HC 4(mm)
MRL 440-326094/3		04/23/2016 09:16	1	201604230001a003.d	AS9-HC 4(mm)
LCS 440-326094/4		04/23/2016 09:49	1	201604230001a004.d	AS9-HC 4(mm)
MB 440-326094/5		04/23/2016 10:22	1	201604230001a005.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 10:55	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 11:28	5		AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:01	500		AS9-HC 4(mm)
ZZZZZ		04/23/2016 12:35	1		AS9-HC 4(mm)
ZZZZZ		04/23/2016 13:08	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 13:41	2		AS9-HC 4(mm)
ZZZZZ		04/23/2016 14:14	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 14:47	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 15:21	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 15:54	1000		AS9-HC 4(mm)
CCV 440-326094/16		04/23/2016 16:27	1	201604230001a016.d	AS9-HC 4(mm)
CCB 440-326094/17		04/23/2016 17:00	1	201604230001a017.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 17:33	1		AS9-HC 4(mm)
440-145185-A-2 MS		04/23/2016 18:06	2	201604230001a019.d	AS9-HC 4(mm)
440-145185-A-2 MSD		04/23/2016 18:40	2	201604230001a020.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 20:52	100		AS9-HC 4(mm)
ZZZZZ		04/23/2016 21:26	10		AS9-HC 4(mm)
440-145213-1		04/23/2016 21:59	500	201604230001a026.d	AS9-HC 4(mm)
ZZZZZ		04/23/2016 22:32	10		AS9-HC 4(mm)
CCV 440-326094/28		04/23/2016 23:05	10	201604230001a028.d	AS9-HC 4(mm)
CCB 440-326094/29		04/23/2016 23:38	1	201604230001a029.d	AS9-HC 4(mm)
ZZZZZ		04/24/2016 00:45	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 01:51	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 02:57	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:04	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 04:37	1000		AS9-HC 4(mm)
ZZZZZ		04/24/2016 05:19	10000		AS9-HC 4(mm)
CCV 440-326094/40		04/24/2016 05:53	1		AS9-HC 4(mm)
CCB 440-326094/41		04/24/2016 06:26	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 07:32	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 08:39	1		AS9-HC 4(mm)
ZZZZZ		04/24/2016 09:12	1		AS9-HC 4(mm)
CCV 440-326094/47		04/24/2016 09:45	1		AS9-HC 4(mm)
CCB 440-326094/55		04/24/2016 10:18	1		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/26/2016 02:25

Analysis Batch Number: 326441 End Date: 04/27/2016 16:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
MRL 440-326441/1		04/26/2016 02:25	1	201604260001a001.d	AS9-HC 4(mm)
LCS 440-326441/2		04/26/2016 02:59	1	201604260001a002.d	AS9-HC 4(mm)
MB 440-326441/3		04/26/2016 03:32	1	201604260001a003.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 04:05	500		AS9-HC 4(mm)
ZZZZZ		04/26/2016 04:38	500		AS9-HC 4(mm)
ZZZZZ		04/26/2016 07:02	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 07:35	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 08:08	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 08:41	1		AS9-HC 4(mm)
ZZZZZ		04/26/2016 09:15	2		AS9-HC 4(mm)
ZZZZZ		04/26/2016 09:48	2		AS9-HC 4(mm)
ZZZZZ		04/26/2016 10:21	10000		AS9-HC 4(mm)
ZZZZZ		04/26/2016 10:54	10000		AS9-HC 4(mm)
CCV 440-326441/14		04/26/2016 11:27	1	201604260001a014.d	AS9-HC 4(mm)
CCB 440-326441/15		04/26/2016 12:01	1	201604260001a015.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 12:34	1		AS9-HC 4(mm)
440-145296-A-3 MS		04/26/2016 13:07	2	201604260001a017.d	AS9-HC 4(mm)
440-145296-A-3 MSD		04/26/2016 13:40	2	201604260001a018.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 14:13	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 14:46	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 15:20	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 15:53	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 16:26	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 16:59	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 17:32	10		AS9-HC 4(mm)
CCV 440-326441/26		04/26/2016 18:06	1	201604260001a026.d	AS9-HC 4(mm)
CCB 440-326441/27		04/26/2016 18:39	1	201604260001a027.d	AS9-HC 4(mm)
ZZZZZ		04/26/2016 19:12	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 19:45	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 20:18	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 20:51	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 21:25	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 21:58	10		AS9-HC 4(mm)
ZZZZZ		04/26/2016 22:31	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 23:04	100		AS9-HC 4(mm)
ZZZZZ		04/26/2016 23:37	100		AS9-HC 4(mm)
ZZZZZ		04/27/2016 00:11	100		AS9-HC 4(mm)
CCV 440-326441/38		04/27/2016 00:44	1		AS9-HC 4(mm)
CCB 440-326441/39		04/27/2016 01:17	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 01:50	100		AS9-HC 4(mm)
ZZZZZ		04/27/2016 02:56	10		AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/26/2016 02:25

Analysis Batch Number: 326441 End Date: 04/27/2016 16:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/27/2016 03:30	500		AS9-HC 4(mm)
ZZZZZ		04/27/2016 04:03	500		AS9-HC 4(mm)
ZZZZZ		04/27/2016 05:42	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 06:34	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 07:09	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 08:11	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 08:44	5		AS9-HC 4(mm)
CCV 440-326441/50		04/27/2016 10:02	1	201604260001a050.d	AS9-HC 4(mm)
CCB 440-326441/51		04/27/2016 10:35	1	201604260001a051.d	AS9-HC 4(mm)
ZZZZZ		04/27/2016 11:08	1		AS9-HC 4(mm)
ZZZZZ		04/27/2016 11:42	100		AS9-HC 4(mm)
ZZZZZ		04/27/2016 12:15	5		AS9-HC 4(mm)
ZZZZZ		04/27/2016 12:48	5		AS9-HC 4(mm)
440-145213-3		04/27/2016 13:21	5	201604260001a056.d	AS9-HC 4(mm)
440-145213-4		04/27/2016 13:54	5	201604260001a057.d	AS9-HC 4(mm)
440-145213-5		04/27/2016 14:27	5	201604260001a058.d	AS9-HC 4(mm)
ZZZZZ		04/27/2016 15:34	5		AS9-HC 4(mm)
CCV 440-326441/61		04/27/2016 16:07	1	201604260001a061.d	AS9-HC 4(mm)
CCB 440-326441/62		04/27/2016 16:40	1	201604260001a062.d	AS9-HC 4(mm)

300.1B

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-7 Start Date: 04/30/2016 09:45

Analysis Batch Number: 327553 End Date: 05/01/2016 18:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/30/2016 09:45	1		AS9-HC 4(mm)
MRL 440-327553/2		04/30/2016 10:18	1	201604300001a002.d	AS9-HC 4(mm)
LCS 440-327553/3		04/30/2016 10:51	1	201604300001a003.d	AS9-HC 4(mm)
MB 440-327553/4		04/30/2016 11:25	1	201604300001a004.d	AS9-HC 4(mm)
ZZZZZ		04/30/2016 11:58	1		AS9-HC 4(mm)
ZZZZZ		04/30/2016 12:31	2		AS9-HC 4(mm)
ZZZZZ		04/30/2016 13:04	2		AS9-HC 4(mm)
ZZZZZ		04/30/2016 13:37	100		AS9-HC 4(mm)
ZZZZZ		04/30/2016 14:10	50		AS9-HC 4(mm)
ZZZZZ		04/30/2016 14:44	10		AS9-HC 4(mm)
ZZZZZ		04/30/2016 15:17	1		AS9-HC 4(mm)
ZZZZZ		04/30/2016 15:50	100		AS9-HC 4(mm)
ZZZZZ		04/30/2016 16:56	1000		AS9-HC 4(mm)
CCV 440-327553/15		04/30/2016 17:29	1	201604300001a015.d	AS9-HC 4(mm)
CCB 440-327553/16		04/30/2016 18:03	1	201604300001a016.d	AS9-HC 4(mm)
ZZZZZ		04/30/2016 18:36	1		AS9-HC 4(mm)
440-145851-A-2 MS		04/30/2016 19:09	2	201604300001a018.d	AS9-HC 4(mm)
440-145851-A-2 MSD		04/30/2016 19:42	2	201604300001a019.d	AS9-HC 4(mm)
ZZZZZ		04/30/2016 23:34	1000		AS9-HC 4(mm)
CCV 440-327553/27		05/01/2016 00:08	1	201604300001a027.d	AS9-HC 4(mm)
CCB 440-327553/28		05/01/2016 00:41	1	201604300001a028.d	AS9-HC 4(mm)
ZZZZZ		05/01/2016 04:00	1		AS9-HC 4(mm)
ZZZZZ		05/01/2016 04:33	1		AS9-HC 4(mm)
CCV 440-327553/39		05/01/2016 06:46	1	201604300001a039.d	AS9-HC 4(mm)
CCB 440-327553/40		05/01/2016 07:19	1	201604300001a040.d	AS9-HC 4(mm)
440-145213-2		05/01/2016 11:37	5	201604300001a047.d	AS9-HC 4(mm)
ZZZZZ		05/01/2016 12:10	2		AS9-HC 4(mm)
ZZZZZ		05/01/2016 12:43	1		AS9-HC 4(mm)
CCV 440-327553/51		05/01/2016 13:50	1	201604300001a051.d	AS9-HC 4(mm)
CCB 440-327553/52		05/01/2016 14:23	1	201604300001a052.d	AS9-HC 4(mm)
CCV 440-327553/58		05/01/2016 17:42	1		AS9-HC 4(mm)
CCB 440-327553/59		05/01/2016 18:15	1		AS9-HC 4(mm)

300.1B

Method 314

Perchlorate (IC) by Method 314

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_37.d

Lab ID: LCS 440-327943/37 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	25.4	101	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160504_2.d

Lab ID: LCS 440-328200/2 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	25.0	25.2	101	85-115	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC METHOD REPORTING LIMIT CHECK RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160504_5.d

Lab ID: MRL 440-328200/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MRL CONCENTRATION (ug/L)	MRL % REC	QC LIMITS REC	#
Perchlorate	4.00	3.71 J	93	75-125	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_40.d

Lab ID: 550-62674-A-1 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	125	360	462	85	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160504_7.d

Lab ID: 440-145452-A-4 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	25.0	3.0 J	26.6	94	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160503_41.d

Lab ID: 550-62674-A-1 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perchlorate	125	455	80	1	20	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160504_8.d

Lab ID: 440-145452-A-4 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perchlorate	25.0	26.8	95	1	20	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM III
HPLC/IC LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20160504_4.d

Lab ID: INF 440-328200/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	25.0	22.6	90	80-120	

Column to be used to flag recovery and RPD values

FORM III 314.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab File ID: 20160503_36.d Lab Sample ID: MB 440-327943/36

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 05/03/2016 19:52

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 440-327943/35	20160503_35.d	05/03/2016 19:35
	LCS 440-327943/37	20160503_37.d	05/03/2016 20:09
	550-62674-A-1 MS	20160503_40.d	05/03/2016 21:00
	550-62674-A-1 MSD	20160503_41.d	05/03/2016 21:17
	CCB 440-327943/47	20160503_47.d	05/03/2016 22:58
WMW7.8N-20160420	440-145213-2	20160503_49.d	05/03/2016 23:32
WMW6.9N-20160420	440-145213-3	20160503_50.d	05/03/2016 23:48
WMW6.9N-20160420-FD	440-145213-4	20160503_51.d	05/04/2016 00:05
	CCB 440-327943/59	20160503_59.d	05/04/2016 02:20

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab File ID: 20160504_3.d Lab Sample ID: MB 440-328200/3

Matrix: Water Date Extracted:

Instrument ID: IC-25 Date Analyzed: 05/04/2016 09:38

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 440-328200/2	20160504_2.d	05/04/2016 09:21
	CCB 440-328200/1003	20160504_3-CCB.d	05/04/2016 09:38
	440-145452-A-4 MS	20160504_7.d	05/04/2016 11:07
	440-145452-A-4 MSD	20160504_8.d	05/04/2016 11:24
	CCB 440-328200/17	20160504_17.d	05/04/2016 13:56
WMW6.15N-20160420	440-145213-5	20160504_18.d	05/04/2016 14:14
AA-22-20160420	440-145213-1	20160504_20.d	05/04/2016 14:48
	CCB 440-328200/27	20160504_27.d	05/04/2016 16:45

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: AA-22-20160420
Lab Sample ID: 440-145213-1
Matrix: Water
Lab File ID: 20160504_20.d
Analysis Method: 314.0
Date Collected: 04/20/2016 07:05
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 14:48
Con. Extract Vol.:
Dilution Factor: 100
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	7100		400	95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW7.8N-20160420
Lab Sample ID: 440-145213-2
Matrix: Water
Lab File ID: 20160503_49.d
Analysis Method: 314.0
Date Collected: 04/20/2016 09:55
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 23:32
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420
Lab Sample ID: 440-145213-3
Matrix: Water
Lab File ID: 20160503_50.d
Analysis Method: 314.0
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 23:48
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.9N-20160420-FD
Lab Sample ID: 440-145213-4
Matrix: Water
Lab File ID: 20160503_51.d
Analysis Method: 314.0
Date Collected: 04/20/2016 12:15
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 00:05
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID: WMW6.15N-20160420
Lab Sample ID: 440-145213-5
Matrix: Water
Lab File ID: 20160504_18.d
Analysis Method: 314.0
Date Collected: 04/20/2016 14:10
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 14:14
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Perchlorate	12.640	12.654	12.647	12.651	12.621	12.594	12.571				12.008 - 13.272	12.625

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Perchlorate	201999 176880	208422 181735	193440 189815	178617	Qua	43397.2609	171899.532	174.932115						1.0000		0.9950

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Irvine Job No.: 440-145213-1 Analy Batch No.: 325991

SDG No.:

Instrument ID: IC-25 GC Column: AS7 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/22/2016 15:00 Calibration End Date: 04/22/2016 16:58 Calibration ID: 14126

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 440-325991/2	20160422 ICAL_2.d
Level 2	STD3 440-325991/3	20160422 ICAL_3.d
Level 3	STD4 440-325991/4	20160422 ICAL_4.d
Level 4	STD5 440-325991/5	20160422 ICAL_5.d
Level 5	STD6 440-325991/6	20160422 ICAL_6.d
Level 6	STD7 440-325991/7	20160422 ICAL_7.d
Level 7	STD8 440-325991/8	20160422 ICAL_8.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perchlorate	Qua	201999 9086740	416844 18981540	773758	1786170	4421988	1.00 50.0	2.00 100	4.00	10.0	25.0

Curve Type Legend:

Qua = Quadratic

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				49.8	50.0	100	90-110

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: ICV 440-325991/9 Calibration Date: 04/22/2016 17:14

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160422 ICAL_9.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.58	12.01	13.27

Form VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327943/34 Calibration Date: 05/03/2016 19:18

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_34.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.5	25.0	102	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327943/34 Calibration Date: 05/03/2016 19:18

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_34.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.51	11.88	13.13

Form VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327943/46 Calibration Date: 05/03/2016 22:41

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_46.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				75.4	75.0	101	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327943/46 Calibration Date: 05/03/2016 22:41

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_46.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.57	11.94	13.20

Form VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327943/58 Calibration Date: 05/04/2016 02:03

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_58.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.7	25.0	103	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-327943/58 Calibration Date: 05/04/2016 02:03

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160503_58.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.55	11.93	13.18

Form VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-328200/1002 Calibration Date: 05/04/2016 09:21

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160504_2-CCV.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				25.2	25.0	101	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-328200/1002 Calibration Date: 05/04/2016 09:21

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160504_2-CCV.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.45	11.93	13.18

Form VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-328200/16 Calibration Date: 05/04/2016 13:39

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160504_16.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				24.8	25.0	99	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-328200/16 Calibration Date: 05/04/2016 13:39

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160504_16.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.49	11.86	13.11

Form VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-328200/26 Calibration Date: 05/04/2016 16:29

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160504_26.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
Perchlorate	Qua				76.9	75.0	103	85-115

FORM VII 314.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Lab Sample ID: CCV 440-328200/26 Calibration Date: 05/04/2016 16:29

Instrument ID: IC-25 Calib Start Date: 04/22/2016 15:00

GC Column: AS7 ID: 4.00(mm) Calib End Date: 04/22/2016 16:58

Lab File ID: 20160504_26.d

Analyte	RT	RT WINDOW	
		FROM	TO
Perchlorate	12.56	11.93	13.19

Form VII 314.0

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-327943/36
Matrix: Water
Lab File ID: 20160503_36.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 19:52
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 440-328200/3
Matrix: Water
Lab File ID: 20160504_3.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 09:38
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327943/35
Matrix: Water
Lab File ID: 20160503_35.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 19:35
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327943/47
Matrix: Water
Lab File ID: 20160503_47.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 22:58
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-327943/59
Matrix: Water
Lab File ID: 20160503_59.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 02:20
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-328200/17
Matrix: Water
Lab File ID: 20160504_17.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 13:56
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-328200/27
Matrix: Water
Lab File ID: 20160504_27.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 16:45
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 440-328200/1003
Matrix: Water
Lab File ID: 20160504_3-CCB.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 09:38
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	ND		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-327943/37
Matrix: Water
Lab File ID: 20160503_37.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 20:09
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	25.4		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 440-328200/2
Matrix: Water
Lab File ID: 20160504_2.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 09:21
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	25.2		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: MRL 440-328200/5
Matrix: Water
Lab File ID: 20160504_5.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 10:11
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	3.71	J	4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: INF 440-328200/4
Matrix: Water
Lab File ID: 20160504_4.d
Analysis Method: 314.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 09:54
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	22.6		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 550-62674-A-1 MS
Matrix: Water
Lab File ID: 20160503_40.d
Analysis Method: 314.0
Date Collected: 05/02/2016 07:12
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 21:00
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	462		20	4.8

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145452-A-4 MS
Matrix: Water
Lab File ID: 20160504_7.d
Analysis Method: 314.0
Date Collected: 04/26/2016 10:15
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 11:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	26.6		4.0	0.95

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 550-62674-A-1 MSD
Matrix: Water
Lab File ID: 20160503_41.d
Analysis Method: 314.0
Date Collected: 05/02/2016 07:12
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/03/2016 21:17
Con. Extract Vol.:
Dilution Factor: 5
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 327943
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	455		20	4.8

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG No.:
Client Sample ID:
Lab Sample ID: 440-145452-A-4 MSD
Matrix: Water
Lab File ID: 20160504_8.d
Analysis Method: 314.0
Date Collected: 04/26/2016 10:15
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 05/04/2016 11:24
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS7 ID: 4(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328200
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-73-0	Perchlorate	26.8		4.0	0.95

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-25 Start Date: 04/22/2016 15:00

Analysis Batch Number: 325991 End Date: 04/22/2016 17:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 440-325991/1 IC		04/22/2016 15:00	1		AS7 4(mm)
STD2 440-325991/2 IC		04/22/2016 15:16	1	20160422 ICAL 2.d	AS7 4(mm)
STD3 440-325991/3 IC		04/22/2016 15:33	1	20160422 ICAL 3.d	AS7 4(mm)
STD4 440-325991/4 IC		04/22/2016 15:50	1	20160422 ICAL 4.d	AS7 4(mm)
STD5 440-325991/5 IC		04/22/2016 16:07	1	20160422 ICAL 5.d	AS7 4(mm)
STD6 440-325991/6 IC		04/22/2016 16:24	1	20160422 ICAL 6.d	AS7 4(mm)
STD7 440-325991/7 IC		04/22/2016 16:41	1	20160422 ICAL 7.d	AS7 4(mm)
STD8 440-325991/8 IC		04/22/2016 16:58	1	20160422 ICAL 8.d	AS7 4(mm)
ICV 440-325991/9		04/22/2016 17:14	1	20160422 ICAL 9.d	AS7 4(mm)
ZZZZZ		04/22/2016 17:31	1		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/03/2016 09:27

Analysis Batch Number: 327943 End Date: 05/04/2016 02:20

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/03/2016 09:27	1		AS7 4(mm)
ZZZZZ		05/03/2016 09:43	1		AS7 4(mm)
CCV 440-327943/1002		05/03/2016 09:43	1		AS7 4(mm)
ZZZZZ		05/03/2016 10:00	1		AS7 4(mm)
CCB 440-327943/1003		05/03/2016 10:00	1		AS7 4(mm)
INF 440-327943/4		05/03/2016 10:17	1		AS7 4(mm)
ZZZZZ		05/03/2016 10:34	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:05	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:22	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:39	1		AS7 4(mm)
ZZZZZ		05/03/2016 11:57	10		AS7 4(mm)
ZZZZZ		05/03/2016 12:18	100		AS7 4(mm)
ZZZZZ		05/03/2016 12:45	100		AS7 4(mm)
ZZZZZ		05/03/2016 13:02	100		AS7 4(mm)
ZZZZZ		05/03/2016 13:19	1		AS7 4(mm)
ZZZZZ		05/03/2016 13:36	1		AS7 4(mm)
ZZZZZ		05/03/2016 13:53	1		AS7 4(mm)
CCV 440-327943/16		05/03/2016 14:10	1		AS7 4(mm)
CCB 440-327943/17		05/03/2016 14:26	1		AS7 4(mm)
ZZZZZ		05/03/2016 14:43	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:00	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:17	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:34	50000		AS7 4(mm)
ZZZZZ		05/03/2016 15:51	50000		AS7 4(mm)
ZZZZZ		05/03/2016 16:08	50000		AS7 4(mm)
CCV 440-327943/24		05/03/2016 16:24	1		AS7 4(mm)
CCB 440-327943/25		05/03/2016 16:41	1		AS7 4(mm)
ZZZZZ		05/03/2016 17:04	10		AS7 4(mm)
ZZZZZ		05/03/2016 17:20	1000		AS7 4(mm)
ZZZZZ		05/03/2016 17:37	100		AS7 4(mm)
ZZZZZ		05/03/2016 17:54	100		AS7 4(mm)
ZZZZZ		05/03/2016 18:11	100		AS7 4(mm)
ZZZZZ		05/03/2016 18:28	100		AS7 4(mm)
ZZZZZ		05/03/2016 18:45	10000		AS7 4(mm)
ZZZZZ		05/03/2016 19:02	10000		AS7 4(mm)
CCV 440-327943/34		05/03/2016 19:18	1	20160503_34.d	AS7 4(mm)
CCB 440-327943/35		05/03/2016 19:35	1	20160503_35.d	AS7 4(mm)
MB 440-327943/36		05/03/2016 19:52	1	20160503_36.d	AS7 4(mm)
LCS 440-327943/37		05/03/2016 20:09	1	20160503_37.d	AS7 4(mm)
ZZZZZ		05/03/2016 20:26	1		AS7 4(mm)
ZZZZZ		05/03/2016 20:43	5		AS7 4(mm)
550-62674-A-1 MS		05/03/2016 21:00	5	20160503_40.d	AS7 4(mm)
550-62674-A-1 MSD		05/03/2016 21:17	5	20160503_41.d	AS7 4(mm)
ZZZZZ		05/03/2016 21:34	5		AS7 4(mm)
ZZZZZ		05/03/2016 21:50	5		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/03/2016 09:27

Analysis Batch Number: 327943 End Date: 05/04/2016 02:20

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/03/2016 22:07	1		AS7 4(mm)
ZZZZZ		05/03/2016 22:24	1		AS7 4(mm)
CCV 440-327943/46		05/03/2016 22:41	1	20160503_46.d	AS7 4(mm)
CCB 440-327943/47		05/03/2016 22:58	1	20160503_47.d	AS7 4(mm)
ZZZZZ		05/03/2016 23:15	10		AS7 4(mm)
440-145213-2		05/03/2016 23:32	1	20160503_49.d	AS7 4(mm)
440-145213-3		05/03/2016 23:48	1	20160503_50.d	AS7 4(mm)
440-145213-4		05/04/2016 00:05	1	20160503_51.d	AS7 4(mm)
ZZZZZ		05/04/2016 00:22	10		AS7 4(mm)
ZZZZZ		05/04/2016 00:39	100		AS7 4(mm)
ZZZZZ		05/04/2016 00:56	100		AS7 4(mm)
ZZZZZ		05/04/2016 01:13	100		AS7 4(mm)
ZZZZZ		05/04/2016 01:30	100		AS7 4(mm)
ZZZZZ		05/04/2016 01:46	100		AS7 4(mm)
CCV 440-327943/58		05/04/2016 02:03	1	20160503_58.d	AS7 4(mm)
CCB 440-327943/59		05/04/2016 02:20	1	20160503_59.d	AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/04/2016 09:04

Analysis Batch Number: 328200 End Date: 05/05/2016 01:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/04/2016 09:04	1		AS7 4(mm)
LCS 440-328200/2		05/04/2016 09:21	1	20160504_2.d	AS7 4(mm)
CCV 440-328200/1002		05/04/2016 09:21	1	20160504_2-CCV.d	AS7 4(mm)
MB 440-328200/3		05/04/2016 09:38	1	20160504_3.d	AS7 4(mm)
CCB 440-328200/1003		05/04/2016 09:38	1	20160504_3-CCB.d	AS7 4(mm)
INF 440-328200/4		05/04/2016 09:54	1	20160504_4.d	AS7 4(mm)
MRL 440-328200/5		05/04/2016 10:11	1	20160504_5.d	AS7 4(mm)
ZZZZZ		05/04/2016 10:50	1		AS7 4(mm)
440-145452-A-4 MS		05/04/2016 11:07	1	20160504_7.d	AS7 4(mm)
440-145452-A-4 MSD		05/04/2016 11:24	1	20160504_8.d	AS7 4(mm)
ZZZZZ		05/04/2016 11:41	1		AS7 4(mm)
ZZZZZ		05/04/2016 11:58	1		AS7 4(mm)
ZZZZZ		05/04/2016 12:15	1		AS7 4(mm)
ZZZZZ		05/04/2016 12:31	1		AS7 4(mm)
ZZZZZ		05/04/2016 12:48	1		AS7 4(mm)
ZZZZZ		05/04/2016 13:05	1		AS7 4(mm)
ZZZZZ		05/04/2016 13:22	1		AS7 4(mm)
CCV 440-328200/16		05/04/2016 13:39	1	20160504_16.d	AS7 4(mm)
CCB 440-328200/17		05/04/2016 13:56	1	20160504_17.d	AS7 4(mm)
440-145213-5		05/04/2016 14:14	1	20160504_18.d	AS7 4(mm)
ZZZZZ		05/04/2016 14:31	10		AS7 4(mm)
440-145213-1		05/04/2016 14:48	100	20160504_20.d	AS7 4(mm)
ZZZZZ		05/04/2016 15:04	1		AS7 4(mm)
ZZZZZ		05/04/2016 15:21	1		AS7 4(mm)
ZZZZZ		05/04/2016 15:38	10000		AS7 4(mm)
ZZZZZ		05/04/2016 15:55	5		AS7 4(mm)
ZZZZZ		05/04/2016 16:12	1000		AS7 4(mm)
CCV 440-328200/26		05/04/2016 16:29	1	20160504_26.d	AS7 4(mm)
CCB 440-328200/27		05/04/2016 16:45	1	20160504_27.d	AS7 4(mm)
ZZZZZ		05/04/2016 17:02	1		AS7 4(mm)
ZZZZZ		05/04/2016 17:19	1		AS7 4(mm)
ZZZZZ		05/04/2016 17:36	1		AS7 4(mm)
ZZZZZ		05/04/2016 17:53	1		AS7 4(mm)
ZZZZZ		05/04/2016 18:10	1		AS7 4(mm)
CCV 440-328200/33		05/04/2016 18:27	1		AS7 4(mm)
CCB 440-328200/34		05/04/2016 18:43	1		AS7 4(mm)
ZZZZZ		05/04/2016 19:00	1		AS7 4(mm)
ZZZZZ		05/04/2016 19:17	1		AS7 4(mm)
ZZZZZ		05/04/2016 19:34	1		AS7 4(mm)
ZZZZZ		05/04/2016 19:51	1		AS7 4(mm)
ZZZZZ		05/04/2016 20:08	1		AS7 4(mm)
ZZZZZ		05/04/2016 20:25	1		AS7 4(mm)
ZZZZZ		05/04/2016 20:41	10000		AS7 4(mm)
ZZZZZ		05/04/2016 20:58	5		AS7 4(mm)

314.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: IC-25 Start Date: 05/04/2016 09:04

Analysis Batch Number: 328200 End Date: 05/05/2016 01:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 440-328200/43		05/04/2016 21:15	1		AS7 4(mm)
CCB 440-328200/44		05/04/2016 21:32	1		AS7 4(mm)
ZZZZZ		05/04/2016 21:49	1		AS7 4(mm)
ZZZZZ		05/04/2016 22:06	1		AS7 4(mm)
ZZZZZ		05/04/2016 22:23	1		AS7 4(mm)
ZZZZZ		05/04/2016 22:40	1		AS7 4(mm)
ZZZZZ		05/04/2016 22:56	1		AS7 4(mm)
ZZZZZ		05/04/2016 23:13	1		AS7 4(mm)
CCV 440-328200/51		05/04/2016 23:30	1		AS7 4(mm)
CCB 440-328200/52		05/04/2016 23:47	1		AS7 4(mm)
ZZZZZ		05/05/2016 00:04	1		AS7 4(mm)
ZZZZZ		05/05/2016 00:21	1		AS7 4(mm)
ZZZZZ		05/05/2016 00:38	1		AS7 4(mm)
ZZZZZ		05/05/2016 00:54	1		AS7 4(mm)
ZZZZZ		05/05/2016 01:11	1		AS7 4(mm)
CCV 440-328200/58		05/05/2016 01:28	1		AS7 4(mm)
CCB 440-328200/59		05/05/2016 01:45	1		AS7 4(mm)

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-145213-1

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
AA-22-20160420	440-145213-1
WMW7.8N-20160420	440-145213-2
WMW6.9N-20160420	440-145213-3
WMW6.9N-20160420-FD	440-145213-4
WMW6.15N-20160420	440-145213-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: AA-22-20160420
Lab Sample ID: 440-145213-1
Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 07:05
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	3600	100	50	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: WMW7.8N-20160420
Lab Sample ID: 440-145213-2
Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 09:55
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	1400	20	10	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: WMW6.9N-20160420
Lab Sample ID: 440-145213-3
Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 12:15
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	2400	20	10	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: WMW6.9N-20160420-FD
Lab Sample ID: 440-145213-4
Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 12:15
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	2400	20	10	mg/L			1	SM 2540C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: WMW6.15N-20160420
Lab Sample ID: 440-145213-5
Lab Name: TestAmerica Irvine
Job No.: 440-145213-1
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 14:10
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Dissolved Solids	4500	50	25	mg/L			1	SM 2540C

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 326631 Date: 04/26/2016 14:42							
SM 2540C	MB 440-326631/1	Total Dissolved Solids	ND		mg/L	10	1

FORM III-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 326631 Date: 04/26/2016 14:42								
SM 2540C		440-145100-A-1	Total Dissolved Solids	1500	mg/L			
SM 2540C		440-145100-A-1 DU	Total Dissolved Solids	1520	mg/L	4	5	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 326631	Date: 04/26/2016 14:42										
						LCS Source: wctdslcs_00061					
SM 2540C	LCS 440-326631/2	Total Dissolved Solids	942		mg/L	1000	94	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-145213-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C MDL Date: 10/04/2010 16:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job Number: 440-145213-1

SDG Number:

Matrix: Water Instrument ID: BAL065

Method: SM 2540C XMDL Date: 11/16/2010 10:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	5

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Instrument ID: BAL065 Analysis Method: SM 2540C

Start Date: 04/26/2016 14:42 End Date: 04/26/2016 21:00

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 440-326631/1	1	T	14:42	X																							
LCS 440-326631/2	1	T	14:42	X																							
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
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ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
440-145100-A-1 DU	1	T	14:42	X																							
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
ZZZZZZ			14:42																								
440-145213-1	1	T	14:42	X																							
440-145213-2	1	T	14:42	X																							
440-145213-3	1	T	14:42	X																							
440-145213-4	1	T	14:42	X																							
440-145213-5	1	T	14:42	X																							
ZZZZZZ			21:00																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Batch Number: 326631 Batch Start Date: 04/26/16 14:42 Batch Analyst: Horn, Mihaela M

Batch Method: SM 2540C Batch End Date: 04/28/16 08:35

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	InitialAmount	TareWeight	Weight1	Weight2	Weight3
MB 440-326631/1		SM 2540C			100 mL	78.8428 g	78.8428 g	78.8427 g	0 g
LCS 440-326631/2		SM 2540C			50 mL	75.7997 g	75.8469 g	75.8468 g	0 g
440-145100-A-1 DU		SM 2540C	T	2400 umhos/cm	50 mL	77.3830 g	77.4591 g	77.4590 g	0 g
440-145213-C-1	AA-22-20160420	SM 2540C	T	7050 umhos/cm	10 mL	76.1757 g	76.2122 g	76.2121 g	0 g
440-145213-C-2	WMW7.8N-20160420	SM 2540C	T	2280 umhos/cm	50 mL	76.1288 g	76.1983 g	76.1983 g	0 g
440-145213-C-3	WMW6.9N-20160420	SM 2540C	T	3450 umhos/cm	50 mL	77.5458 g	77.6663 g	77.6663 g	0 g
440-145213-C-4	WMW6.9N-20160420 -FD	SM 2540C	T	3420 umhos/cm	50 mL	77.0566 g	77.1775 g	77.1776 g	0 g
440-145213-C-5	WMW6.15N-20160420	SM 2540C	T	4950 umhos/cm	20 mL	76.4867 g	76.5759 g	76.5758 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 440-326631/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	0 g	-0.0001 g	N/A g
LCS 440-326631/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0472 g	0.0471 g	N/A g
440-145100-A-1 DU		SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0761 g	0.076 g	N/A g
440-145213-C-1	AA-22-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0365 g	0.0364 g	N/A g
440-145213-C-2	WMW7.8N-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0695 g	0.0695 g	N/A g
440-145213-C-3	WMW6.9N-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.1205 g	0.1205 g	N/A g
440-145213-C-4	WMW6.9N-20160420 -FD	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.1209 g	0.121 g	N/A g
440-145213-C-5	WMW6.15N-20160420	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0892 g	0.0891 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	wctdslcs 00061	AnalysisComment	
MB 440-326631/1		SM 2540C		N/A g	100 mL	OK		pH6	
LCS 440-326631/2		SM 2540C		N/A g	100 mL	OK	50 mL	pH6	
440-145100-A-1 DU		SM 2540C	T	N/A g	100 mL	OK		pH7	
440-145213-C-1	AA-22-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-145213-C-2	WMW7.8N-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-145213-C-3	WMW6.9N-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Batch Number: 326631 Batch Start Date: 04/26/16 14:42 Batch Analyst: Horn, Mihaela M

Batch Method: SM 2540C Batch End Date: 04/28/16 08:35

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	wctdslcs 00061	AnalysisComment	
440-145213-C-4	WMW6.9N-20160420-FD	SM 2540C	T	N/A g	100 mL	OK		pH7	
440-145213-C-5	WMW6.15N-20160420	SM 2540C	T	N/A g	100 mL	OK		pH7	

Batch Notes	
Balance ID	65
Conductivity Meter ID	cond 04
Constant Weight (WT2) Date/Time In	04.27.16@12:00
Constant Weight (WT2) Date/Time Out	04.27.16@12:30
Constant Weight (WT2) Temp In	180 Degrees C
Constant Weight (WT2) Temp Out	180 Degrees C
Uncorrected CW (Wt2) Temp In	0.00 Degrees C
Uncorrected CW (Wt2) Temp Out	0.00 Degrees C
Corrected Temperature in Oven	100 Degrees C
Corrected Temperature out of Oven	100 Degrees C
Date/Time Samples placed in Oven	04/26/16 @ 18:30
Date/Time Samples Removed from Oven	04.27.16@7:00
Filter Paper ID	9712651
Nominal Amount Used	100 mL
Oven ID	O-08
Pipette ID	135, 105
Thermometer ID	D-015
Uncorrected In Temperature	0.00 Degrees C
Uncorrected Out Temperature	0.00 Degrees C
Weight(WT1) Start Date/Time	04.27.16@8:00
Weight(WT1) Date/Time Out	04.27.16@10:00
Weight(WT1) Start Temp	180 Degrees C
Weight(WT1) Temp Out	180 Degrees C
Uncorrected Weight(WT1) Start Temp	0.00 Degrees C
Uncorrected Weight(WT1) Temp Out	0.00 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145213-1

SDG No.:

Batch Number: 326631 Batch Start Date: 04/26/16 14:42 Batch Analyst: Horn, Mihaela M

Batch Method: SM 2540C Batch End Date: 04/28/16 08:35

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: ~~Zoe Diermier~~ Jeremy Shackley	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate	Total Number of Containers	Special Instructions/Note:
			Preservation Code:			N	D	F		
AA-22-20160420	4/20/16	0705	G	W	Y	N	X	X	X	3
WMW7.8N-20160420	4/20/16	0955	G	W	Y	N	X	X	X	3
WMW6.9N-20160420	4/20/16	1215	G	W	Y	N	X	X	X	3
WMW6.9N-20160420-FD	4/20/16	1215	G	W	Y	N	X	X	X	3
WMW6.15N-20160420	4/20/16	1410	G	W	Y	N	X	X	X	3
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

440-145213 Chain of Custody

4/22/16 AK

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed: 6589 2840 7093

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/21/16 0625	GES	Zoe Diermier	4/21/16 0625	Aecom
Zoe Diermier	4/21/16 1430		N O'Brien	4/21/16 1430	TA
N O'Brien	4/21/16 1600	TA	Vu Barell	4/22/16 9:45	TAI

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (CS) 3.5/3.3 3.2/3.0 IR-78

6:ITAWG

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-145213-1

Login Number: 145213
List Number: 1
Creator: Chavez, Yonny 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 440-145213-2

Job Description: NERT Ground Water

For:
AECOM, Inc.
1220 Avenida Acaso
Camarillo, CA 93012

Attention: Carmen Caceres-Schnell

Approved for release.
Patty Mata
Senior Project Manager
6/17/2016 10:02 AM

Patty Mata, Senior Project Manager
17461 Derian Ave, Irvine, CA, 92614-5817
patty.mata@testamericainc.com
06/17/2016

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
440-145213-2

Comments
Chromium results are reported separately as requested.

Receipt
The samples were received on 4/22/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.0º C and 3.3º C.

Metals
Method(s) 200.8: The following samples was diluted due to the nature of the sample matrix: WMW7.8N-20160420 (440-145213-2), WMW6.9N-20160420 (440-145213-3), WMW6.9N-20160420-FD (440-145213-4) and WMW6.15N-20160420 (440-145213-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Client Sample ID: AA-22-20160420 — Lab Sample ID: 440-145213-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	80		10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: WMW7.8N-20160420 — Lab Sample ID: 440-145213-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2.9	J	10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	3.5	J	10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: WMW6.9N-20160420-FD — Lab Sample ID: 440-145213-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	3.9	J	10	2.5	ug/L	5		200.8	Dissolved

Client Sample ID: WMW6.15N-20160420 — Lab Sample ID: 440-145213-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	3.6	J	10	2.5	ug/L	5		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Client Sample ID: AA-22-20160420 — Lab Sample ID: 440-145213-1

Date Collected: 04/20/16 07:05 — **Matrix: Water**
Date Received: 04/22/16 09:45

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	80		10	2.5	ug/L		04/27/16 15:20	04/29/16 10:46	5

Client Sample ID: WMW7.8N-20160420 — Lab Sample ID: 440-145213-2

Date Collected: 04/20/16 09:55 — **Matrix: Water**
Date Received: 04/22/16 09:45

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	2.9	J	10	2.5	ug/L		04/27/16 15:20	04/29/16 10:54	5

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Date Collected: 04/20/16 12:15 — **Matrix: Water**
Date Received: 04/22/16 09:45

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	3.5	J	10	2.5	ug/L		04/27/16 15:20	04/29/16 10:57	5

Client Sample ID: WMW6.9N-20160420-FD — Lab Sample ID: 440-145213-4

Date Collected: 04/20/16 12:15 — **Matrix: Water**
Date Received: 04/22/16 09:45

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	3.9	J	10	2.5	ug/L		04/27/16 15:20	04/29/16 10:59	5

Client Sample ID: WMW6.15N-20160420 — Lab Sample ID: 440-145213-5

Date Collected: 04/20/16 14:10 — **Matrix: Water**
Date Received: 04/22/16 09:45

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	3.6	J	10	2.5	ug/L		04/27/16 15:20	04/29/16 11:02	5

Default Detection Limits

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Method: 200.8 - Metals (ICP/MS) - Dissolved

Prep: 200.2

Analyte	RL	MDL	Units	Method
Chromium	2.0	0.50	ug/L	200.8

QC Sample Results

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-326916/1-A
Matrix: Water
Analysis Batch: 327421

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 326916

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.50	ug/L		04/27/16 15:20	04/29/16 10:41	1

Lab Sample ID: LCS 440-326916/2-A
Matrix: Water
Analysis Batch: 327421

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 326916

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			80.0	77.9		ug/L		97	85 - 115		

Lab Sample ID: 440-145213-1 MS
Matrix: Water
Analysis Batch: 327421

Client Sample ID: AA-22-20160420
Prep Type: Dissolved
Prep Batch: 326916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium	80		80.0	150		ug/L		87	70 - 130		

Lab Sample ID: 440-145213-1 MSD
Matrix: Water
Analysis Batch: 327421

Client Sample ID: AA-22-20160420
Prep Type: Dissolved
Prep Batch: 326916

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	80		80.0	152		ug/L		90	70 - 130	2	20

QC Association Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Metals

Prep Batch: 326916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-1	AA-22-20160420	Dissolved	Water	200.2	
440-145213-1 MS	AA-22-20160420	Dissolved	Water	200.2	
440-145213-1 MSD	AA-22-20160420	Dissolved	Water	200.2	
440-145213-2	WMW7.8N-20160420	Dissolved	Water	200.2	
440-145213-3	WMW6.9N-20160420	Dissolved	Water	200.2	
440-145213-4	WMW6.9N-20160420-FD	Dissolved	Water	200.2	
440-145213-5	WMW6.15N-20160420	Dissolved	Water	200.2	
LCS 440-326916/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-326916/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 327421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145213-1	AA-22-20160420	Dissolved	Water	200.8	326916
440-145213-1 MS	AA-22-20160420	Dissolved	Water	200.8	326916
440-145213-1 MSD	AA-22-20160420	Dissolved	Water	200.8	326916
440-145213-2	WMW7.8N-20160420	Dissolved	Water	200.8	326916
440-145213-3	WMW6.9N-20160420	Dissolved	Water	200.8	326916
440-145213-4	WMW6.9N-20160420-FD	Dissolved	Water	200.8	326916
440-145213-5	WMW6.15N-20160420	Dissolved	Water	200.8	326916
CRI 440-327421/10	DL		Water	200.8	
CRI 440-327421/11	DL		Water	200.8	
ICSA 440-327421/12	ICS		Water	200.8	
ICSAB 440-327421/13	ICS		Water	200.8	
LCS 440-326916/2-A	Lab Control Sample	Total Recoverable	Water	200.8	326916
MB 440-326916/1-A	Method Blank	Total Recoverable	Water	200.8	326916

Lab Chronicle

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Client Sample ID: AA-22-20160420 — Lab Sample ID: 440-145213-1

Date Collected: 04/20/16 07:05
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326916	04/27/16 15:20	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	327421	04/29/16 10:46	TK	TAL IRV

Client Sample ID: WMW7.8N-20160420 — Lab Sample ID: 440-145213-2

Date Collected: 04/20/16 09:55
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326916	04/27/16 15:20	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	327421	04/29/16 10:54	TK	TAL IRV

Client Sample ID: WMW6.9N-20160420 — Lab Sample ID: 440-145213-3

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326916	04/27/16 15:20	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	327421	04/29/16 10:57	TK	TAL IRV

Client Sample ID: WMW6.9N-20160420-FD — Lab Sample ID: 440-145213-4

Date Collected: 04/20/16 12:15
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326916	04/27/16 15:20	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	327421	04/29/16 10:59	TK	TAL IRV

Client Sample ID: WMW6.15N-20160420 — Lab Sample ID: 440-145213-5

Date Collected: 04/20/16 14:10
Date Received: 04/22/16 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			326916	04/27/16 15:20	Q1N	TAL IRV
Dissolved	Analysis	200.8		5	327421	04/29/16 11:02	TK	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16 *
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16 *
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: AECOM, Inc.
Project/Site: NERT Ground Water

TestAmerica Job ID: 440-145213-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-145213-1	AA-22-20160420	Water	04/20/16 07:05	04/22/16 09:45
440-145213-2	WMW7.8N-20160420	Water	04/20/16 09:55	04/22/16 09:45
440-145213-3	WMW6.9N-20160420	Water	04/20/16 12:15	04/22/16 09:45
440-145213-4	WMW6.9N-20160420-FD	Water	04/20/16 12:15	04/22/16 09:45
440-145213-5	WMW6.15N-20160420	Water	04/20/16 14:10	04/22/16 09:45

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME HCl_00317	04/06/17	Fisher Chemical, Lot 4115100			(Purchased Reagent)		Stock Chemical	100 %
ME HNO3_00327	04/11/17	Macron Fine Chemicals, Lot 0000129810			(Purchased Reagent)		Stock Chemical	1 %
ME ICPMS CAL_00027	07/09/16	02si, Lot 1084886			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
MEICPMS4 CCV_00997	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME_CALSTD#1_00004	1.25 mL	Chromium	50 ug/L
							Cu	50 ug/L
							Se	50 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
							Cu	10 mg/L
							Se	10 mg/L
MEICPMS4 ICSA_00997	01/01/18	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100000 ug/L
							Ca	100000 ug/L
							Fe	100000 ug/L
							K	100000 ug/L
							Mg	100000 ug/L
							Mo	2000 ug/L
							Na	100000 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
MEICPMS4 ICSB_00995	11/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC_00013	10 mL	Al	100020 ug/L
							Ca	101000 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mo	2020 ug/L
							Na	100500 ug/L
					ME_CALSTD#1_00004	0.2 mL	Ag	20 ug/L
							Al	100020 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Ca	101000 ug/L
							Cd	20 ug/L
							Ce	20 ug/L
							Chromium	20 ug/L
							Co	20 ug/L
							Cu	20 ug/L
							Fe	100200 ug/L
							K	100500 ug/L
							Mg	100500 ug/L
							Mn	20 ug/L
							Na	100500 ug/L
							Ni	20 ug/L
							Pb	20 ug/L
							Se	20 ug/L
							Sr	20 ug/L
							Tl	20 ug/L
							U	20 ug/L
							V	20 ug/L
							Zn	20 ug/L
					ME_CALSTD#2_00006	0.2 mL	Mo	2020 ug/L
							Sb	20 ug/L
							Sn	20 ug/L
.ME ICPMS LLIC_00013	01/26/18	Inorganic Ventures, Lot J2-MEB533111			(Purchased Reagent)		Al	1000 ug/mL
							Ca	1000 ug/mL
							Fe	1000 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	1000 ug/mL
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Ag	10 mg/L
							Al	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Ca	500 mg/L
							Cd	10 mg/L
							Ce	10 mg/L
							Chromium	10 mg/L
							Co	10 mg/L
							Cu	10 mg/L
							Fe	100 mg/L
							K	250 mg/L
							Mg	250 mg/L
							Mn	10 mg/L
							Na	250 mg/L
							Ni	10 mg/L
							Pb	10 mg/L
							Se	10 mg/L
							Sr	10 mg/L
							Tl	10 mg/L
							U	10 mg/L
							V	10 mg/L
							Zn	10 mg/L
.ME_CALSTD#2_00006	11/01/16	Inorganic Ventures, Lot J2-MEB598153			(Purchased Reagent)		Mo	10 mg/L
							Sb	10 mg/L
							Sn	10 mg/L
MEICPMS4 ICV_01001	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_ICPMSICV#1_00002	250 uL	Chromium	25 ug/L
							Cu	25 ug/L
							Se	25 ug/L
.ME_ICPMSICV#1_00002	08/01/16	Inorganic Ventures, Lot J2-MEB591026			(Purchased Reagent)		Chromium	10 mg/L
							Cu	10 mg/L
							Se	10 mg/L
MEICPMS4 STD1_01163	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01016	2 mL	Chromium	0.2 ug/L
.MEICPMS4 STD3_01016	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00980	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00980	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD2_01001	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD3_01016	10 mL	Chromium	1 ug/L
.MEICPMS4 STD3_01016	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00980	10 mL	Chromium	10 ug/L
..MEICPMS4 STD4_00980	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
...ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD3_01016	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS4 STD4_00980	10 mL	Chromium	10 ug/L
.MEICPMS4 STD4_00980	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
..ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4 STD4_00980	08/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CALSTD#1_00004	1 mL	Chromium	100 ug/L
.ME_CALSTD#1_00004	11/01/16	Inorganic Ventures, Lot J2-MEB598151			(Purchased Reagent)		Chromium	10 mg/L
MEICPMS4_CRI_01012	11/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00005	1 mL	Chromium	1 ug/L
.ME_CRI_30_00005	02/01/17	O2si, Lot 1084922			(Purchased Reagent)		Chromium	100 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MEICPMS4_CRI_01013	11/01/16	04/29/16	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00004	2 mL	Chromium	2 ug/L
.ME_CRI_30_00004	11/01/16	O2si, Lot 1081670			(Purchased Reagent)		Chromium	100 ug/L

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Irvine Job Number: 440-145213-2

SDG No.:

Project: NERT Ground Water

Client Sample ID	Lab Sample ID
AA-22-20160420	440-145213-1
WMW7.8N-20160420	440-145213-2
WMW6.9N-20160420	440-145213-3
WMW6.9N-20160420-FD	440-145213-4
WMW6.15N-20160420	440-145213-5

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: AA-22-20160420
Lab Sample ID: 440-145213-1
Lab Name: TestAmerica Irvine
Job No.: 440-145213-2
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 07:05
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	80	10	2.5	ug/L			5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: WMW7.8N-20160420
Lab Sample ID: 440-145213-2
Lab Name: TestAmerica Irvine
Job No.: 440-145213-2
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 09:55
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	2.9	10	2.5	ug/L	J		5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: WMW6.9N-20160420
Lab Sample ID: 440-145213-3
Lab Name: TestAmerica Irvine
Job No.: 440-145213-2
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 12:15
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	3.5	10	2.5	ug/L	J		5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: WMW6.9N-20160420-FD
Lab Sample ID: 440-145213-4
Lab Name: TestAmerica Irvine
Job No.: 440-145213-2
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 12:15
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	3.9	10	2.5	ug/L	J		5	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: WMW6.15N-20160420
Lab Sample ID: 440-145213-5
Lab Name: TestAmerica Irvine
Job No.: 440-145213-2
SDG ID.:
Matrix: Water
Date Sampled: 04/20/2016 14:10
Reporting Basis: WET
Date Received: 04/22/2016 09:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-47-3	Chromium	3.6	10	2.5	ug/L	J		5	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

ICV Source: MEICPMS4 ICV_01001 Concentration Units: ug/L

CCV Source: MEICPMS4 CCV_00997

Analyte	ICV 440-327421/7 04/29/2016 10:15				CCV 440-327421/25 04/29/2016 11:05							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	24.7		25.0	99	52.3		50.0	105				
Copper	24.8		25.0	99	51.6		50.0	103				
Selenium	24.4		25.0	97	51.2		50.0	102				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Method: 200.8 Instrument ID: ICPMS4

Lab Sample ID: CRI 440-327421/10 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01012

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	1.00	1.03	J	103	50-150

Lab Sample ID: CRI 440-327421/11 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS4_CRI_01013

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	2.00	1.99	J	100	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-327421/8 04/29/2016 10:18		CCB 440-327421/26 04/29/2016 11:07					
		Found	C	Found	C	Found	C	Found	C
Chromium	2.0	ND		ND					
Copper	2.0	ND		ND					
Selenium	2.0	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-326916/1-A

Instrument Code: ICPMS4 Batch No.: 327421

CAS No.	Analyte	Concentration	C	Q	Method
7440-47-3	Chromium	ND			200.8

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Lab Sample ID: ICSA 440-327421/12 Instrument ID: ICPMS4

Lab File ID: 012ICSA.d ICS Source: MEICPMS4 ICSA_00997

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Chromium		**1.39**	
Aluminum	*100000*	*104856*	*105*
Antimony		*0.109*	
Arsenic		*-0.431*	
Barium		*0.113*	
Beryllium		*0.0170*	
Ca	*100000*	*105955*	*106*
Cadmium		*1.34*	
Cerium		*0.0240*	
Cobalt		*0.245*	
Copper		*3.46*	
Iron	*100000*	*99359*	*99*
K	*100000*	*103817*	*104*
Lead		*0.224*	
Manganese		*0.520*	
Mg	*100000*	*104537*	*105*
Molybdenum	*2000*	*2242*	*112*
Na	*100000*	*105156*	*105*
Nickel		*1.19*	
Selenium		*-1.60*	
Silver		*0.0370*	
Sn		*0.0920*	
Sr		*0.779*	
Thallium		*0.0060*	
Uranium		*0.0030*	
Vanadium		*-0.178*	
Zinc		*2.58*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Lab Sample ID: ICSAB 440-327421/13 Instrument ID: ICPMS4

Lab File ID: 013ICSB.d ICS Source: MEICPMS4 ICSB_00995

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Chromium	**20.0**	**21.4**	**107**
Aluminum	*100000*	*102577*	*103*
Antimony	*20.0*	*21.2*	*106*
Arsenic	*20.0*	*18.6*	*93*
Barium	*20.0*	*21.6*	*108*
Beryllium	*20.0*	*19.8*	*99*
Ca	*101000*	*103497*	*102*
Cadmium	*20.0*	*20.8*	*104*
Cerium	*20.0*	*21.4*	*107*
Cobalt	*20.0*	*19.7*	*98*
Copper	*20.0*	*21.5*	*107*
Iron	*100000*	*96721*	*97*
K	*101000*	*101127*	*101*
Lead	*20.0*	*19.8*	*99*
Manganese	*20.0*	*20.5*	*103*
Mg	*101000*	*102291*	*102*
Molybdenum	*2020*	*2217*	*110*
Na	*101000*	*102311*	*102*
Nickel	*20.0*	*19.8*	*99*
Selenium	*20.0*	*17.2*	*86*
Silver	*20.0*	*19.5*	*98*
Sn	*20.0*	*21.0*	*105*
Sr	*20.0*	*22.6*	*113*
Thallium	*20.0*	*19.5*	*97*
Uranium	*20.0*	*20.6*	*103*
Vanadium	*20.0*	*20.5*	*102*
Zinc	*20.0*	*19.2*	*96*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: AA-22-20160420 MS
Lab ID: 440-145213-1 MS
Lab Name: TestAmerica Irvine
Job No.: 440-145213-2
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	150		80		80.0	87	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: AA-22-20160420 MSD

Lab ID: 440-145213-1 MSD

Lab Name: TestAmerica Irvine

Job No.: 440-145213-2

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Chromium	152		80.0	90	70-130	2	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-326916/2-A

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

Sample Matrix: Water LCS Source: ME ICPMS CAL_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Chromium	80.0	77.9		97	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-145213-2

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 200.8 MDL Date: 08/15/2014 16:02

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Irvine Job Number: 440-145213-2

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 200.8 XMDL Date: 08/15/2014 16:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium	52	2	0.5

FORM IX - IN

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Irvine Job No: 440-145213-2

SDG No.:

Instrument ID: ICPMS4 Date: 05/10/2012 14:51

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Chromium		4000	200.8

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-326916/1-A	04/27/2016 15:20	326916		25	25
LCS 440-326916/2-A	04/27/2016 15:20	326916		25	25
440-145213-1	04/27/2016 15:20	326916		25	25
440-145213-1 MS	04/27/2016 15:20	326916		25	25
440-145213-1 MSD	04/27/2016 15:20	326916		25	25
440-145213-2	04/27/2016 15:20	326916		25	25
440-145213-3	04/27/2016 15:20	326916		25	25
440-145213-4	04/27/2016 15:20	326916		25	25
440-145213-5	04/27/2016 15:20	326916		25	25

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 200.8

Start Date: 04/29/2016 09:56 End Date: 04/29/2016 12:09

Lab Sample Id	D/F	Type	Time	Analytes																							
				Cr																							
ZZZZZZ			09:56																								
STD0 440-327421/2 IC	1		09:58	X																							
STD1 440-327421/3 IC	1		10:01	X																							
STD2 440-327421/4 IC	1		10:04	X																							
STD3 440-327421/5 IC	1		10:07	X																							
STD4 440-327421/6 IC	1		10:11	X																							
ICV 440-327421/7	1		10:15	X																							
ICB 440-327421/8	1		10:18	X																							
ZZZZZZ			10:20																								
CRI 440-327421/10	1		10:23	X																							
CRI 440-327421/11	1		10:26	X																							
ICSA 440-327421/12	1		10:28	X																							
ICSAB 440-327421/13	1		10:31	X																							
RINSE 440-327421/14			10:35																								
RINSE 440-327421/15			10:38																								
MB 440-326916/1-A	1	R	10:41	X																							
LCS 440-326916/2-A	1	R	10:43	X																							
440-145213-1	5	D	10:46	X																							
440-145213-1 MS	5	D	10:49	X																							
440-145213-1 MSD	5	D	10:51	X																							
440-145213-2	5	D	10:54	X																							
440-145213-3	5	D	10:57	X																							
440-145213-4	5	D	10:59	X																							
440-145213-5	5	D	11:02	X																							
CCV 440-327421/25	1		11:05	X																							
CCB 440-327421/26	1		11:07	X																							
ZZZZZZ			11:10																								
ZZZZZZ			11:13																								
ZZZZZZ			11:15																								
ZZZZZZ			11:18																								
ZZZZZZ			11:21																								
ZZZZZZ			11:23																								
ZZZZZZ			11:26																								
ZZZZZZ			11:29																								
CCV 440-327421/35			11:31																								
CCB 440-327421/36			11:34																								
ZZZZZZ			11:37																								
ZZZZZZ			11:40																								
ZZZZZZ			11:42																								
ZZZZZZ			11:45																								
ZZZZZZ			11:48																								
ZZZZZZ			11:50																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 200.8

Start Date: 04/29/2016 09:56 End Date: 04/29/2016 12:09

Lab Sample Id	D/F	Type	Time	Analytes																							
				Cr																							
ZZZZZZ			11:53																								
ZZZZZZ			11:56																								
ZZZZZZ			11:58																								
CCV 440-327421/46			12:01																								
ZZZZZZ			12:04																								
CCB 440-327421/48			12:09																								

Prep Types:
D = Dissolved
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

ICP-MS Instrument ID: ICPMS4 Start Date: 04/29/2016 End Date: 04/29/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element	Q
STD0 440-327421/2 I	09:58	100		100		100		100			
STD1 440-327421/3 I	10:01	100		101		101		100			
STD2 440-327421/4 I	10:04	100		100		101		100			
STD3 440-327421/5 I	10:07	100		101		100		100			
STD4 440-327421/6 I	10:11	99		98		99		100			
ICV 440-327421/7	10:15	99		100		100		100			
ICB 440-327421/8	10:18	100		100		100		100			
CRI 440-327421/10	10:23	99		100		100		100			
CRI 440-327421/11	10:26	99		100		99		100			
ICSA 440-327421/12	10:28	96		96		91		94			
ICSAB 440-327421/13	10:31	100		98		94		97			
MB 440-326916/1-A	10:41	98		99		100		100			
LCS 440-326916/2-A	10:43	98		99		100		101			
440-145213-1	10:46	99		94		94		98			
440-145213-1 MS	10:49	102		98		96		100			
440-145213-1 MSD	10:51	104		98		97		100			
440-145213-2	10:54	103		100		99		101			
440-145213-3	10:57	102		98		96		98			
440-145213-4	10:59	103		99		98		101			
440-145213-5	11:02	103		98		97		100			
CCV 440-327421/25	11:05	104		106		104		105			
CCB 440-327421/26	11:07	105		106		105		104			

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: TestAmerica Irvine Job No.: 440-145213-2

SDG No.:

Batch Number: 326916 Batch Start Date: 04/27/16 15:20 Batch Analyst: Nguyen, Quynh 1

Batch Method: 200.2 Batch End Date: 04/27/16 16:19

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME HCl 00317	ME HNO3 00327	ME ICPMS CAL 00027
MB 440-326916/1		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	
LCS 440-326916/2		200.2, 200.8			25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-145213-B-1	AA-22-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145213-B-1 MS	AA-22-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-145213-B-1 MSD	AA-22-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	200 uL
440-145213-B-2	WMW7.8N-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145213-B-3	WMW6.9N-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145213-B-4	WMW6.9N-20160420 -FD	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	
440-145213-B-5	WMW6.15N-20160420	200.2, 200.8	D	<2	25 mL	25 mL	0.125 mL	0.25 mL	

Batch Notes	
Lot # of Nitric Acid	0000129810 HCL:4115100
Pipette ID	51
Digestion Tube/Cup ID	1509014

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: ~~Zoe Diermier~~ Jeremy Shackley	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No:
Client Contact: Carmen Caceres-Schnell	Phone: 805-764-4031	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: AECOM, Inc.				Job #:
Address: 1220 Avenida Acaso	Due Date Requested:			
City: Camarillo	TAT Requested (days): 10 Days			
State, Zip: CA, 93012				
Phone: 805-764-4031	PO #: 774770 & 74771			
Email: carmen.caceres-schnell@aecom.com	WO #:			
Project Name: NERT Ground Water	Project #: 60477365			
Site: NERT - Downgradient Study Area	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	2540C-TDS, 300-Cl, Br, 314.0-Perchlorate	200.8 - Chromium, Dissolved	300.1B_28D - Chlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:			N	D	L		
AA-22-20160420	4/20/16	0705	G	W	Y	N	X	X	X	
WMW7.8N-20160420	4/20/16	0955	G	W	Y	N	X	X	X	
WMW6.9N-20160420	4/20/16	1215	G	W	Y	N	X	X	X	
WMW6.9N-20160420-FD	4/20/16	1215	G	W	Y	N	X	X	X	
WMW6.15N-20160420	4/20/16	1410	G	W	Y	N	X	X	X	
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

440-145213 Chain of Custody

4/22/16 AK

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): Level II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed: 6589 2840 7093

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/21/16 0625	GES	Zoe Diermier	4/21/16 0625	Aecom
Zoe Diermier	4/21/16 1430		N O'Dell	4/21/16 1430	TA
N O'Dell	4/21/16 1600	TA	Vu Barell	4/22/16 9:45	TAI

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (CS) 3.5/3.3 3.2/3.0 IR-78

6:ITAWS

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 440-145213-2

Login Number: 145213
List Number: 1
Creator: Chavez, Yonny 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2741

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/18/16
Time Sampled: 1000-1450

Submitted by: Z. Diermier
Date Received: 04/18/16
Time Received: 1630

Report Attention:

Case Narrative

Samples were received on April 18, 2016 at 1630 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2741
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
AA-23R-20160418	Hexavalent Chromium	0.030	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-8-20160418	Hexavalent Chromium	0.081	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-7-20160418	Hexavalent Chromium	0.081	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-7-20160418-FD	Hexavalent Chromium	0.079	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Silver State Analytical Laboratories
Laboratory No: 16-2741
May 12, 2016

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.049	0.050	98	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV	0.051	0.050	102	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE. Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Sampled by: Zoe Diermier Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*
4-18-16	1000	AA-23R - 20160418	2741-1A/B		GW	6	2	X	
4-18-16	1215	DBMW-8 - 20160418	-2A/B		GW	6	2	X	
4-18-16	1450	DBMW-7 - 20160418	-3A/B		GW	6	2	X	
4-18-16	1450	DBMW-7 - 20160418-FD	-4A/B		GW	6	2	X	
					GW				
					GW				
					GW				
					GW				

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	ZOE DIERMIER	Aecom	4-18-16	1630
Received By:	R. Bolshazy 1	[illegible]	SSAL	4/18/16	1630
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:	Zoe Diermier	Zoe Diermier	Aecom	4-18-16	1630

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2774

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/19/16
Time Sampled: 0810-1050

Submitted by: Z. Diermier
Date Received: 04/19/16
Time Received: 1540

Report Attention:

Case Narrative

Samples were received on April 19, 2016 at 1540 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2774
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MCF-06C-20160419	Hexavalent Chromium	0.078	mg/L	0.001	EPA 218.7	04/25/16	CL
AA-20-20160419	Hexavalent Chromium	0.039	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-1-20160419	Hexavalent Chromium	0.069	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Silver State Analytical Laboratories
Laboratory No: 16-2774
May 12, 2016

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.049	0.050	98	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV	0.051	0.050	102	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program: SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report: I (II) III IV
NOTE Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Sampled by: ~~Zoe Diermier~~ Jeremy Shackley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4/19/16	0810	MCF-06C-20160419	2774-1A/B	G	GW	6	2	X
4/19/16	0935	AA-20-20160419	-2A/B	G	GW	6	2	X
4/19/16	1050	OBMW-1-20160419	-3A/B	G	GW	6	2	X
					GW			
					GW			
					GW			
					GW			
					GW			

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Metals*

MS/MSD

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shackley	GES	4/19/16	1420
Received By:		Zoe Diermier	Aecom	4/19/16	1420
Relinquished By:		Zoe Diermier	Aecom	4/19/16	1540
Received By:		R. Bolshazy	SSAL	4/19/16	1540
Relinquished By:					
Received By:					
Authorized By:		Zoe Diermier	Aecom	4/19/16	1540

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other

Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2775

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/19/16
Time Sampled: 0930-1130

Submitted by: Z. Diermier
Date Received: 04/19/16
Time Received: 1540

Report Attention:

Case Narrative

Samples were received on April 19, 2016 at 1540 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

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4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
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Silver State Analytical Laboratories
Laboratory No: 16-2775
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
DBMW-5-20160419	Hexavalent Chromium	0.135	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-4-20160419-EB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-4-20160419	Hexavalent Chromium	0.10	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Silver State Analytical Laboratories
Laboratory No: 16-2775
May 12, 2016

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.049	0.050	98	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV	0.051	0.050	102	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

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CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program: SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report: I (II) III IV
NOTE Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Sampled by: Zoe Diermier Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐ **Rush results will be issued after 4:00 p.m.**
2 Day: ☐ 5 Day: ☐

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4-19-16	0930	DBMW-5-20160419	2775-1A/B	G	GW	6	2	X
4-19-16	1130	DBMW-4-20160419-EB	-2A/B	G	GW	6	2	X
4-19-16	1100	DBMW-4-20160419	-3A/B	G	GW	6	2	X
					GW			
					GW			
					GW			
					GW			
					GW			

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Metals*

LAB FILTER

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	Zoe Diermier	Aecom	4-19-16	1540
Received By:	[illegible]	R. Bolshary	SSAL	4-19/16	1540
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:	Zoe Diermier	Zoe Diermier	Aecom	4-19-16	1540

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2825

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/20/16
Time Sampled: 0705-1410

Submitted by: J. Shockley
Date Received: 04/20/16
Time Received: 1545

Report Attention:

Case Narrative

Samples were received on April 20, 2016 at 1545 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

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4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2825
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
AA-22-20160420	Hexavalent Chromium	0.099	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW7.8N-20160420	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW6.9N-20160420	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW6.9N-20160420-FD	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW6.15N-20160420	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV	0.051	0.050	102	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV2	0.054	0.050	108	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE. Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: ~~Zoe Diermier~~ Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*	COMMENTS:
4/20/16	0705	AA-22-20160420	2825-1A/B	G	GW	6	2	X		
4/20/16	0955	WMW7.8N-20160420	-2A/B	G	GW	6	2	X		
4/20/16	1215	WMW6.9N-20160420	-3A/B	G	GW	6	2	X		
4/20/16	1215	WMW6.9N-20160420-FD	-4A/B	G	GW	6	2	X		
4/20/16	1410	WMW6.15N-20160420	-5A/B	G	GW	6	2	X		
					GW					
					GW					
					GW					

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/20/16	1545
Received By:		R. Bolshazy	SSAL	4/20/16	1545
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:			GES	4/20/16	1545

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 13, 2016

LABORATORY NO: 16-2837

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/20/16
Time Sampled: 0835-1400

Submitted by: Z. Diermier
Date Received: 04/20/16
Time Received: 1630

Report Attention:

Case Narrative

Samples were received on April 20, 2016 at 1630 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2837
May 13, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MW-11-20160420	Hexavalent Chromium	0.025	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-05-20160420	Hexavalent Chromium	0.025	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-18-20160420	Hexavalent Chromium	0.021	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-04-20160420	Hexavalent Chromium	0.043	mg/L	0.01	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV	0.051	0.050	102	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV2	0.054	0.050	108	90	110	EPA 218.7

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV	0.049	0.050	98	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV2	0.048	0.050	96	90	110	EPA 218.7

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Phone (702) [illegible]478 Fax: (702) 873-7967 (EPA#: NV00930, CA2885)

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: Zoe Diermier Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*
4-20-16	0835	MW-11-20160420	2837-1A/B	G	GW	6	2/N	X	
4-20-16	1015	MW-05-20160420	-2A/B	G	GW	6	2/N	X	
4-20-16	1210	MW-18-20160420	-3A/B	G	GW	6	2/N	X	
4-20-16	1400	MW-04-20160420	-4A/B-F	G	GW	6	6/N	X	MS/MSD
					GW				
					GW				
					GW				
					GW				

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	Zoe Diermier	Aecom	4-20-16	1630
Received By:	Rebekah Bolshazy	Rebekah Bolshazy	SSAL	4/20/16	1630
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:	Zoe Diermier	Zoe Diermier	Aecom	4-20-16	1630

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2878

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/21/16
Time Sampled: 0920-1500

Submitted by: J. Shockley
Date Received: 04/21/16
Time Received: 1600

Report Attention:

Case Narrative

Samples were received on April 21, 2016 at 1600 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

Silver State Analytical Laboratories
Laboratory No: 16-2878
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
COH2B1-20160421	Hexavalent Chromium	0.009	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW6.55S-20160421	Hexavalent Chromium	0.001	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW6.9S-20160421	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
PC-78-20160421	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
PC-77-20160421	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV	0.051	0.050	102	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV2	0.054	0.050	108	90	110	EPA 218.7
CCV3	0.055	0.050	110	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: ~~Zoe Diermier~~ Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

ANALYSES REQUESTED

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4/21/16	0920	COH2B1-20160421	2878-1A/B	G	GW	6	2	X
4/21/16	1100	WMW6.55S-20160421	-2A/B	G	GW	6	2	X
4/21/16	1225	WMW6.9S-20160421	-3A/B	G	GW	6	2	X
4/21/16	1350	PC-78-20160421	-4A/B	G	GW	6	2	X
4/21/16	1500	PC-77-20160421	-5A/B	G	GW	6	2	X
					GW			
					GW			
					GW			

Metals*

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/21/16	1600
Received By:		Rebekah Bolshazy	SSAL	4/21/16	1600
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:			GES	4/21/16	1600

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other

Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

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Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2886

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/21/16
Time Sampled: 0825-1350

Submitted by: Z. Diermier
Date Received: 04/21/16
Time Received: 1645

Report Attention:

Case Narrative

Samples were received on April 21, 2016 at 1645 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

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4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2886
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MCF-06B-20160421	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-25-20160421	Hexavalent Chromium	0.020	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-25-20160421-FB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-13-20160421	Hexavalent Chromium	0.039	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-12-20160421	Hexavalent Chromium	0.014	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV	0.054	0.050	108	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV2	0.055	0.050	110	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention:	Carmen Caceres-Schnell
Project Number:	60477365 - 2015-140B
Company:	AECOM
Mailing Address:	1220 Avnenida Acaso
City, State, Zip:	Camarillo, CA 93012
Phone:	(805) 764-4031
Email / Fax:	carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention:	Carmen Caceres-Schnell
PO#	74944
Quote #	16-008
Company:	AECOM
Mailing Address:	1220 Avnenida Acaso
City, State, Zip:	Camarillo, CA 93012
Phone:	(805) 764-4031
Email / Fax:	carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐
Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via:
Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via:
Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: Zoe Diermier Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*	COMMENTS:
4-21-16	0825	MCF-06B-20160421	2886-1A/B	G	GW	6	2/V	X		
4-21-16	1110	MW-25-20160421	-2A/B	G	GW	6	2/V	X		
4-21-16	1130	MW-25-20160421-FB	-3A/B	G	GW	6	2/V	X		
4-21-16	1228	MW-13-20160421	-4A/B	G	GW	6	2/V	X		
4-21-16	1350	MW-12-20160421	-5A/B	G	GW	6	2/V	X		
					GW					
					GW					
					GW					

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	Zoe Diermier	Aecom	4-21-16	1645
Received By:	[signature]	Rebekah Bolshazy	SSAL	4/21/16	1645
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:	Zoe Diermier	Zoe Diermier	Aecom	4-21-16	1645

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2907

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/22/16
Time Sampled: 0810-1500

Submitted by: J. Shockley
Date Received: 04/22/16
Time Received: 1600

Report Attention:

Case Narrative

Samples were received on April 22, 2016 at 1600 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2907
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
WMW6.15S-20160422	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
PMW-7-20160422	Hexavalent Chromium	0.004	mg/L	0.001	EPA 218.7	04/25/16	CL
PMW-8-20160422	Hexavalent Chromium	0.003	mg/L	0.001	EPA 218.7	04/25/16	CL
RIT-06-20160422	Hexavalent Chromium	0.005	mg/L	0.001	EPA 218.7	04/25/16	CL
RIT-10-20160422	Hexavalent Chromium	0.002	mg/L	0.001	EPA 218.7	04/25/16	CL
RIT-10-20160422-FB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Silver State Analytical Laboratories
Laboratory No: 16-2907
May 12, 2016

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV2	0.054	0.050	108	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV3	0.055	0.050	110	90	110	EPA 218.7
CCV4	0.054	0.050	108	90	110	EPA 218.7

SilverState Analytical Laboratories | Sierra Environmental Monitoring | EnviroTech.

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Phone (702) [illegible]478 Fax: (702) 873-7967 (EPA#: NV00930, CA2885)

☐ 1135 FINANCIAL BOULEVARD, RENO, NV 89502
Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

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CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program: SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report: I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: ~~Zoe Diermier~~ Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4/22/16	0810	WMW6.15S-20160422	2907-1A/B	G	GW	6	2	X
4/22/16	1015	PMW-7-20160422	-2A/B	G	GW	6	2	X
4/22/16	1130	PMW-8-20160422	-3A/B	G	GW	6	2	X
4/22/16	1245	RIT-06-20160422	-4A/B	G	GW	6	2	X
4/22/16	1405	RIT-10-20160422	-5A/B	G	GW	6	2	X
4/22/16	1500	RIT-10-20160422-FB	-6A/B	G	GW	6	2	X
					GW			
					GW			

Metals*

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/22/16	1600
Received By:		R. Bolshazy	SSAL	4/22/16	1600
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2908

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/22/16
Time Sampled: 0810-1510

Submitted by: Z. Diermier
Date Received: 04/22/16
Time Received: 1610

Report Attention:

Case Narrative

Samples were received on April 22, 2016 at 1610 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2908
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
AA-30-20160422	Hexavalent Chromium	0.046	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW5.5S-20160422	Hexavalent Chromium	0.003	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW5.5S-20160422-EB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
WMW4.9S-20160422	Hexavalent Chromium	0.002	mg/L	0.001	EPA 218.7	04/25/16	CL
MW-20-20160422	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
LNDMW1-20160422	Hexavalent Chromium	0.021	mg/L	0.001	EPA 218.7	04/25/16	CL
DBMW-22-20160422	Hexavalent Chromium	0.006	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV3	0.055	0.050	110	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV4	0.054	0.050	108	90	110	EPA 218.7
CCV5	0.054	0.050	108	90	110	EPA 218.7

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CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Sampled by: Zoe Diermier Signature: [signature]

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*
4-22-16	0810	AA-30-20160422	2908-1A/B	G	GW	6	8/V	X	
	0925	WMW5.5S-20160422	-2A/B		GW				
	0950	WMW5.5S-20160422-GB	-3A/B		GW				
	1042	WMW4.9S-20160422	-4A/B		GW				
	1150	~~[illegible]~~ MW-20-20160422	-5A/B		GW				
	1320	LNDMW1-20160422	-6A/B		GW				
	1510	DBMW-22-20160422	-7A/B		GW				
					GW				

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:	[signature]	Zoe Diermier	Aecom	4-22-16	1610
Received By:	[signature]	R. Bolshazy	SSAL	4/22/16	1610
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:	[signature]	Zoe Diermier	Aecom	4-22-16	1610

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 12, 2016

LABORATORY NO: 16-2948

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/25/16
Time Sampled: 1025-1345

Submitted by: J. Shockley
Date Received: 04/25/16
Time Received: 1553

Report Attention:

Case Narrative

Samples were received on April 25, 2016 at 1553 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

Silver State Analytical Laboratories
Laboratory No: 16-2948
May 12, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MCF-20A-20160425	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/25/16	CL
MCF-05-20160425	Hexavalent Chromium	0.002	mg/L	0.001	EPA 218.7	04/25/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/25/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV4	0.054	0.050	108	90	110	EPA 218.7
LCS	0.024	0.025	96	90	110	EPA 218.7
Matrix Spike 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.554	0.530	105	90	110	EPA 218.7
Matrix Spike Duplicate 16-2741-1A with a post dilution spike of 0.05 mg/L at 10X	0.551	0.530	104	90	110	EPA 218.7
CCV5	0.054	0.050	108	90	110	EPA 218.7

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CHAIN-OF-CUSTODY-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Sampled by: Zoe Diermier Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Metals* MS/MSD

COMMENTS:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4-25-16	1025	MCF-20A-20160425	2948-1A/B	G	GW	6	2/V	X
4-25-16	1345	MCF-05-20160425	-2A-F	G	GW	6	6/V	X
					GW			
					GW			
					GW			
					GW			
					GW			
					GW			

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	Zoe Diermier	Aecom	4-25-16	1530
Received By:	[illegible]	Jeremy Shockley	GES	4-25-16	1530
Relinquished By:	[illegible]	Jeremy Shockley	GES	4-25-16	1553
Received By:	[illegible]	R. Bolshazy	SSAL	4/25/16	1553
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 13, 2016

LABORATORY NO: 16-2987

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/26/16
Time Sampled: 0800-1305

Submitted by: J. Shockley
Date Received: 04/26/16
Time Received: 1540

Report Attention:

Case Narrative

Samples were received on April 26, 2016 at 1540 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

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4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2987
May 13, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MCF-18A-20160426-0800	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-05-20160426	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.045	0.050	90	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV	0.049	0.050	98	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

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CHAIN-OF-CUSTODY-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

Sampled by: Zoe Diermier
Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via:
Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via:
Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4-26-16	0800	MCF-18A-20160426-0800	29871A1B	G	GW	6	2/V	X
4-26-16	1305	MCF-05-20160426	-2A1B	G	GW	6	2/V	X
					GW			
					GW			
					GW			
					GW			
					GW			
					GW			

Metals*

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	Zoe Diermier	Aecom	4-26-16	1515
Received By:	[illegible]	Jeremy Shockley	GES	4/26/16	1515
Relinquished By:	[illegible]	Jeremy Shockley	GES	4/26/16	1540
Received By:	[illegible]	R. Bolshazy	SSAL	4/26/16	1540
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 13, 2016

LABORATORY NO: 16-2988

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/26/16
Time Sampled: 1030-1405

Submitted by: J. Shockley
Date Received: 04/26/16
Time Received: 1540

Report Attention:

Case Narrative

Samples were received on April 26, 2016 at 1540 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

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4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-2988
May 13, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MW-1-20160426	Hexavalent Chromium	0.049	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-2-20160426	Hexavalent Chromium	0.024	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-3-20160426	Hexavalent Chromium	0.017	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-4-20160426	Hexavalent Chromium	0.019	mg/L	0.001	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.045	0.050	90	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV	0.049	0.050	98	90	110	EPA 218.7

SilverState Analytical Laboratories | Sierra Environmental Monitoring | EnviroTech

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

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CHAIN [illegible]-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Sampled by: Zoe Diermier Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Metals*

COMMENTS:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4/26/16	1030	MW-1-20160426	2988-1A/B	G	GW	6	2/VG	X
4/26/16	1150	MW-2-20160426	-2A/B	G	GW	6	2/VG	X
4/26/16	1310	MW-3-20160426	-3A/B	G	GW	6	2/VG	X
4/26/16	1405	MW-4-20160426	-4A/B	G	GW	6	2/VG	X
					GW			
					GW			
					GW			
					GW			

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/26/16	1540
Received By:		R. Bolshazy	SSAL	4/26/16	1540
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 13, 2016

LABORATORY NO: 16-3021

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/27/16
Time Sampled: 0900-1325

Submitted by: J. Shockley
Date Received: 04/27/16
Time Received: 1545

Report Attention:

Case Narrative

Samples were received on April 27, 2016 at 1545 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-3021
May 13, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
WMW3.5N-20160427	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
WMW3.5N-20160427-FD	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
LNDMW2-20160427	Hexavalent Chromium	0.008	mg/L	0.001	EPA 218.7	04/28/16	CL
LNDMW2-20160427-FB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
WMW4.9N-20160427	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
WMW4.9N-20160427-FB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.045	0.050	90	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV	0.049	0.050	98	90	110	EPA 218.7
CCV2	0.048	0.050	96	90	110	EPA 218.7

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ssalabs.com sem-analytical.com envirotechonline.com

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Phone (702[illegible]478 Fax: (702) 873-7967 (EPA#: NV00930, CA2885)

☐ 1135 FINANCIAL BOULEVARD, RENO, NV 89502
Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-C[illegible]CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: ~~Zoe Diermier~~ Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218
4/27/16	0900	WMW3.5N-20160427	3021-1A/B	G	GW	6	2/V	X
4/27/16	0900	WMW3.5N-20160427-FD	-2A/B	G	GW	6	2/V	X
4/27/16	1130	LNDMW2-20160427	-3A/B	G	GW	6	2/V	X
4/27/16	1130	LNDMW2-20160427-FB	-4A/B	G	GW	6	2/V	X
4/27/16	1325	WMW4.9N-20160427	-5A/B	G	GW	6	2/V	X
4/27/16	1325	WMW4.9N-20160427-EB	-6A/B	G	GW	6	2/V	X
					GW			
					GW			

Metals*

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/27/16	1545
Received By:		R. Bolshary	SSAL	4/27/16	1545
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 13, 2016

LABORATORY NO: 16-3022

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/27/16
Time Sampled: 0700-1500

Submitted by: J. Shockley
Date Received: 04/27/16
Time Received: 1545

Report Attention:

Case Narrative

Samples were received on April 27, 2016 at 1545 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-3022
May 13, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MCF-18A-20160427	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-08A-20160427	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-08B-R-20160427	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-08B-R-20160427-FD	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-20A-20160427	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV	0.049	0.050	98	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV2	0.048	0.050	96	90	110	EPA 218.7

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Phone (702) [illegible]478 Fax: (702) 873-7967 (EPA#: NV00930, CA2885)

☐ 1135 FINANCIAL BOULEVARD, RENO, NV 89502
Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention:	Carmen Caceres-Schnell
Project Number:	60477365 - 2015-140B
Company:	AECOM
Mailing Address:	1220 Avnenida Acaso
City, State, Zip:	Camarillo, CA 93012
Phone:	(805) 764-4031
Email / Fax:	carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention:	Carmen Caceres-Schnell
PO#	74944
Quote #	16-008
Company:	AECOM
Mailing Address:	1220 Avnenida Acaso
City, State, Zip:	Camarillo, CA 93012
Phone:	(805) 764-4031
Email / Fax:	carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Sampled by: Zoe Diermier Signature: Zoe Diermier

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*	COMMENTS:
4-27-16	0700	MCF-18A-20160427	3022-1A/B	G	GW	6	2/V	X		
	0910	MCF-08A-20160427	-2A/B	G	GW	6	2/V	X		
	0955	MCF-08B-R-20160427	-3A/B	G	GW	6	2/V	X		
	0955	MCF-08B-R-20160427-FD	-4A/B	G	GW	6	2/V	X		
↓	1500	MCF-20A-20160427	-5A/B	G	GW	6	2/V	X		
					GW					
					GW					
					GW					

	Signature	Print Name	Company	Date	Time
Relinquished By:	Zoe Diermier	Zoe Diermier	Aecom	4-27-16	1510
Received By:	[illegible]	Jeremy Shockley	GES	4/27/16	1510
Relinquished By:	[illegible]	Jeremy Shockley	GES	4/27/16	1545
Received By:	[illegible]	R. Bolshazy	SSAL	4/27/16	1545
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 13, 2016

LABORATORY NO: 16-3074

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/28/16
Time Sampled: 0930-1445

Submitted by: J. Shockley
Date Received: 04/28/16
Time Received: 1605

Report Attention:

Case Narrative

Samples were received on April 28, 2016 at 1605 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-3074
May 13, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
HM-2-20160428	Hexavalent Chromium	0.046	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-02-20160428	Hexavalent Chromium	0.012	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-06-20160428	Hexavalent Chromium	0.005	mg/L	0.001	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV2	0.048	0.050	96	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV3	0.048	0.050	96	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUSTODY-RECORD

Page 1 of 1

Report Results To:

Report Attention:	Carmen Caceres-Schnell
Project Number:	60477365 - 2015-140B
Company:	AECOM
Mailing Address:	1220 Avnenida Acaso
City, State, Zip:	Camarillo, CA 93012
Phone:	(805) 764-4031
Email / Fax:	carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention:	Carmen Caceres-Schnell
PO#	74944
Quote #	16-008
Company:	AECOM
Mailing Address:	1220 Avnenida Acaso
City, State, Zip:	Camarillo, CA 93012
Phone:	(805) 764-4031
Email / Fax:	carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results ☐ Invoice ☐

Applicable Program: SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report: I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Sampled by: ~~Zoe Diermier~~ Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

ANALYSES REQUESTED

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐ **Rush results will be issued after 4:00 p.m.**
2 Day: ☐ 5 Day: ☐

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

Field Measurements: On-Site pH: Chlorine: Temperature: Other:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*
4/28/16	0930	HM-2-20160428	3074-1A/B	G	GW	6	2/V	X	
4/28/16	1310	MW-02-20160428	-2A/B	G	GW	6	2/V	X	
4/28/16	1445	MW-06-20160428	-3A/B	G	GW	6	2/V	X	
					GW				
					GW				COMMENTS:
					GW				
					GW				
					GW				

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/28/16	1530
Received By:		David Decker	GES	4/28/16	1530
Relinquished By:		David Decker	GES	4/28/16	1605
Received By:		R. Bolstrazy	SSAL	4/28/16	1605
Relinquished By:					
Received By:					
Authorized By:		Jeremy Shockley			

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other

Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 16, 2016

LABORATORY NO: 16-3075

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: Z. Diermier
Date Sampled: 04/28/16
Time Sampled: 0750-1440

Submitted by: J. Shockley
Date Received: 04/28/16
Time Received: 1605

Report Attention:

Case Narrative

Samples were received on April 28, 2016 at 1605 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

Silver State Analytical Laboratories
Laboratory No: 16-3075
May 16, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
MCF-06A-R-20160428	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-31B-20160428	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MCF-31A-20160428	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-10-20160428	Hexavalent Chromium	0.011	mg/L	0.001	EPA 218.7	04/28/16	CL
MW-10-20160428-FD	Hexavalent Chromium	0.010	mg/L	0.001	EPA 218.7	04/28/16	CL
WMW5.7N-20160428	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	04/28/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 04/28/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
CCV2	0.048	0.050	96	90	110	EPA 218.7
LCS	0.025	0.025	100	90	110	EPA 218.7
Matrix Spike 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.542	0.545	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-2837-4A with a post dilution spike of 0.05 mg/L at 10X	0.543	0.545	99	90	110	EPA 218.7
CCV3	0.048	0.050	96	90	110	EPA 218.7

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Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUSTODY-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Sampled by: Zoe Diermier
Signature:

ANALYSES REQUESTED

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐ **Rush results will be issued after 4:00 p.m.**
2 Day: ☐ 5 Day: ☐

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*	COMMENTS
4/28/16	0750	MCF-06A-R-20160428	3075-1A/B	G	GW	6	2/V	X		
	1000	MCF-31B-20160428	-2A/B	G	GW			X		
	1045	MCF-31A-20160428	-3A/B	G	GW			X		
	1235	MW-10-20160428	-4A/B	G	GW			X		
	1235	MW-10-20160428-FD	-5A/B	G	GW			X		
4/28/16	1440	WMW5.7N-20160428	-6A/B	G	GW	6	2/V	X		
					GW					
					GW					

	Signature	Print Name	Company	Date	Time
Relinquished By:		Zoe Diermier	Aecom	4/28/16	1305
Received By:		Jeremy Shockley	GES	4/28/16	1305
Relinquished By:		Jeremy Shockley	GES	4/28/16	1530
Received By:		David Decker	GES	4/28/16	1530
Relinquished By:		David Decker	GES	4/28/16	1605
Received By:		R. Bolshaw	SSAL	4/28/16	1605
Authorized By:		David Decker			

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 16, 2016

LABORATORY NO: 16-3096

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

CLIENT PROJECT:

CLIENT PO #:

Sampled By: J. Shockley
Date Sampled: 04/29/16
Time Sampled: 0750-1300

Submitted by: Z. Diermier
Date Received: 04/29/16
Time Received: 1350

Report Attention:

Case Narrative

Samples were received on April 29, 2016 at 1350 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

3626 E. Sunset Road, Las Vegas, NV 89120 - Tel: 702-873-4478 Fax: 702-873-7967
4587 Longley Lane, No. 2, Reno, NV 89502 – Tel: 775-825-1127 Fax: 775-825-1167
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Silver State Analytical Laboratories
Laboratory No: 16-3096
May 16, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
WMW3.5S-20160429	Hexavalent Chromium	0.01	mg/L	0.001	EPA 218.7	05/04/16	CL
UZO-17-20160429	Hexavalent Chromium	0.004	mg/L	0.001	EPA 218.7	05/04/16	CL
PC-74-20160429	Hexavalent Chromium	0.002	mg/L	0.001	EPA 218.7	05/04/16	CL
PC-74-20160429-FD	Hexavalent Chromium	0.003	mg/L	0.001	EPA 218.7	05/04/16	CL
PC-76-20160429	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	05/04/16	CL
PC-76-20160429-FD	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	05/04/16	CL
PC-74-20160429-FB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	05/04/16	CL
PC-76-20160429-EB	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	05/04/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 05/04/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.01	<0.01	--	--	--	EPA 218.7
ICV	0.025	0.025	100	90	110	EPA 218.7
LCS	0.026	0.025	104	90	110	EPA 218.7
Matrix Spike 16-3096-1A with a post dilution spike of 0.075 mg/L at 10X	0.746	0.760	99	90	110	EPA 218.7
Matrix Spike Duplicate 16-3096-1A with a post dilution spike of 0.075 mg/L at 10X	0.752	0.760	99	90	110	EPA 218.7
CCV	0.055	0.050	110	90	110	EPA 218.7

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CHAIN-OF-CUST[illegible]Y-RECORD

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRESS? Results: ☐ Invoice: ☐

Applicable Program
SDWA ☐ CWA ☐ RCRA ☐ Mining ☐ Other _____

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV reports

Sampled by: ~~Zoe Diermier~~ Jeremy Shockley Signature:

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: ☒ Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐ **Rush results will be issued after 4:00 p.m.**
2 Day: ☐ 5 Day: ☐

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Send Results Via: Mail: ☐ Email: ☒ Fax: ☐

Send Invoice Via: Mail: ☐ Email: ☒ Fax: ☐

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	
4/29/16	0750	WMW3.5S-20160429	3096-1A/B	G	GW	6	7/V	X	Metals*
4/29/16	0920	UZO-17-20160429	-2A/B	G	GW	6	2/V	X	
4/29/16	1100	PC-74-20160429	-3A/B	G	GW	6	2/V	X	
4/29/16	1100	PC-74-20160429-FD	-4A/B	G	GW	6	2/V	X	
4/29/16	1200	PC-76-20160429	-5A/B	G	GW	6	2/V	X	COMMENTS:
4/29/16	1200	PC-76-20160429-FD	-6A/B	G	GW	6	2/V	X	
4/29/16	1050	PC-74-20160429-FB	-7A/B	G	GW	6	4/V	X	
4/29/16	1300	PC-76-20160429-EB	-8A/B	G	GW	6	2/V	X	

	Signature	Print Name	Company	Date	Time
Relinquished By:		Jeremy Shockley	GES	4/29/16	1313
Received By:		Zoe Diermier	Aecom	4-29-16	1313
Relinquished By:		Zoe Diermier	Aecom	4-29-16	1350
Received By:		R. Bolshazy	SSAL	4/29/16	1350
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may apply. The analytical results associated with this COC apply only to these samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.

Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other

Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-Other

SilverState
Analytical Laboratories

LABORATORY REPORT

DATE: May 27, 2016

LABORATORY NO: 16-3280

CLIENT: AECOM
1220 Avenida Acaso
Camarillo, CA 93012

PAGE: 1 of 3

CLIENT PROJECT:

CLIENT PO #:

Sampled By: E. Wang
Date Sampled: 05/05/16
Time Sampled: 1032

Submitted by: E. Wang
Date Received: 05/05/16
Time Received: 1240

Report Attention:

Case Narrative

Samples were received on May 5, 2016 at 1240 in good condition. There were no problems encountered during receipt or during processing of samples. Any problems encountered during analysis are noted in EPA flags section.

EPA Flags: None

REVIEWED BY:

John Sloan
Laboratory Director
EPA: NV00930

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www.ssalabs.com or www.envirotechonline.com

Silver State Analytical Laboratories
Laboratory No: 16-3280
May 27, 2016

Sample ID	Compound	Result	Unit	MRL	Method	Date Analyzed	Analyst
WMW5.58s-20160505	Hexavalent Chromium	ND	mg/L	0.001	EPA 218.7	05/17/16	CL

ND: Non-detect
MRL: Method Reporting Limit
Flag: none

Quality Control

Date Analyzed: 05/17/16
Method: EPA 218.7

Compound	Result mg/L	Expected Value mg/L	Rec %	LCL %	UCL %	Method
Blank	<0.001	<0.001	--	--	--	EPA 218.7
ICV	0.023	0.025	92	90	110	EPA 218.7
LCS	0.055	0.05	110	90	110	EPA 218.7
Matrix Spike 16-3422-3A with a post dilution spike of 0.05 mg/L at 10X	0.509	0.50	102	90	110	EPA 218.7
Matrix Spike Duplicate 16-3422-3A with a post dilution spike of 0.05 mg/L at 10X	0.506	0.50	101	90	110	EPA 218.7
CCV	0.055	0.05	110	90	110	EPA 218.7

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1135 FINANCIAL BOULEVARD, RENO, NV 89502
Phone (775) 857-2400 Fax: (888) 398-7002 (EPA#: NV00015, CA2526)

CHAIN-OF-CUSTODY-RECOR

Page 1 of 1

Report Results To:

Report Attention: Carmen Caceres-Schnell
Project Number: 60477365 - 2015-140B
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

Send Invoice To:

Invoice Attention: Carmen Caceres-Schnell
PO# 74944
Quote # 16-008
Company: AECOM
Mailing Address: 1220 Avnenida Acaso
City, State, Zip: Camarillo, CA 93012
Phone: (805) 764-4031
Email / Fax: carmen.caceres-schnell@aecom.com

COMPLIANCE MONITORING? Yes ☐ No ☐

NEW ADDRE Results: Invoice:

Applicable Program
SDWA ☐ CWA ☐ RCRA
Mining ☐ Other

QC Level Report
I (II) III IV
NOTE: Surcharges apply to Level II, III and IV rep

Sampled by: Eric R Wang
Signature: Eric R Wang

I attest to the validity and authenticity of the sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time is considered fraud and may be grounds for legal action.

Standard: [X] Standard TAT 7-10 Business Days. Note that some tests vary.

Rush
Same Day: ☐ 3 Day: ☐ Other (specify): _____
1 Day: ☐ 4 Day: ☐
2 Day: ☐ 5 Day: ☐
Rush results will be issued after 4:00 p.m.

NOTE: A Rush Surcharge is applied for rush samples

Other Pertinent Information / Special Instructions

ANALYSES REQUESTED

Send Results Via: Mail: ☐ Email: ☒ Fax:

Send Invoice Via: Mail: ☐ Email: ☒ Fax:

Field Measurements
On-Site pH: Chlorine:
Temperature: Other:

Date Sampled	Time Sampled	Sample Identification	SSAL - SEM Lab No.	Comp. Grab	Matrix*	Preservative**	Number / Type of Containers ***	Hex Chromium - EPA Method 218	Metals*
5-5-16	1032	WMW5.5S-20160505	3280-1A/B	G	GW	6	2/V	X	
					GW				
					GW				
					GW				
					GW				
					GW				
					GW				
					GW				

COMMENTS:

	Signature	Print Name	Company	Date	Time
Relinquished By:	Eric R Wang	Eric R. Wang	GES	5-5-16	1238
Received By:	Liz Bosford	Liz Bosford	SSAL	5/5/16	1240
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Authorized By:					

Authorization is required to process samples. This obligates your organization for service fees. SSAL Standard T & C's or other written agreement applies. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and costs in addition to service fees.

Samples are discarded 30 days after results are reported unless other arrangements are made and storage fees may appl
The analytical results associated with this COC apply only to these samples as they are received by the laboratory.
The liability of the laboratory is limited to the amount paid for the report.

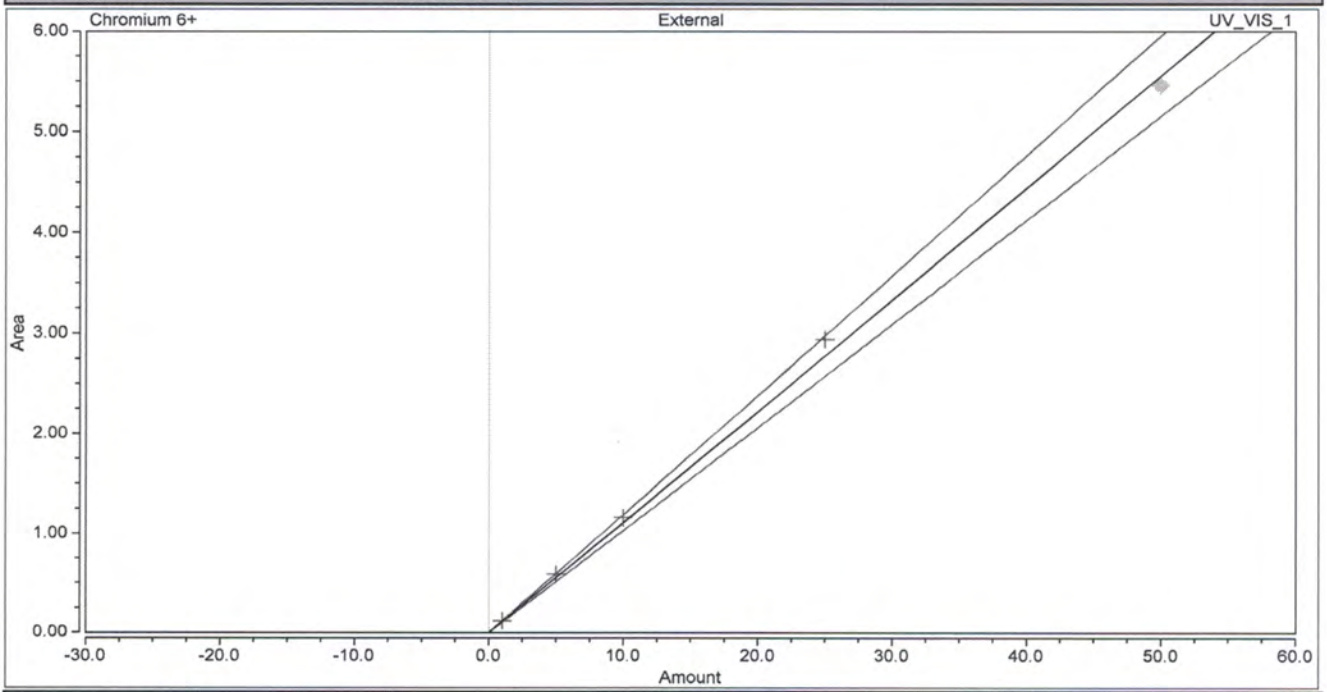
Matrix* DW-Drinking Water, WW-Waste Water, GW-Ground Water, SW-Surface Water, SS-Soil, S-Solid, OT-Other
Preservative** 1=H_2SO_4, 2=HNO_3, 3=HCl, 4=NaOH, 5=$Na_2S_2O_3$, 6=None, 7=Other

Container*** P-Plastic, G-Glass, V-Voa Vial, OT-(

Calibration

Calibration Details	Chromium 6+		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.1111
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9979

Calibration Plot **Chromium 6+**



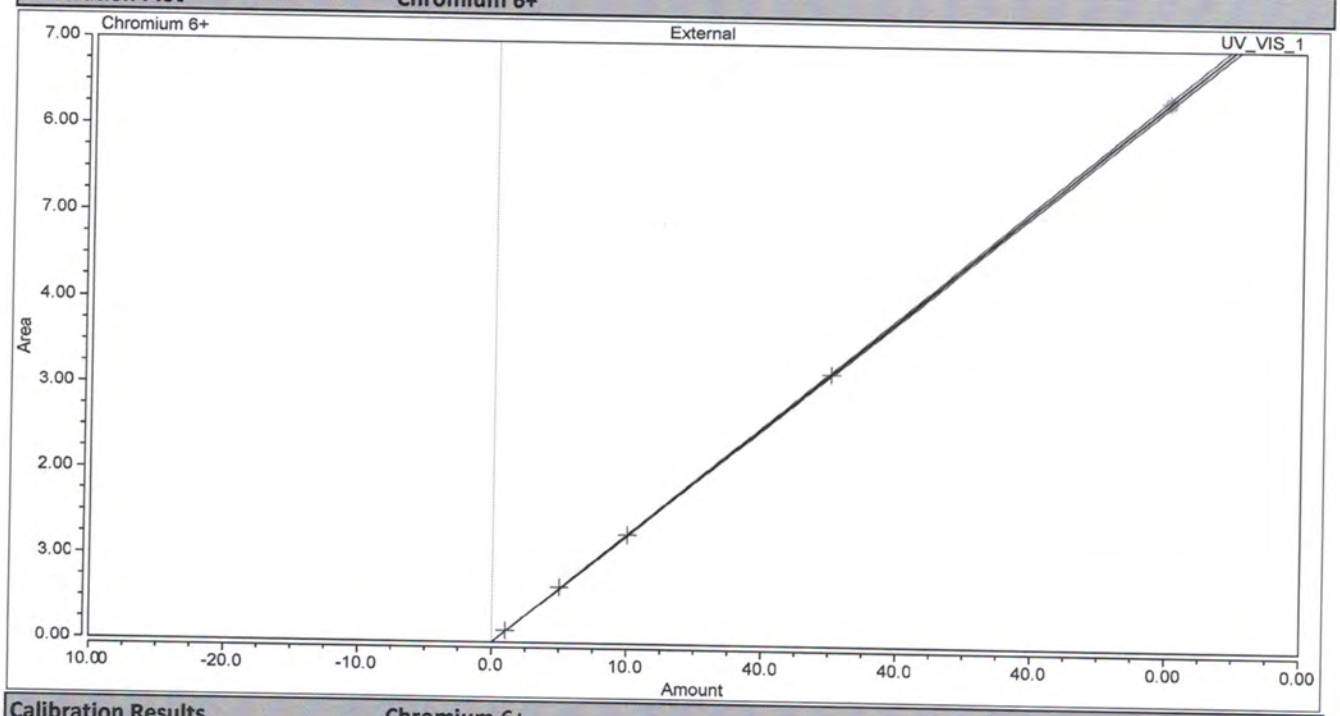
Calibration Results **Chromium 6+**

No.	Injection Name	Calibration Level	X Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Area mAU*min Chromium 6+ UV_VIS_1	Height mAU Chromium 6+ UV_VIS_1
5	ICV 50 ppb Cr6+	06	50.0000	5.4602	5.4602	5.460	19.674
7	25 ppb Cr6+	05	25.0000	2.9413	2.9413	2.941	10.855
8	10 ppb Cr6+	04	10.0000	1.1601	1.1601	1.160	4.408
9	5.0 ppb Cr6+	03	5.0000	0.5902	0.5902	0.590	2.538
10	1.0 ppb Cr6+	02	1.0000	0.1170	0.1170	0.117	0.774

Calibration

Calibration Details	Chromium 6+		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.1278
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	1.0000

Calibration Plot **Chromium 6+**



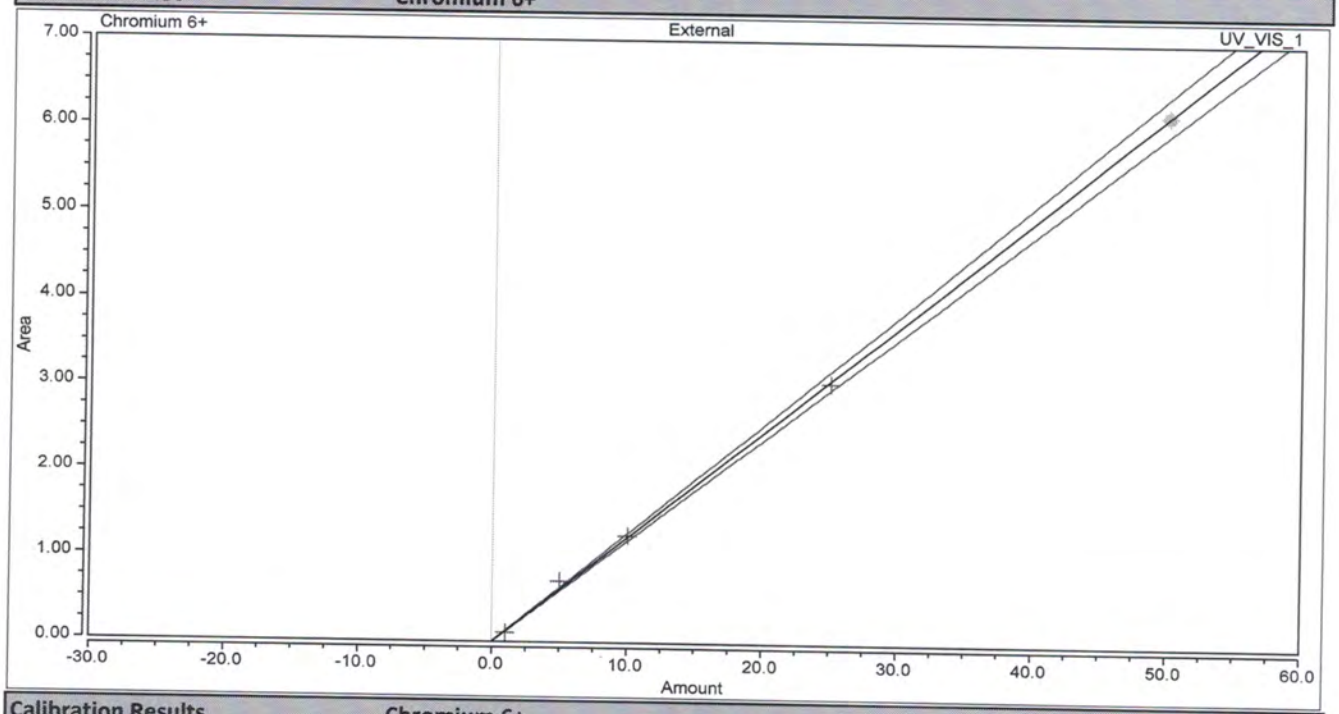
Calibration Results **Chromium 6+**

No.	Injection Name	Calibration Level	X Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Area mAU*min Chromium 6+ UV_VIS_1	Height mAU Chromium 6+ UV_VIS_1
1	1.0 ppb Cr6+	02	1.0000	0.1368	0.1368	0.137	1.771
2	5.0 ppb Cr6+	03	5.0000	0.6589	0.6589	0.659	3.385
3	10 ppb Cr6+	04	10.0000	1.2769	1.2769	1.277	4.714
4	25 ppb Cr6+	05	25.0000	3.1946	3.1946	3.195	10.987
5	50 ppb Cr6+	06	50.0000	6.3912	6.3912	6.391	21.018

Calibration

Calibration Details	Chromium 6+		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.1235
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9995

Calibration Plot **Chromium 6+**



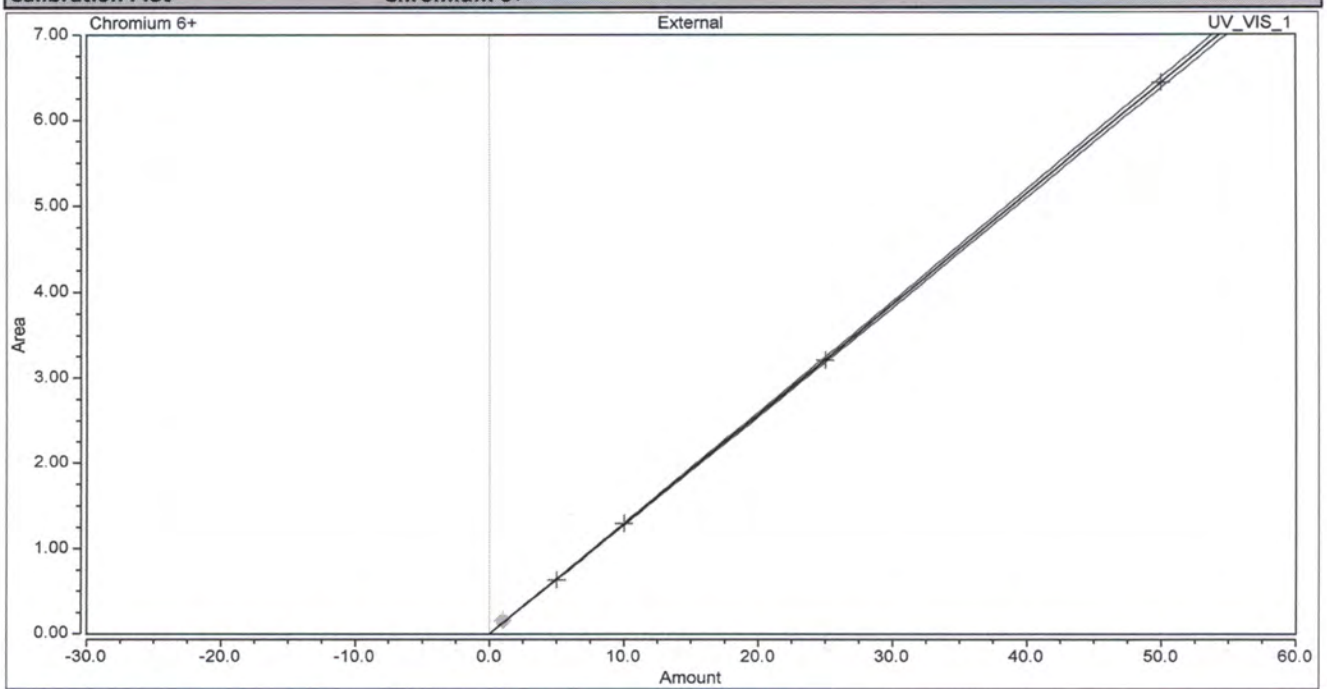
Calibration Results **Chromium 6+**

No.	Injection Name	Calibration Level	X Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Area mAU*min Chromium 6+ UV_VIS_1	Height mAU Chromium 6+ UV_VIS_1
1	1.0 ppb Cr6+	02	1.0000	0.1027	0.1027	0.103	1.200
2	5.0 ppb Cr6+	03	5.0000	0.7155	0.7155	0.715	3.529
3	10 ppb Cr6+	04	10.0000	1.2498	1.2498	1.250	6.328
4	25 ppb Cr6+	05	25.0000	3.0536	3.0536	3.054	15.741
5	50 ppb Cr6+	06	50.0000	6.1815	6.1815	6.182	31.805

Calibration

Calibration Details	Chromium 6+		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.1287
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	1.0000

Calibration Plot **Chromium 6+**



Calibration Results **Chromium 6+**

No.	Injection Name	Calibration Level	X Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Y Value Chromium 6+ UV_VIS_1	Area mAU*min Chromium 6+ UV_VIS_1	Height mAU Chromium 6+ UV_VIS_1
6	ICV 50 ppb Cr6+	06	50.0000	6.4380	6.4380	6.438	22.747
7	25 ppb Cr6+	05	25.0000	3.2111	3.2111	3.211	12.229
8	10 ppb Cr6+	04	10.0000	1.2971	1.2971	1.297	5.963
9	5.0 ppb Cr6+	03	5.0000	0.6335	0.6335	0.633	3.614
10	1.0 ppb Cr6+	02	1.0000	0.1547	0.1547	0.155	2.524

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-148477-1
Client Project/Site: AECOM Support

For:
Tetra Tech, Inc.
1489 West Warm Springs Rd
Suite 110
Henderson, Nevada 89014

Attn: Kyle Hansen

Authorized for release by:
6/7/2016 3:47:01 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-148477-1	AECOM PURGE WATER 1	Water	05/25/16 09:30	05/26/16 09:45

Job ID: 440-148477-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-148477-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.1º C, 1.5º C, 2.3º C and 2.9º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-332931. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8270C LL: The continuing calibration verification (CCV) associated with batch 440-333768 recovered above the upper control limit for the following analytes: N-nitrosodimethylamine; indeno(1,2,3-cd)pyrene; 3-nitroaniline; and benzo(g,h,i)perylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample was impacted: AECOM PURGE WATER 1 (440-148477-1).

Method(s) 8270C LL: The method blank for preparation batch 440-332931 and analytical batch 440-333768 contained dibenzofuran and fluorene above the method detection limits. These target analyte concentrations were less than the reporting limits (RLs); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270C LL: The percent recoveries in the laboratory control sample (LCS) of preparation batch 440-332931 failed below acceptance limits for the following analytes: 2-nitroaniline; 3,3'-dichlorobenzidine; and 4-chloroaniline. These analytes are known poor performers. The following affected sample could not be reextracted within hold time: AECOM PURGE WATER 1 (440-148477-1).

Method(s) 8270C LL: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 440-332931 recovered outside control limits for the following analytes: aniline; 3,3'-dichlorobenzidine; 4-chloroaniline; 2-nitroaniline; and benzidine.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: AECOM PURGE WATER 1 (440-148477-1). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted for Nitrate and Nitrite due to the nature of the sample matrix: AECOM PURGE WATER 1 (440-148477-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8081A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-333582. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6020: The following sample was diluted due to the nature of the sample matrix: AECOM PURGE WATER 1 (440-148477-1). Elevated reporting limits (RLs) are provided.

Job ID: 440-148477-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Client Sample ID: AECOM PURGE WATER 1

Lab Sample ID: 440-148477-1

Date Collected: 05/25/16 09:30
Date Received: 05/26/16 09:45

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Bromobenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Bromoform	ND		1.0	0.40	ug/L			06/02/16 06:28	1
Bromomethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Chloroethane	ND		1.0	0.40	ug/L			06/02/16 06:28	1
Chloroform	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Chloromethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/02/16 06:28	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Dibromomethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/02/16 06:28	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Isopropylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/02/16 06:28	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/02/16 06:28	1
Naphthalene	ND		1.0	0.40	ug/L			06/02/16 06:28	1
n-Butylbenzene	ND		1.0	0.40	ug/L			06/02/16 06:28	1
N-Propylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
o-Xylene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Styrene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Toluene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/02/16 06:28	1

Client Sample ID: AECOM PURGE WATER 1

Lab Sample ID: 440-148477-1

Date Collected: 05/25/16 09:30

Matrix: Water

Date Received: 05/26/16 09:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			06/02/16 06:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/02/16 06:28	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Trichloroethene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			06/02/16 06:28	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/02/16 06:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/02/16 06:28*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*06/02/16 06:28*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*06/02/16 06:28*	*1*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Acenaphthylene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Aniline	ND	*	9.0	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Anthracene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzidine	ND	*	9.0	4.5	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzo[a]anthracene	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzo[a]pyrene	ND		1.8	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzo[b]fluoranthene	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzo[g,h,i]perylene	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzoic acid	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzo[k]fluoranthene	ND		0.45	0.22	ug/L		05/27/16 09:50	06/01/16 13:42	1
Benzyl alcohol	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Bis(2-chloroethoxy)methane	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Bis(2-chloroethyl)ether	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
bis (2-chloroisopropyl) ether	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Bis(2-ethylhexyl) phthalate	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
4-Bromophenyl phenyl ether	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Butyl benzyl phthalate	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
4-Chloroaniline	ND	*	1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
4-Chloro-3-methylphenol	ND		1.8	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
2-Chloronaphthalene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
2-Chlorophenol	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
4-Chlorophenyl phenyl ether	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Chrysene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Dibenz(a,h)anthracene	ND		0.45	0.22	ug/L		05/27/16 09:50	06/01/16 13:42	1
Dibenzofuran	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
1,2-Dichlorobenzene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
1,3-Dichlorobenzene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
1,4-Dichlorobenzene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
3,3'-Dichlorobenzidine	ND	*	4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
2,4-Dichlorophenol	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
Diethyl phthalate	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Client Sample ID: AECOM PURGE WATER 1

Lab Sample ID: 440-148477-1
Date Collected: 05/25/16 09:30
Matrix: Water
Date Received: 05/26/16 09:45

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
Dimethyl phthalate	ND		0.45	0.22	ug/L		05/27/16 09:50	06/01/16 13:42	1
Di-n-butyl phthalate	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
4,6-Dinitro-2-methylphenol	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
2,4-Dinitrophenol	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
2,4-Dinitrotoluene	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
2,6-Dinitrotoluene	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Di-n-octyl phthalate	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Fluoranthene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Fluorene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Hexachlorobenzene	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Hexachlorobutadiene	ND		1.8	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Hexachlorocyclopentadiene	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Hexachloroethane	ND		2.7	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Indeno[1,2,3-cd]pyrene	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
Isophorone	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
2-Methylnaphthalene	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
2-Methylphenol	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
3-Methylphenol + 4-Methylphenol	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Naphthalene	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
2-Nitroaniline	ND	*	4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
3-Nitroaniline	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
4-Nitroaniline	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
Nitrobenzene	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
2-Nitrophenol	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
4-Nitrophenol	ND		4.5	1.8	ug/L		05/27/16 09:50	06/01/16 13:42	1
N-Nitrosodi-n-propylamine	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
N-Nitrosodiphenylamine	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Pentachlorophenol	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
Phenanthrene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
Phenol	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
Pyrene	ND		0.45	0.18	ug/L		05/27/16 09:50	06/01/16 13:42	1
1,2,4-Trichlorobenzene	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1
2,4,5-Trichlorophenol	ND		1.8	0.90	ug/L		05/27/16 09:50	06/01/16 13:42	1
2,4,6-Trichlorophenol	ND		0.90	0.45	ug/L		05/27/16 09:50	06/01/16 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*50 - 120*	*05/27/16 09:50*	*06/01/16 13:42*	*1*
2-Fluorophenol (Surr)	*36*		*30 - 120*	*05/27/16 09:50*	*06/01/16 13:42*	*1*
Nitrobenzene-d5 (Surr)	*69*		*45 - 120*	*05/27/16 09:50*	*06/01/16 13:42*	*1*
Phenol-d6 (Surr)	*45*		*35 - 120*	*05/27/16 09:50*	*06/01/16 13:42*	*1*
Terphenyl-d14 (Surr)	*76*		*37 - 144*	*05/27/16 09:50*	*06/01/16 13:42*	*1*
2,4,6-Tribromophenol (Surr)	*71*		*40 - 120*	*05/27/16 09:50*	*06/01/16 13:42*	*1*

Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.0088	0.0026	ug/L		06/02/16 07:30	06/02/16 11:33	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Client Sample ID: AECOM PURGE WATER 1

Lab Sample ID: 440-148477-1

Date Collected: 05/25/16 09:30
Matrix: Water
Date Received: 05/26/16 09:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*89*		*50 - 150*	*06/02/16 07:30*	*06/02/16 11:33*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
4,4'-DDE	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
4,4'-DDT	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Aldrin	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
alpha-BHC	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
beta-BHC	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Chlordane (technical)	ND		0.89	0.45	ug/L		05/31/16 12:10	06/02/16 20:22	1
delta-BHC	ND		0.18	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Dieldrin	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Endosulfan I	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Endosulfan II	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Endosulfan sulfate	ND		0.18	0.089	ug/L		05/31/16 12:10	06/02/16 20:22	1
Endrin	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Endrin aldehyde	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Endrin ketone	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
gamma-BHC (Lindane)	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Heptachlor	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Heptachlor epoxide	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Methoxychlor	ND		0.089	0.045	ug/L		05/31/16 12:10	06/02/16 20:22	1
Toxaphene	ND		4.5	2.2	ug/L		05/31/16 12:10	06/02/16 20:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	*72*	*p*	*16 - 115*	*05/31/16 12:10*	*06/02/16 20:22*	*1*
DCB Decachlorobiphenyl (Surr)	*79*		*10 - 149*	*05/31/16 12:10*	*06/02/16 20:22*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		50	25	mg/L			05/27/16 05:11	100
Nitrate as N	ND		11	5.5	mg/L			05/27/16 05:11	100
Nitrite as N	ND		15	7.0	mg/L			05/27/16 05:11	100

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		20	5.0	ug/L		05/31/16 14:30	06/02/16 15:11	10
Arsenic	**6.1**	**J**	10	5.0	ug/L		05/31/16 14:30	06/02/16 15:11	10
Beryllium	ND		5.0	2.5	ug/L		05/31/16 14:30	06/02/16 15:11	10
Cadmium	ND		10	2.5	ug/L		05/31/16 14:30	06/02/16 15:11	10
Chromium	**16**	**J**	20	5.0	ug/L		05/31/16 14:30	06/02/16 15:11	10
Selenium	**31**		20	5.0	ug/L		05/31/16 14:30	06/02/16 15:11	10
Thallium	ND		10	5.0	ug/L		05/31/16 14:30	06/02/16 15:11	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		05/27/16 18:29	05/31/16 20:42	1

Method Summary

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL IRV
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW	TAL IRV
8081A	Organochlorine Pesticides (GC)	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
6020	Metals (ICP/MS)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV

Protocol References:

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Client Sample ID: AECOM PURGE WATER 1

Lab Sample ID: 440-148477-1

Date Collected: 05/25/16 09:30

Matrix: Water

Date Received: 05/26/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	333947	06/02/16 06:28	AA	TAL IRV
Total/NA	Prep	3520C			1115 mL	2 mL	332931	05/27/16 09:50	FTD	TAL IRV
Total/NA	Analysis	8270C LL		1	1115 mL	2 mL	333768	06/01/16 13:42	DF	TAL IRV
Total/NA	Prep	504.1			39.8 mL	2.00 mL	333859	06/02/16 07:30	IVA	TAL IRV
Total/NA	Analysis	504.1		1	39.8 mL	2.00 mL	333862	06/02/16 11:33	DD	TAL IRV
Total/NA	Prep	3510C			140 mL	2 mL	333582	05/31/16 12:10	QCT	TAL IRV
Total/NA	Analysis	8081A		1	140 mL	2 mL	334103	06/02/16 20:22	KS	TAL IRV
Total/NA	Analysis	300.0		100	5 mL		332936	05/27/16 05:11	NTN	TAL IRV
Total/NA	Analysis	300.0		100	5 mL		332937	05/27/16 05:11	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	333614	05/31/16 14:30	Q1N	TAL IRV
Total Recoverable	Analysis	6020		10	25 mL	25 mL	334164	06/02/16 15:11	RC	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	333309	05/27/16 18:29	DB	TAL IRV
Total/NA	Analysis	7470A		1	20 mL	20 mL	333867	05/31/16 20:42	DB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-333947/5
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Bromobenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Bromoform	ND		1.0	0.40	ug/L			06/01/16 20:33	1
Bromomethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Chloroethane	ND		1.0	0.40	ug/L			06/01/16 20:33	1
Chloroform	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Chloromethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/01/16 20:33	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Dibromomethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/01/16 20:33	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Isopropylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/01/16 20:33	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/01/16 20:33	1
Naphthalene	ND		1.0	0.40	ug/L			06/01/16 20:33	1
n-Butylbenzene	ND		1.0	0.40	ug/L			06/01/16 20:33	1
N-Propylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
o-Xylene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Styrene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Toluene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/01/16 20:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-333947/5
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			06/01/16 20:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/01/16 20:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Trichloroethene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			06/01/16 20:33	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/01/16 20:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/01/16 20:33*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*06/01/16 20:33*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*06/01/16 20:33*	*1*

Lab Sample ID: LCS 440-333947/6
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	29.0		ug/L		116	68 - 130
Bromobenzene	25.0	28.9		ug/L		116	70 - 130
Bromochloromethane	25.0	28.4		ug/L		114	70 - 130
Bromodichloromethane	25.0	27.5		ug/L		110	70 - 132
Bromoform	25.0	29.3		ug/L		117	60 - 148
Bromomethane	25.0	25.3		ug/L		101	64 - 139
Carbon tetrachloride	25.0	24.8		ug/L		99	60 - 150
Chlorobenzene	25.0	25.5		ug/L		102	70 - 130
Chloroethane	25.0	25.5		ug/L		102	64 - 135
Chloroform	25.0	25.7		ug/L		103	70 - 130
Chloromethane	25.0	23.2		ug/L		93	47 - 140
2-Chlorotoluene	25.0	26.2		ug/L		105	70 - 130
4-Chlorotoluene	25.0	26.2		ug/L		105	70 - 130
cis-1,2-Dichloroethene	25.0	27.7		ug/L		111	70 - 133
cis-1,3-Dichloropropene	25.0	30.5		ug/L		122	70 - 133
Dibromochloromethane	25.0	28.3		ug/L		113	69 - 145
1,2-Dibromo-3-Chloropropane	25.0	26.4		ug/L		106	52 - 140
1,2-Dibromoethane (EDB)	25.0	29.1		ug/L		116	70 - 130
Dibromomethane	25.0	26.6		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	28.7		ug/L		115	70 - 130
1,3-Dichlorobenzene	25.0	28.1		ug/L		112	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	19.2		ug/L		77	29 - 150
1,1-Dichloroethane	25.0	27.0		ug/L		108	64 - 130
1,2-Dichloroethane	25.0	25.7		ug/L		103	57 - 138
1,1-Dichloroethene	25.0	27.0		ug/L		108	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-333947/6
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	25.0	28.8		ug/L		115	67 - 130
1,3-Dichloropropane	25.0	26.7		ug/L		107	70 - 130
2,2-Dichloropropane	25.0	24.3		ug/L		97	68 - 141
1,1-Dichloropropene	25.0	26.6		ug/L		106	70 - 130
Ethylbenzene	25.0	27.6		ug/L		110	70 - 130
Hexachlorobutadiene	25.0	26.2		ug/L		105	10 - 150
Isopropylbenzene	25.0	27.0		ug/L		108	70 - 136
Methylene Chloride	25.0	28.3		ug/L		113	52 - 130
m,p-Xylene	25.0	27.9		ug/L		111	70 - 130
Naphthalene	25.0	28.1		ug/L		112	60 - 140
n-Butylbenzene	25.0	25.1		ug/L		100	65 - 150
N-Propylbenzene	25.0	27.2		ug/L		109	67 - 139
o-Xylene	25.0	25.7		ug/L		103	70 - 130
p-Isopropyltoluene	25.0	27.2		ug/L		109	70 - 132
sec-Butylbenzene	25.0	25.6		ug/L		102	70 - 138
Styrene	25.0	27.0		ug/L		108	70 - 134
tert-Butylbenzene	25.0	26.5		ug/L		106	70 - 130
1,1,1,2-Tetrachloroethane	25.0	25.8		ug/L		103	60 - 141
1,1,2,2-Tetrachloroethane	25.0	26.6		ug/L		107	63 - 130
Tetrachloroethene	25.0	27.2		ug/L		109	70 - 130
Toluene	25.0	29.2		ug/L		117	70 - 130
trans-1,2-Dichloroethene	25.0	29.4		ug/L		118	70 - 130
trans-1,3-Dichloropropene	25.0	27.0		ug/L		108	70 - 132
1,2,3-Trichlorobenzene	25.0	28.6		ug/L		114	60 - 140
1,2,4-Trichlorobenzene	25.0	30.3		ug/L		121	60 - 140
1,1,1-Trichloroethane	25.0	25.1		ug/L		100	70 - 130
1,1,2-Trichloroethane	25.0	27.1		ug/L		108	70 - 130
Trichloroethene	25.0	27.9		ug/L		112	70 - 130
Trichlorofluoromethane	25.0	21.3		ug/L		85	60 - 150
1,2,3-Trichloropropane	25.0	27.9		ug/L		112	63 - 130
1,2,4-Trimethylbenzene	25.0	26.9		ug/L		108	70 - 135
1,3,5-Trimethylbenzene	25.0	26.9		ug/L		108	70 - 136
Vinyl chloride	25.0	22.6		ug/L		90	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: 440-148345-D-1 MS
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	3.1		25.0	31.2		ug/L		112	66 - 130
Bromobenzene	ND		25.0	27.8		ug/L		111	70 - 130
Bromochloromethane	ND		25.0	26.9		ug/L		107	70 - 130
Bromodichloromethane	ND		25.0	26.2		ug/L		105	70 - 138

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-148345-D-1 MS
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	ND		25.0	27.6		ug/L		111	59 - 150
Bromomethane	ND		25.0	22.3		ug/L		89	62 - 131
Carbon tetrachloride	ND		25.0	23.8		ug/L		95	60 - 150
Chlorobenzene	7.6		25.0	31.3		ug/L		95	70 - 130
Chloroethane	ND		25.0	23.1		ug/L		92	68 - 130
Chloroform	ND		25.0	24.6		ug/L		98	70 - 130
Chloromethane	ND		25.0	21.9		ug/L		88	39 - 144
2-Chlorotoluene	ND		25.0	25.5		ug/L		102	70 - 130
4-Chlorotoluene	ND		25.0	25.1		ug/L		101	70 - 130
cis-1,2-Dichloroethene	18		25.0	44.0		ug/L		104	70 - 130
cis-1,3-Dichloropropene	ND		25.0	29.3		ug/L		117	70 - 133
Dibromochloromethane	ND		25.0	26.4		ug/L		105	70 - 148
1,2-Dibromo-3-Chloropropane	ND		25.0	22.3		ug/L		89	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.5		ug/L		110	70 - 131
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130
1,2-Dichlorobenzene	ND		25.0	28.1		ug/L		112	70 - 130
1,3-Dichlorobenzene	2.3		25.0	27.0		ug/L		99	70 - 130
1,4-Dichlorobenzene	2.1		25.0	27.2		ug/L		100	70 - 130
Dichlorodifluoromethane	ND		25.0	15.6		ug/L		62	25 - 142
1,1-Dichloroethane	ND		25.0	26.6		ug/L		106	65 - 130
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	56 - 146
1,1-Dichloroethene	ND		25.0	26.3		ug/L		105	70 - 130
1,2-Dichloropropane	4.7		25.0	32.4		ug/L		111	69 - 130
1,3-Dichloropropane	ND		25.0	25.0		ug/L		100	70 - 130
2,2-Dichloropropane	ND		25.0	24.7		ug/L		99	69 - 138
1,1-Dichloropropene	ND		25.0	26.4		ug/L		106	64 - 130
Ethylbenzene	ND		25.0	26.8		ug/L		107	70 - 130
Hexachlorobutadiene	ND		25.0	25.8		ug/L		103	10 - 150
Isopropylbenzene	ND		25.0	26.9		ug/L		107	70 - 132
Methylene Chloride	ND		25.0	26.4		ug/L		106	52 - 130
m,p-Xylene	ND		25.0	27.8		ug/L		111	70 - 133
Naphthalene	ND		25.0	26.5		ug/L		106	60 - 140
n-Butylbenzene	0.63	J	25.0	25.5		ug/L		99	61 - 149
N-Propylbenzene	ND		25.0	26.4		ug/L		106	66 - 135
o-Xylene	ND		25.0	24.9		ug/L		100	70 - 133
p-Isopropyltoluene	ND		25.0	26.7		ug/L		107	70 - 130
sec-Butylbenzene	0.63		25.0	25.5		ug/L		100	67 - 134
Styrene	ND		25.0	26.4		ug/L		106	29 - 150
tert-Butylbenzene	0.35	J	25.0	26.0		ug/L		103	70 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	60 - 149
1,1,2,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	63 - 130
Tetrachloroethene	ND		25.0	26.7		ug/L		107	70 - 137
Toluene	ND		25.0	28.2		ug/L		113	70 - 130
trans-1,2-Dichloroethene	1.9		25.0	31.0		ug/L		116	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.6		ug/L		106	70 - 138
1,2,3-Trichlorobenzene	ND		25.0	27.6		ug/L		110	60 - 140
1,2,4-Trichlorobenzene	ND		25.0	30.0		ug/L		120	60 - 140
1,1,1-Trichloroethane	ND		25.0	24.5		ug/L		98	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-148345-D-1 MS
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	0.72		25.0	26.9		ug/L		105	70 - 130
Trichloroethene	16		25.0	42.9		ug/L		106	70 - 130
Trichlorofluoromethane	ND		25.0	20.3		ug/L		81	60 - 150
1,2,3-Trichloropropane	ND		25.0	25.3		ug/L		101	60 - 130
1,2,4-Trimethylbenzene	ND		25.0	26.1		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
Vinyl chloride	ND		25.0	21.9		ug/L		88	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: 440-148345-D-1 MSD
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	3.1		25.0	31.2		ug/L		112	66 - 130	0	20
Bromobenzene	ND		25.0	28.7		ug/L		115	70 - 130	3	20
Bromochloromethane	ND		25.0	26.9		ug/L		108	70 - 130	0	25
Bromodichloromethane	ND		25.0	26.5		ug/L		106	70 - 138	1	20
Bromoform	ND		25.0	28.7		ug/L		115	59 - 150	4	25
Bromomethane	ND		25.0	23.1		ug/L		92	62 - 131	3	25
Carbon tetrachloride	ND		25.0	23.9		ug/L		95	60 - 150	0	25
Chlorobenzene	7.6		25.0	32.1		ug/L		98	70 - 130	3	20
Chloroethane	ND		25.0	23.4		ug/L		93	68 - 130	1	25
Chloroform	ND		25.0	24.9		ug/L		99	70 - 130	1	20
Chloromethane	ND		25.0	22.1		ug/L		88	39 - 144	1	25
2-Chlorotoluene	ND		25.0	26.4		ug/L		106	70 - 130	4	20
4-Chlorotoluene	ND		25.0	25.9		ug/L		104	70 - 130	3	20
cis-1,2-Dichloroethene	18		25.0	44.9		ug/L		108	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	29.8		ug/L		119	70 - 133	2	20
Dibromochloromethane	ND		25.0	27.7		ug/L		111	70 - 148	5	25
1,2-Dibromo-3-Chloropropane	ND		25.0	24.0		ug/L		96	48 - 140	8	30
1,2-Dibromoethane (EDB)	ND		25.0	28.7		ug/L		115	70 - 131	4	25
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130	0	25
1,2-Dichlorobenzene	ND		25.0	28.8		ug/L		115	70 - 130	3	20
1,3-Dichlorobenzene	2.3		25.0	27.3		ug/L		100	70 - 130	1	20
1,4-Dichlorobenzene	2.1		25.0	28.1		ug/L		104	70 - 130	3	20
Dichlorodifluoromethane	ND		25.0	15.6		ug/L		62	25 - 142	0	30
1,1-Dichloroethane	ND		25.0	26.7		ug/L		107	65 - 130	0	20
1,2-Dichloroethane	ND		25.0	25.1		ug/L		100	56 - 146	1	20
1,1-Dichloroethene	ND		25.0	26.0		ug/L		104	70 - 130	1	20
1,2-Dichloropropane	4.7		25.0	33.0		ug/L		113	69 - 130	2	20
1,3-Dichloropropane	ND		25.0	26.1		ug/L		104	70 - 130	4	25
2,2-Dichloropropane	ND		25.0	24.7		ug/L		99	69 - 138	0	25
1,1-Dichloropropene	ND		25.0	26.5		ug/L		106	64 - 130	1	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-148345-D-1 MSD
Matrix: Water
Analysis Batch: 333947

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	ND		25.0	27.5		ug/L		110	70 - 130	3	20
Hexachlorobutadiene	ND		25.0	26.2		ug/L		105	10 - 150	1	20
Isopropylbenzene	ND		25.0	27.4		ug/L		110	70 - 132	2	20
Methylene Chloride	ND		25.0	26.3		ug/L		105	52 - 130	0	20
m,p-Xylene	ND		25.0	29.2		ug/L		117	70 - 133	5	25
Naphthalene	ND		25.0	27.8		ug/L		111	60 - 140	5	30
n-Butylbenzene	0.63	J	25.0	26.1		ug/L		102	61 - 149	2	20
N-Propylbenzene	ND		25.0	27.2		ug/L		109	66 - 135	3	20
o-Xylene	ND		25.0	26.1		ug/L		104	70 - 133	5	20
p-Isopropyltoluene	ND		25.0	27.6		ug/L		110	70 - 130	3	20
sec-Butylbenzene	0.63		25.0	26.2		ug/L		102	67 - 134	3	20
Styrene	ND		25.0	27.3		ug/L		109	29 - 150	3	35
tert-Butylbenzene	0.35	J	25.0	26.8		ug/L		106	70 - 130	3	20
1,1,1,2-Tetrachloroethane	ND		25.0	25.4		ug/L		102	60 - 149	2	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.8		ug/L		103	63 - 130	3	30
Tetrachloroethene	ND		25.0	27.6		ug/L		110	70 - 137	3	20
Toluene	ND		25.0	29.1		ug/L		116	70 - 130	3	20
trans-1,2-Dichloroethene	1.9		25.0	31.6		ug/L		119	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	27.2		ug/L		109	70 - 138	2	25
1,2,3-Trichlorobenzene	ND		25.0	28.4		ug/L		113	60 - 140	3	20
1,2,4-Trichlorobenzene	ND		25.0	30.6		ug/L		123	60 - 140	2	20
1,1,1-Trichloroethane	ND		25.0	24.4		ug/L		98	70 - 130	0	20
1,1,2-Trichloroethane	0.72		25.0	27.4		ug/L		107	70 - 130	2	25
Trichloroethene	16		25.0	43.1		ug/L		107	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	20.1		ug/L		81	60 - 150	1	25
1,2,3-Trichloropropane	ND		25.0	26.3		ug/L		105	60 - 130	4	30
1,2,4-Trimethylbenzene	ND		25.0	26.9		ug/L		108	70 - 130	3	25
1,3,5-Trimethylbenzene	ND		25.0	26.9		ug/L		108	70 - 130	2	20
Vinyl chloride	ND		25.0	22.0		ug/L		88	50 - 137	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 440-332931/1-A
Matrix: Water
Analysis Batch: 333768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Acenaphthylene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Aniline	ND		10	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Anthracene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzidine	ND		10	5.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzo[a]anthracene	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 440-332931/1-A
Matrix: Water
Analysis Batch: 333768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		2.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzo[b]fluoranthene	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzo[g,h,i]perylene	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzoic acid	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzo[k]fluoranthene	ND		0.50	0.25	ug/L		05/26/16 11:22	06/01/16 10:29	1
Benzyl alcohol	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Bis(2-chloroethoxy)methane	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Bis(2-chloroethyl)ether	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
bis (2-chloroisopropyl) ether	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
4-Bromophenyl phenyl ether	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Butyl benzyl phthalate	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
4-Chloroaniline	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
4-Chloro-3-methylphenol	ND		2.0	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
2-Chloronaphthalene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
2-Chlorophenol	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
4-Chlorophenyl phenyl ether	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Chrysene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Dibenz(a,h)anthracene	ND		0.50	0.25	ug/L		05/26/16 11:22	06/01/16 10:29	1
Dibenzofuran	0.205	J	0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
1,2-Dichlorobenzene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
1,3-Dichlorobenzene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
1,4-Dichlorobenzene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
3,3'-Dichlorobenzidine	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,4-Dichlorophenol	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Diethyl phthalate	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,4-Dimethylphenol	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Dimethyl phthalate	ND		0.50	0.25	ug/L		05/26/16 11:22	06/01/16 10:29	1
Di-n-butyl phthalate	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
4,6-Dinitro-2-methylphenol	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,4-Dinitrophenol	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,4-Dinitrotoluene	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,6-Dinitrotoluene	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Di-n-octyl phthalate	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Fluoranthene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Fluorene	0.427	J	0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Hexachlorobenzene	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Hexachlorobutadiene	ND		2.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Hexachlorocyclopentadiene	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Hexachloroethane	ND		3.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Indeno[1,2,3-cd]pyrene	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Isophorone	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
2-Methylnaphthalene	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
2-Methylphenol	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
3-Methylphenol + 4-Methylphenol	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Naphthalene	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 440-332931/1-A
Matrix: Water
Analysis Batch: 333768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
3-Nitroaniline	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
4-Nitroaniline	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Nitrobenzene	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
2-Nitrophenol	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
4-Nitrophenol	ND		5.0	2.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
N-Nitrosodi-n-propylamine	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
N-Nitrosodiphenylamine	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Pentachlorophenol	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
Phenanthrene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
Phenol	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
Pyrene	ND		0.50	0.20	ug/L		05/26/16 11:22	06/01/16 10:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,4,5-Trichlorophenol	ND		2.0	1.0	ug/L		05/26/16 11:22	06/01/16 10:29	1
2,4,6-Trichlorophenol	ND		1.0	0.50	ug/L		05/26/16 11:22	06/01/16 10:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*50 - 120*	*05/26/16 11:22*	*06/01/16 10:29*	*1*
2-Fluorophenol (Surr)	*74*		*30 - 120*	*05/26/16 11:22*	*06/01/16 10:29*	*1*
Nitrobenzene-d5 (Surr)	*77*		*45 - 120*	*05/26/16 11:22*	*06/01/16 10:29*	*1*
Phenol-d6 (Surr)	*79*		*35 - 120*	*05/26/16 11:22*	*06/01/16 10:29*	*1*
Terphenyl-d14 (Surr)	*92*		*37 - 144*	*05/26/16 11:22*	*06/01/16 10:29*	*1*
2,4,6-Tribromophenol (Surr)	*70*		*40 - 120*	*05/26/16 11:22*	*06/01/16 10:29*	*1*

Lab Sample ID: LCS 440-332931/2-A
Matrix: Water
Analysis Batch: 333768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	10.0	6.90		ug/L		69	55 - 105
Acenaphthylene	10.0	6.68		ug/L		67	52 - 111
Aniline	10.0	4.57	J	ug/L		46	30 - 115
Anthracene	10.0	7.73		ug/L		77	59 - 118
Benzidine	10.0	ND		ug/L		27	5 - 65
Benzo[a]anthracene	10.0	7.90		ug/L		79	59 - 116
Benzo[a]pyrene	10.0	7.00		ug/L		70	57 - 107
Benzo[b]fluoranthene	10.0	6.92		ug/L		69	60 - 112
Benzo[g,h,i]perylene	10.0	11.4		ug/L		114	26 - 150
Benzoic acid	10.0	7.97		ug/L		80	21 - 142
Benzo[k]fluoranthene	10.0	7.31		ug/L		73	60 - 112
Benzyl alcohol	10.0	7.56		ug/L		76	44 - 115
Bis(2-chloroethoxy)methane	10.0	5.97		ug/L		60	46 - 120
Bis(2-chloroethyl)ether	10.0	6.97		ug/L		70	50 - 101
bis (2-chloroisopropyl) ether	10.0	7.23		ug/L		72	50 - 102
Bis(2-ethylhexyl) phthalate	10.0	8.19		ug/L		82	52 - 121
4-Bromophenyl phenyl ether	10.0	7.51		ug/L		75	54 - 110
Butyl benzyl phthalate	10.0	8.33		ug/L		83	57 - 123
4-Chloroaniline	10.0	ND	*	ug/L		8	18 - 127

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 440-332931/2-A
Matrix: Water
Analysis Batch: 333768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	10.0	7.91		ug/L		79	53 - 115
2-Chloronaphthalene	10.0	6.73		ug/L		67	46 - 103
2-Chlorophenol	10.0	6.99		ug/L		70	42 - 101
4-Chlorophenyl phenyl ether	10.0	7.46		ug/L		75	54 - 111
Chrysene	10.0	7.96		ug/L		80	63 - 109
Dibenz(a,h)anthracene	10.0	9.66		ug/L		97	37 - 136
Dibenzofuran	10.0	7.35		ug/L		74	53 - 107
1,2-Dichlorobenzene	10.0	5.63		ug/L		56	43 - 87
1,3-Dichlorobenzene	10.0	5.45		ug/L		54	41 - 83
1,4-Dichlorobenzene	10.0	5.42		ug/L		54	41 - 84
3,3'-Dichlorobenzidine	10.0	ND	*	ug/L		7	10 - 106
2,4-Dichlorophenol	10.0	7.40		ug/L		74	44 - 109
Diethyl phthalate	10.0	8.45		ug/L		84	58 - 118
2,4-Dimethylphenol	10.0	7.74		ug/L		77	38 - 110
Dimethyl phthalate	10.0	8.09		ug/L		81	55 - 115
Di-n-butyl phthalate	10.0	8.26		ug/L		83	59 - 129
4,6-Dinitro-2-methylphenol	20.0	17.4		ug/L		87	50 - 112
2,4-Dinitrophenol	20.0	18.3		ug/L		92	42 - 109
2,4-Dinitrotoluene	10.0	8.19		ug/L		82	56 - 114
2,6-Dinitrotoluene	10.0	8.16		ug/L		82	57 - 112
Di-n-octyl phthalate	10.0	8.52		ug/L		85	47 - 127
1,2-Diphenylhydrazine(as Azobenzene)	10.1	7.56		ug/L		75	50 - 115
Fluoranthene	10.0	8.09		ug/L		81	60 - 124
Fluorene	10.0	7.79		ug/L		78	54 - 113
Hexachlorobenzene	10.0	7.17		ug/L		72	53 - 105
Hexachlorobutadiene	10.0	4.95		ug/L		49	37 - 78
Hexachlorocyclopentadiene	10.0	4.47	J	ug/L		45	10 - 73
Hexachloroethane	10.0	5.09		ug/L		51	37 - 78
Indeno[1,2,3-cd]pyrene	10.0	10.5		ug/L		105	30 - 150
Isophorone	10.0	7.93		ug/L		79	47 - 131
2-Methylnaphthalene	10.0	6.56		ug/L		66	49 - 100
2-Methylphenol	10.0	7.41		ug/L		74	31 - 120
3-Methylphenol + 4-Methylphenol	10.0	7.49		ug/L		75	40 - 117
Naphthalene	10.0	6.41		ug/L		64	32 - 117
2-Nitroaniline	10.0	3.14	J *	ug/L		31	51 - 114
3-Nitroaniline	10.0	11.0		ug/L		110	32 - 124
4-Nitroaniline	10.0	6.27		ug/L		63	39 - 123
Nitrobenzene	10.0	7.17		ug/L		72	51 - 104
2-Nitrophenol	10.0	6.91		ug/L		69	44 - 104
4-Nitrophenol	20.0	16.7		ug/L		83	50 - 114
N-Nitrosodi-n-propylamine	10.0	8.11		ug/L		81	52 - 114
N-Nitrosodiphenylamine	10.0	6.98		ug/L		70	49 - 113
Pentachlorophenol	20.0	15.0		ug/L		75	54 - 116
Phenanthrene	10.0	7.74		ug/L		77	58 - 116
Phenol	10.0	6.84		ug/L		68	28 - 118
Pyrene	10.0	7.95		ug/L		79	62 - 123
1,2,4-Trichlorobenzene	10.0	5.64		ug/L		56	44 - 88

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 440-332931/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333768 — **Prep Batch: 332931**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	10.0	8.07		ug/L		81	49 - 112
2,4,6-Trichlorophenol	10.0	7.42		ug/L		74	50 - 108

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*50 - 120*
2-Fluorophenol (Surr)	*68*		*30 - 120*
Nitrobenzene-d5 (Surr)	*73*		*45 - 120*
Phenol-d6 (Surr)	*71*		*35 - 120*
Terphenyl-d14 (Surr)	*81*		*37 - 144*
2,4,6-Tribromophenol (Surr)	*77*		*40 - 120*

Lab Sample ID: LCSD 440-332931/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333768 — **Prep Batch: 332931**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	10.0	7.49		ug/L		75	55 - 105	8	35
Acenaphthylene	10.0	7.60		ug/L		76	52 - 111	13	35
Aniline	10.0	6.93	J *	ug/L		69	30 - 115	41	35
Anthracene	10.0	8.13		ug/L		81	59 - 118	5	35
Benzidine	10.0	ND	*	ug/L		10	5 - 65	96	35
Benzo[a]anthracene	10.0	8.63		ug/L		86	59 - 116	9	35
Benzo[a]pyrene	10.0	8.06		ug/L		81	57 - 107	14	35
Benzo[b]fluoranthene	10.0	7.56		ug/L		76	60 - 112	9	35
Benzo[g,h,i]perylene	10.0	12.3		ug/L		123	26 - 150	8	35
Benzoic acid	10.0	8.22		ug/L		82	21 - 142	3	35
Benzo[k]fluoranthene	10.0	7.41		ug/L		74	60 - 112	1	35
Benzyl alcohol	10.0	8.86		ug/L		89	44 - 115	16	35
Bis(2-chloroethoxy)methane	10.0	8.41		ug/L		84	46 - 120	34	35
Bis(2-chloroethyl)ether	10.0	7.44		ug/L		74	50 - 101	7	35
bis (2-chloroisopropyl) ether	10.0	7.70		ug/L		77	50 - 102	6	35
Bis(2-ethylhexyl) phthalate	10.0	8.99		ug/L		90	52 - 121	9	35
4-Bromophenyl phenyl ether	10.0	7.84		ug/L		78	54 - 110	4	35
Butyl benzyl phthalate	10.0	9.02		ug/L		90	57 - 123	8	35
4-Chloroaniline	10.0	10.6	*	ug/L		106	18 - 127	171	35
4-Chloro-3-methylphenol	10.0	8.88		ug/L		89	53 - 115	12	35
2-Chloronaphthalene	10.0	7.18		ug/L		72	46 - 103	6	35
2-Chlorophenol	10.0	7.38		ug/L		74	42 - 101	5	35
4-Chlorophenyl phenyl ether	10.0	7.35		ug/L		74	54 - 111	1	35
Chrysene	10.0	8.43		ug/L		84	63 - 109	6	35
Dibenz(a,h)anthracene	10.0	10.4		ug/L		104	37 - 136	7	35
Dibenzofuran	10.0	7.42		ug/L		74	53 - 107	1	35
1,2-Dichlorobenzene	10.0	5.99		ug/L		60	43 - 87	6	35
1,3-Dichlorobenzene	10.0	5.75		ug/L		57	41 - 83	5	35
1,4-Dichlorobenzene	10.0	5.80		ug/L		58	41 - 84	7	35
3,3'-Dichlorobenzidine	10.0	8.97	*	ug/L		90	10 - 106	170	35
2,4-Dichlorophenol	10.0	7.72		ug/L		77	44 - 109	4	35
Diethyl phthalate	10.0	8.68		ug/L		87	58 - 118	3	35

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCSD 440-332931/3-A
Matrix: Water
Analysis Batch: 333768

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332931

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dimethylphenol	10.0	7.75		ug/L		77	38 - 110	0	35
Dimethyl phthalate	10.0	8.18		ug/L		82	55 - 115	1	35
Di-n-butyl phthalate	10.0	8.76		ug/L		88	59 - 129	6	35
4,6-Dinitro-2-methylphenol	20.0	18.2		ug/L		91	50 - 112	4	35
2,4-Dinitrophenol	20.0	18.0		ug/L		90	42 - 109	2	35
2,4-Dinitrotoluene	10.0	8.48		ug/L		85	56 - 114	3	35
2,6-Dinitrotoluene	10.0	8.13		ug/L		81	57 - 112	0	35
Di-n-octyl phthalate	10.0	9.18		ug/L		92	47 - 127	7	35
1,2-Diphenylhydrazine(as Azobenzene)	10.1	8.39		ug/L		83	50 - 115	10	35
Fluoranthene	10.0	8.57		ug/L		86	60 - 124	6	35
Fluorene	10.0	7.62		ug/L		76	54 - 113	2	35
Hexachlorobenzene	10.0	7.24		ug/L		72	53 - 105	1	35
Hexachlorobutadiene	10.0	5.03		ug/L		50	37 - 78	2	35
Hexachlorocyclopentadiene	10.0	4.06	J	ug/L		41	10 - 73	10	35
Hexachloroethane	10.0	5.41		ug/L		54	37 - 78	6	35
Indeno[1,2,3-cd]pyrene	10.0	11.5		ug/L		115	30 - 150	9	35
Isophorone	10.0	9.52		ug/L		95	47 - 131	18	35
2-Methylnaphthalene	10.0	7.13		ug/L		71	49 - 100	8	35
2-Methylphenol	10.0	7.79		ug/L		78	31 - 120	5	35
3-Methylphenol + 4-Methylphenol	10.0	8.10		ug/L		81	40 - 117	8	35
Naphthalene	10.0	6.75		ug/L		68	32 - 117	5	35
2-Nitroaniline	10.0	10.5	*	ug/L		105	51 - 114	108	35
3-Nitroaniline	10.0	10.7		ug/L		107	32 - 124	3	35
4-Nitroaniline	10.0	8.52		ug/L		85	39 - 123	30	35
Nitrobenzene	10.0	7.56		ug/L		76	51 - 104	5	35
2-Nitrophenol	10.0	7.30		ug/L		73	44 - 104	6	35
4-Nitrophenol	20.0	18.9		ug/L		94	50 - 114	12	35
N-Nitrosodi-n-propylamine	10.0	9.03		ug/L		90	52 - 114	11	35
N-Nitrosodiphenylamine	10.0	8.27		ug/L		83	49 - 113	17	35
Pentachlorophenol	20.0	15.5		ug/L		77	54 - 116	3	35
Phenanthrene	10.0	8.30		ug/L		83	58 - 116	7	35
Phenol	10.0	7.83		ug/L		78	28 - 118	14	35
Pyrene	10.0	8.85		ug/L		89	62 - 123	11	35
1,2,4-Trichlorobenzene	10.0	5.97		ug/L		60	44 - 88	6	35
2,4,5-Trichlorophenol	10.0	8.53		ug/L		85	49 - 112	6	35
2,4,6-Trichlorophenol	10.0	8.15		ug/L		81	50 - 108	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*50 - 120*
2-Fluorophenol (Surr)	*65*		*30 - 120*
Nitrobenzene-d5 (Surr)	*76*		*45 - 120*
Phenol-d6 (Surr)	*76*		*35 - 120*
Terphenyl-d14 (Surr)	*86*		*37 - 144*
2,4,6-Tribromophenol (Surr)	*77*		*40 - 120*

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC)

Lab Sample ID: MB 440-333859/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333862 — **Prep Batch: 333859**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.010	0.0030	ug/L		06/02/16 07:30	06/02/16 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*50 - 150*	*06/02/16 07:30*	*06/02/16 10:53*	*1*

Lab Sample ID: LCS 440-333859/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333862 — **Prep Batch: 333859**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.250	0.240		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*50 - 150*

Lab Sample ID: LCSD 440-333859/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333862 — **Prep Batch: 333859**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.250	0.236		ug/L		94	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*50 - 150*

Lab Sample ID: 440-148477-1 MS — **Client Sample ID: AECOM PURGE WATER 1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333862 — **Prep Batch: 333859**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	ND		0.222	0.217		ug/L		98	65 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*50 - 150*

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-333582/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 334103 — **Prep Batch: 333582**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
4,4'-DDE	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
4,4'-DDT	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Aldrin	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
alpha-BHC	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-333582/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 334103 — **Prep Batch: 333582**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Chlordane (technical)	ND		1.0	0.50	ug/L		05/31/16 12:10	06/02/16 18:59	1
delta-BHC	ND		0.20	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Dieldrin	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Endosulfan I	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Endosulfan II	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Endosulfan sulfate	ND		0.20	0.10	ug/L		05/31/16 12:10	06/02/16 18:59	1
Endrin	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Endrin aldehyde	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Endrin ketone	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
gamma-BHC (Lindane)	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Heptachlor	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Heptachlor epoxide	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Methoxychlor	ND		0.10	0.050	ug/L		05/31/16 12:10	06/02/16 18:59	1
Toxaphene	ND		5.0	2.5	ug/L		05/31/16 12:10	06/02/16 18:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*16 - 115*	*05/31/16 12:10*	*06/02/16 18:59*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*10 - 149*	*05/31/16 12:10*	*06/02/16 18:59*	*1*

Lab Sample ID: LCS 440-333582/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 334103 — **Prep Batch: 333582**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.800	0.908		ug/L		114	47 - 115
4,4'-DDE	0.800	0.644		ug/L		80	45 - 115
4,4'-DDT	0.800	0.534		ug/L		67	43 - 115
Aldrin	0.800	0.536		ug/L		67	21 - 115
alpha-BHC	0.800	0.663		ug/L		83	47 - 115
beta-BHC	0.800	0.653		ug/L		82	45 - 115
delta-BHC	0.800	0.700		ug/L		88	50 - 115
Dieldrin	0.800	0.591		ug/L		74	47 - 115
Endosulfan I	0.800	0.613		ug/L		77	48 - 115
Endosulfan II	0.800	0.564		ug/L		71	47 - 115
Endosulfan sulfate	0.800	0.589		ug/L		74	48 - 115
Endrin	0.800	0.668		ug/L		83	46 - 115
Endrin aldehyde	0.800	0.498		ug/L		62	47 - 115
Endrin ketone	0.800	0.684		ug/L		85	52 - 115
gamma-BHC (Lindane)	0.800	0.713		ug/L		89	48 - 115
Heptachlor	0.800	0.612		ug/L		77	44 - 115
Heptachlor epoxide	0.800	0.642		ug/L		80	44 - 115
Methoxychlor	0.800	0.564		ug/L		70	55 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*69*		*16 - 115*
DCB Decachlorobiphenyl (Surr)	*74*		*10 - 149*

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 440-333582/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 334103 — **Prep Batch: 333582**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.800	0.915		ug/L		114	47 - 115	1	35
4,4'-DDE	0.800	0.665		ug/L		83	45 - 115	3	35
4,4'-DDT	0.800	0.544		ug/L		68	43 - 115	2	35
Aldrin	0.800	0.483		ug/L		60	21 - 115	10	35
alpha-BHC	0.800	0.646		ug/L		81	47 - 115	3	35
beta-BHC	0.800	0.642		ug/L		80	45 - 115	2	35
delta-BHC	0.800	0.676		ug/L		84	50 - 115	4	35
Dieldrin	0.800	0.614		ug/L		77	47 - 115	4	35
Endosulfan I	0.800	0.621		ug/L		78	48 - 115	1	35
Endosulfan II	0.800	0.585		ug/L		73	47 - 115	4	35
Endosulfan sulfate	0.800	0.599		ug/L		75	48 - 115	5	35
Endrin	0.800	0.680		ug/L		85	46 - 115	2	35
Endrin aldehyde	0.800	0.514		ug/L		64	47 - 115	7	35
Endrin ketone	0.800	0.656		ug/L		82	52 - 115	4	35
gamma-BHC (Lindane)	0.800	0.693		ug/L		87	48 - 115	1	35
Heptachlor	0.800	0.594		ug/L		74	44 - 115	3	35
Heptachlor epoxide	0.800	0.636		ug/L		79	44 - 115	1	35
Methoxychlor	0.800	0.555	p	ug/L		69	55 - 115	33	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*67*		*16 - 115*
DCB Decachlorobiphenyl (Surr)	*74*		*10 - 149*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-332936/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332936

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			05/26/16 16:17	1
Nitrite as N	ND		0.15	0.070	mg/L			05/26/16 16:17	1

Lab Sample ID: LCS 440-332936/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332936

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.13	1.07		mg/L		95	90 - 110
Nitrite as N	1.52	1.47		mg/L		97	90 - 110

Lab Sample ID: 440-148448-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND		11.3	10.1		mg/L		90	80 - 120
Nitrite as N	ND		15.2	13.7		mg/L		90	80 - 120

Lab Sample ID: 440-148448-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332936

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND		11.3	9.96		mg/L		88	80 - 120	2	20
Nitrite as N	ND		15.2	13.9		mg/L		91	80 - 120	1	20

Lab Sample ID: MB 440-332937/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332937

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.25	mg/L			05/26/16 16:17	1

Lab Sample ID: LCS 440-332937/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332937

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			5.00	4.60		mg/L		92	90 - 110		

Lab Sample ID: 440-148448-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332937

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	ND		50.0	45.0		mg/L		90	80 - 120		

Lab Sample ID: 440-148448-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 332937

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		50.0	44.9		mg/L		90	80 - 120	0	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 440-333614/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 334164 — **Prep Batch: 333614**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.50	ug/L		05/31/16 14:30	06/02/16 13:54	1
Arsenic	ND		1.0	0.50	ug/L		05/31/16 14:30	06/02/16 13:54	1
Beryllium	ND		0.50	0.25	ug/L		05/31/16 14:30	06/02/16 13:54	1
Cadmium	ND		1.0	0.25	ug/L		05/31/16 14:30	06/02/16 13:54	1
Chromium	ND		2.0	0.50	ug/L		05/31/16 14:30	06/02/16 13:54	1
Selenium	ND		2.0	0.50	ug/L		05/31/16 14:30	06/02/16 13:54	1
Thallium	ND		1.0	0.50	ug/L		05/31/16 14:30	06/02/16 13:54	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-333614/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 334164 — **Prep Batch: 333614**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	80.0	84.2		ug/L		105	80 - 120
Arsenic	80.0	82.4		ug/L		103	80 - 120
Beryllium	80.0	83.9		ug/L		105	80 - 120
Cadmium	80.0	82.0		ug/L		102	80 - 120
Chromium	80.0	81.4		ug/L		102	80 - 120
Selenium	80.0	79.1		ug/L		99	80 - 120
Thallium	80.0	84.2		ug/L		105	80 - 120

Lab Sample ID: 440-148585-I-1-B MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 334164 — **Prep Batch: 333614**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		80.0	81.3		ug/L		102	75 - 125
Arsenic	ND		80.0	81.7		ug/L		102	75 - 125
Beryllium	ND		80.0	77.3		ug/L		97	75 - 125
Cadmium	ND		80.0	72.8		ug/L		91	75 - 125
Chromium	ND		80.0	76.0		ug/L		95	75 - 125
Selenium	ND		80.0	73.2		ug/L		91	75 - 125
Thallium	ND		80.0	70.6		ug/L		88	75 - 125

Lab Sample ID: 440-148585-I-1-C MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 334164 — **Prep Batch: 333614**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		80.0	88.0		ug/L		110	75 - 125	8	20
Arsenic	ND		80.0	86.8		ug/L		108	75 - 125	6	20
Beryllium	ND		80.0	71.4		ug/L		89	75 - 125	8	20
Cadmium	ND		80.0	76.7		ug/L		96	75 - 125	5	20
Chromium	ND		80.0	81.6		ug/L		102	75 - 125	7	20
Selenium	ND		80.0	74.6		ug/L		93	75 - 125	2	20
Thallium	ND		80.0	75.5		ug/L		94	75 - 125	7	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-333309/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333867 — **Prep Batch: 333309**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		05/27/16 18:29	05/31/16 20:20	1

Lab Sample ID: LCS 440-333309/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 333867 — **Prep Batch: 333309**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00800	0.00817		mg/L		102	80 - 120

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Lab Sample ID: 440-148327-A-3-C MS
Matrix: Water
Analysis Batch: 333867

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 333309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.00800	0.00777		mg/L		97	70 - 130		

Lab Sample ID: 440-148327-A-3-D MSD
Matrix: Water
Analysis Batch: 333867

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 333309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00800	0.00771		mg/L		96	70 - 130	1	20

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

GC/MS VOA

Analysis Batch: 333947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148345-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-148345-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	8260B	
LCS 440-333947/6	Lab Control Sample	Total/NA	Water	8260B	
MB 440-333947/5	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 332931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	3520C	
LCS 440-332931/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-332931/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 440-332931/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 333768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	8270C LL	332931
LCS 440-332931/2-A	Lab Control Sample	Total/NA	Water	8270C LL	332931
LCSD 440-332931/3-A	Lab Control Sample Dup	Total/NA	Water	8270C LL	332931
MB 440-332931/1-A	Method Blank	Total/NA	Water	8270C LL	332931

GC Semi VOA

Prep Batch: 333582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	3510C	
LCS 440-333582/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-333582/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-333582/1-A	Method Blank	Total/NA	Water	3510C	

Prep Batch: 333859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	504.1	
440-148477-1 MS	AECOM PURGE WATER 1	Total/NA	Water	504.1	
LCS 440-333859/2-A	Lab Control Sample	Total/NA	Water	504.1	
LCSD 440-333859/3-A	Lab Control Sample Dup	Total/NA	Water	504.1	
MB 440-333859/1-A	Method Blank	Total/NA	Water	504.1	

Analysis Batch: 333862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	504.1	333859
440-148477-1 MS	AECOM PURGE WATER 1	Total/NA	Water	504.1	333859
LCS 440-333859/2-A	Lab Control Sample	Total/NA	Water	504.1	333859
LCSD 440-333859/3-A	Lab Control Sample Dup	Total/NA	Water	504.1	333859
MB 440-333859/1-A	Method Blank	Total/NA	Water	504.1	333859

Analysis Batch: 334103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	8081A	333582

GC Semi VOA (Continued)

Analysis Batch: 334103 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-333582/2-A	Lab Control Sample	Total/NA	Water	8081A	333582
LCSD 440-333582/3-A	Lab Control Sample Dup	Total/NA	Water	8081A	333582
MB 440-333582/1-A	Method Blank	Total/NA	Water	8081A	333582

HPLC/IC

Analysis Batch: 332936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148448-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-148448-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	300.0	
LCS 440-332936/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-332936/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 332937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148448-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-148448-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	300.0	
LCS 440-332937/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-332937/4	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 333309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148327-A-3-C MS	Matrix Spike	Total/NA	Water	7470A	
440-148327-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	7470A	
LCS 440-333309/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 440-333309/1-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 333614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total Recoverable	Water	3005A	
440-148585-I-1-B MS ^10	Matrix Spike	Total Recoverable	Water	3005A	
440-148585-I-1-C MSD ^10	Matrix Spike Duplicate	Total Recoverable	Water	3005A	
LCS 440-333614/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 440-333614/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 333867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148327-A-3-C MS	Matrix Spike	Total/NA	Water	7470A	333309
440-148327-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	333309
440-148477-1	AECOM PURGE WATER 1	Total/NA	Water	7470A	333309
LCS 440-333309/2-A	Lab Control Sample	Total/NA	Water	7470A	333309
MB 440-333309/1-A	Method Blank	Total/NA	Water	7470A	333309

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Metals (Continued)

Analysis Batch: 334164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-148477-1	AECOM PURGE WATER 1	Total Recoverable	Water	6020	333614
440-148585-I-1-B MS ^10	Matrix Spike	Total Recoverable	Water	6020	333614
440-148585-I-1-C MSD ^10	Matrix Spike Duplicate	Total Recoverable	Water	6020	333614
LCS 440-333614/2-A	Lab Control Sample	Total Recoverable	Water	6020	333614
MB 440-333614/1-A	Method Blank	Total Recoverable	Water	6020	333614

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Tetra Tech, Inc.
Project/Site: AECOM Support

TestAmerica Job ID: 440-148477-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record
Sample Origin: State of Nevada

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Hansen	Site Contact: K. Hansen	Date: 5-25-16	COC No:
Kyle Hansen - Tetra Tech	Tel/Fax:	Lab Contact: P. Mata	Carrier:	1 of 1 COCs
1489 W. Warm Springs, Suite 110	**Analysis Turnaround Time**			[1] Sampler
City/State/Zip Henderson, NV 89014	☒ CALENDAR DAYS ☐ WORKING DAYS			[1] Refer to note below.
Phone 801-949-6663	TAT if different from Below 7 days			For Lab Use Only:
FAX	☐ 2 weeks			Walk-in Client:
Project Name: AECOM SUPPORT	☒ 1 week			Lab Sampling:
Site:	☐ 2 days			Job / SDG No.:
P O # N02B-CWP-01	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOC (8260B)	Cd,Cr,Se,Sb,BE,Tl (6020)	Fluoride (300.0)	Mercury (CVAA)	Nitrate-N, Nitrite-N	DBCP (504.1)	OCPs (8081A)	SVOC (8270C)	Sample Specific Notes:
AECOM PURGE WATER 1	5-25-16	0930	G	AQ	12			X	X	X	X	X	X	X	X	

440-148477 Chain of Custody

[1] I attest to the validity and authenticity of this (these) sample(s). I am aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636)
Signature: Kyle Hansen Date

Preservation Used: 1= Ice. 2= HCl: 3= H2SO4: 4=HNO3: 5=NaOH: 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
2.4 | 2.3, 1.8 | 1.5 1.4 | 1.1 3.2 | 2.9 C
RTM

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Kyle Hansen	Tetra Tech	5-25-16 0950	[signature]	TA	5/25/16 0950
[signature]	TA	5/25/16 1600			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			Stephanie [signature]	TAI	5/25/16 @945

Fedex: 6589284085 73

Form No. TAL-0042NV (0813)

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 440-148477-1

Login Number: 148477
List Number: 1
Creator: Skinner, Alma

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix G

Data Validation Summary Report

AECOM Environment

Prepared for:
Nevada Division of Environmental Protection
Las Vegas, NV

Prepared by:
AECOM
Camarillo, CA
60477365
June 2016

Data Validation Summary Report
May 2016 Groundwater Sampling

NERT Remedial Investigation – Downgradient Study Area
Nevada Environmental Response Trust Site
Henderson, Nevada

Draft

AECOM Environment

Prepared for:
Nevada Division of Environmental Protection
Las Vegas, NV

Prepared by:
AECOM
Camarillo, CA
60477365
June 2016

Data Validation Summary Report
May 2016 Groundwater Sampling

Draft

Prepared By Chad Roper

Reviewed By Lily Bayati

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Appendix B - Wet Chemistry Data Validation

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Table 4 – Qualified Results

List of Acronyms

µg/L	Micrograms per Liter
CCB	Continuing Calibration Blank
DQO	Data Quality Objectives
EB	Equipment Blank
EPA	United States Environmental Protection Agency
FB	Field Blank
FD	Field Duplicate
ICB	Initial Calibration Blank
LCS/LCSD	Laboratory Control Sample / Laboratory Control Sample Duplicate
MDL	Minimum Detection Limit
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NDEP	Nevada Department of Environmental Protection
NERT	Nevada Environmental Response Trust
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance / Quality Control
QAPP	Quality Assurance Project Plan
RPD	Relative Percent Difference
SDG	Sample Delivery Group
SQL	Sample Quantitation Limit
TDS	Total Dissolved Solids

1.0 Introduction

This data validation summary report has been prepared by AECOM to assess the validity and usability of laboratory analytical data from the May 2016 Groundwater Sampling conducted in the Downgradient Study Area of the Nevada Environmental Response Trust (NERT) site in Henderson, Nevada. The assessment was performed by AECOM under their April 7, 2016, Quality Assurance Project Plan (QAPP) and included the collection and analyses of 79 environmental and quality control (QC) samples. The analyses were performed by the following methods:

- Dissolved Chromium by Environmental Protection Agency (EPA) Method 200.8
- Wet Chemistry:
  - Hexavalent Chromium by EPA Method 218.7
  - Chloride, and Bromide (Anions) by EPA Method 300.0
  - Chlorate by EPA Method 300.1B
  - Perchlorate by EPA Method 314.0
  - Total Dissolved Solids (TDS) by Standard Method 2540C

Laboratory analytical services were provided byTestAmerica, Inc (Irvine, California) and Silver State Analytical, Inc. (Las Vegas, Nevada). The samples were grouped into sample delivery groups (SDGs). The water samples are associated with quality assurance (QA)/QC samples designed to document the data quality of the entire SDG or a sub-group of samples within an SDG. **Table 1** is a cross-reference table listing each sample, analysis, SDG, collection date, laboratory sample number, matrix, and validation level. **Table 2** is a reference table that identifies the QC elements reviewed for each validation level per method, as applicable.

The laboratory analytical data were validated in accordance with procedures described in the Nevada Division of Environmental Protection (NDEP) Data Verification and Validation Requirements - Supplement established for the BMI Plant Sites and Common Areas Projects, Henderson, Nevada, April 13, 2009. Consistent with the NDEP requirements, approximately 90 percent of the analytical data (58 out of 65 primary samples) were validated according to Stage 2B data validation procedures and 10 percent of the analytical data (7 out 65 primary samples) were validated according to Stage 4 data validation procedures. The analytical data were evaluated for QA/QC based on the following documents: AECOM's QAPP Downgradient Study Area, Henderson, Nevada, Revision, April 2016; NDEP's Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas, January 5 2012; Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, August 2014; and the EPA's SW 846 Third Edition, Test Methods for Evaluating Solid Waste, update I, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IV, February 2007.

This report summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project data quality objectives (DQOs). This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

The PARCCS summary report evaluates and summarizes the results of QA/QC data validation for the entire sampling program. Each analytical fraction has a separate section for each of the PARCCS criteria. These sections interpret specific QC deviations and their effects on both individual data points and the analyses as a whole. Section 5.0 presents a summary of the PARCCS criteria by comparing quantitative parameters with

acceptability criteria defined in the project DQOs. Qualitative PARCCS criteria are also summarized in this section.

1.1 Precision and Accuracy of Environmental Data

Environmental data quality depends on sample collection procedures, analytical methods and instrumentation, documentation, and sample matrix properties. Both sampling procedures and laboratory analyses contain potential sources of uncertainty, error, and/or bias, which affect the overall quality of a measurement. Errors for sample data may result from incomplete equipment decontamination, inappropriate sampling techniques, sample heterogeneity, improper filtering, and improper preservation. The accuracy of analytical results is dependent on selecting appropriate analytical methods, maintaining equipment properly, and complying with QC requirements. The sample matrix also is an important factor in the ability to obtain precise and accurate results within a given media.

Environmental and laboratory QA/QC samples assess the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. QA/QC samples include: equipment blanks (EBs), field blanks (FBs), field duplicates (FDs), method blanks, laboratory control samples/laboratory control sample duplicates (LCS/LCSDs), and matrix spike/matrix spike duplicates (MS/MSDs).

Before conducting the PARCCS evaluation, the analytical data were validated according to the QAPP (April 2016), Functional Guidelines (EPA 2014), and EPA SW 846 Test Methods. Samples not meeting the acceptance criteria were qualified with a flag, an abbreviation indicating a deficiency with the data. The following are flags used in data validation.

J- Estimated - The associated numerical value is an estimated quantity with a negative bias. The analyte was detected but the reported value may not be accurate or precise.

J+ Estimated - The associated numerical value is an estimated quantity with a positive bias. The analyte was detected but the reported value may not be accurate or precise.

J Estimated - The associated numerical value is an estimated quantity. It is not possible to assess the direction of the potential bias. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits or any result that is detected in an environmental sample and associated blank at less than the required action level, but the exceedance was not sufficient to cause rejection of the data.

R Rejected - The data is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria. Either resampling or reanalysis is necessary to determine the presence or absence of the rejected analyte. The "R" designation is also applied to yield only one complete set of data for a given sample and eliminate redundant data.

U Nondetected - Analyses were performed for the compound or analyte, but it was not detected.

UJ Estimated/Nondetected - Analyses were performed for the compound or analyte, but it was not detected and the sample quantitation or detection limit is an estimated quantity due to poor accuracy or precision. This qualification is also used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, or other spike recovery.

DNR Do Not Report - A more appropriate result is reported from another analysis or dilution. None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

The hierarchy of flags is listed below:

R > J	The R flag will always take precedence over the J qualifier.
J+	The high bias (J+) flag is applied only to detected results.
J > J+ or J-	A non-biased (J) flag will always supersede biased (J+ or J-) flags since it is not possible to assess the direction of the potential bias.
J = J+ plus J-	Adding biased (J+, J-) flags with opposite signs will result in a nonbiased flag (J).
UJ = U plus J or J-	The UJ flag is used when a non-detected (U) flag is added to a biased (J-) or non-biased flag (J).

Table 3 lists the reason codes used. Reason codes explain why flags have been applied and identify possible limitations of data use. Reason codes are cumulative except when one of the flags is R then only the reason code associated to the R flag will be used.

Table 4 presents the overall qualified results after all the flags or validation qualifiers and associated reason codes have been applied.

Once the data are reviewed and qualified according to the QAPP, functional guidelines, and EPA Test Methods, the data set is then evaluated using PARCCS criteria. PARCCS criteria provide an evaluation of overall data usability. The following is a discussion of PARCCS criteria as related to the project DQOs.

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from percent recovery data. Precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

where:

D1 = reported concentration for the sample

D2 = reported concentration for the duplicate

Precision is primarily assessed by calculating an RPD from the percent recoveries of the spiked compounds for each sample in the MS/MSD pair. In the absence of an MS/MSD pair, a laboratory duplicate or LCS/LCSD pair can be analyzed as an alternative means of assessing precision. An additional measure of sampling precision was obtained by collecting and analyzing FD samples, which were compared using the RPD result as the evaluation criteria.

MS and MSD samples are field samples spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the overall efficiency of the analytical method in recovering target analytes from an environmental matrix. A LCS is similar to an MS/MSD sample in that the LCS is spiked with the same target analytes prior to preparation and analysis. However, the LCS is prepared using a controlled interference-free matrix instead of a field sample aliquot. Laboratory reagent water is used to prepare aqueous LCS. The LCS measures laboratory efficiency in recovering target analytes from either an aqueous matrix in the absence of matrix interferences.

One primary sample is analyzed and accompanied by an unspiked laboratory duplicate. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate, then calculates RPDs, which are used to assess laboratory precision.

Laboratory and field sampling precision are evaluated by calculating RPDs for aqueous field sample duplicate pairs. The sampler collects two field samples at the same location and under identically controlled conditions. The laboratory then analyzes the samples under identical conditions.

An RPD outside the numerical QC limit in either MS/MSD samples or LCS/LCSD indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analyte concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicate pairs, results maybe reported in either the primary or duplicate samples at levels below the practical quantitation limit (PQL) or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate pairs do not suggest a significant impact on the data quality.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and LCSD. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses.

Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

where:

A = measured concentration in the spiked sample

B = measured concentration of the spike compound in the unspiked sample

C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples and LCS/LCSD is evaluated with the acceptance criteria specified by the previously noted documents. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or quantitation limits reported for environmental samples.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated by reviewing the QC results of blanks, samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks, calibration blanks, EBs, and FBs.

A method blank is a laboratory grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

Initial and continuing calibration blanks (ICB/CCBs) consist of acidified laboratory grade water, which are injected at the beginning and at a regular frequency during each 12-hour sample analysis run. These blanks estimate residual contaminants from the previous sample or standards analysis and measure baseline shifts that commonly occur in emission and absorption spectroscopy.

EBs consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated, and measures efficiency of the decontamination procedure. EBs were collected and analyzed for all target analytes.

FBs consist of analyte-free source water stored at the sample collection site. The water is collected from each source water used during each sampling event. FBs were collected and analyzed for all target analytes.

Contaminants found in both the environmental sample and the blank sample are assumed to be laboratory artifacts if both values are less than the PQL or if a sample result and blank contaminant value were greater than the PQL and less than 10 times the blank contaminant value. The blanks and associated samples were evaluated according to the NDEP *BMI Plant Sites and Common Areas Projects, Henderson, Nevada, Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas* (January 5, 2012).

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedance can cause loss of sample constituents due to biodegradation, precipitation, volatilization, and chemical degradation. In accordance with EPA guidance (EPA 2014), sample results for analyses that were performed after the method holding time but less than two times the method holding time (if any) would be qualified as estimated (J- or UJ) and sample results for analyses that were performed after two times the method holding time would be qualified as rejected (R).

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses. It is important that data sets be comparable if they are used in conjunction with other data sets. The factors affecting comparability include the following: sample collection and handling techniques, matrix type, and analytical method. If these aspects of sampling and analysis are carried out according to standard analytical procedures, the data are considered comparable. Comparability is also dependent upon other PARCCS criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to determine if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. As specified in the project DQOs, the goal for completeness for target analytes in each analytical fraction is 90 percent.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

where:

%C = percent completeness

T = total number of sample results

R = total number of rejected sample results

Completeness is also determined by comparing the planned number of samples per method and matrix as specified in the QAPP, with the number determined above.

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. This capability is established during the planning phase to meet the DQOs. It is important that calibration requirements, detection limits, and PQLs presented in the QAPP are achieved and that target analytes can be detected at concentrations necessary to support the DQOs. The method detection

limits (MDLs) represent the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. Sample quantitation limits (SQLs) are adjusted MDL values that reflect sample specific actions, such as dilutions or varying aliquot sizes. PQLs are the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration point for the analyte. The laboratory is required to report detected analytes down to the MDL for this project. The laboratory uses a formatter that reports estimated values down to the MDL. In addition, sample results are compared to method blank and FB results to identify potential effects of laboratory background and field procedures on sensitivity.

The following sections present a review of QC data for metals analysis (dissolved chromium) and wet chemistry analyses (hexavalent chromium, bromide, chloride, chlorate, perchlorate, and total dissolved solids [TDS]).

2.0 Metals

A total of 65 water samples and 14 QC samples were analyzed for dissolved chromium by EPA Method 200.8. None of the 79 results were rejected based on holding time and/or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

2.1 Precision and Accuracy

2.1.1 Instrument Calibration

Initial and continuing calibration verification results provide a means of evaluating accuracy within a particular SDG. Correlation coefficient and percent recovery are the two major parameters used to measure the effectiveness of instrument calibration. The correlation coefficient indicates the linearity of the calibration curve. Percent recovery is used to verify the ongoing calibration acceptability of the analytical system. The most critical of the two calibration parameters, correlation coefficient, has the potential to affect data accuracy across an SDG when it is outside the acceptable QC limits. Percent recovery exceedances suggest more routine instrumental anomalies, which typically impact all sample results for the affected analytes.

The correlation coefficients in all initial calibrations were within the acceptance criteria of ≥ 0.995 and the percent recoveries in the continuing calibration verifications met the acceptance criteria of 90-110 percent.

2.1.2 Internal Standards

All internal standard relative intensities were within acceptance criteria.

2.1.3 MS/MSD Samples

MS/MSD percent recoveries were within acceptance criteria as stated in the QAPP; therefore, no chromium results were qualified based on this criterion. The details are presented in Attachment A, Section VI.

2.1.4 LCS/LCSD Samples

All LCS/LCSD percent recoveries and RPDs met acceptance criteria as stated in the QAPP.

2.1.5 Inductively Coupled Plasma/Mass Spectrometry Interference Check Sample

All validated Inductively Coupled Plasma/Mass Spectrometry interference check percent recoveries met acceptance criteria as stated in the QAPP.

2.1.6 FD Samples

The FDs were evaluated for acceptable precision with RPDs or difference in instances the results were less than five times the reporting limit for the compounds. When the sample or FD concentration is <PQL, the PQL is used for calculation purposes. All field duplicate RPDs were within the acceptance criteria. The FD RPDs are presented in detail in Attachment A, Section X.

2.1.7 Analyte Quantitation and Target Identification

Raw data were evaluated for the Stage 4 samples. All analyte quantitation and target identifications were acceptable.

2.2 Representativeness

2.2.1 Sample Preservation and Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All samples met the 180-day analysis holding time criteria for dissolved chromium.

2.2.2 Blanks

Method blanks, ICB/CCBs, EBs, and FBs were analyzed to evaluate representativeness. The concentration for an individual target compound in any of the types of QA/QC blanks was used for data qualification.

If contaminants were detected in a blank, flags were assigned for the chemical analytical data during data validation based on the following criteria.

> Results Below the PQL If a sample result and blank contaminant value were less than the PQL, the sample result was amended as non-detect (U) at the PQL.
>
> Results Above the PQL If a sample result and blank contaminant value were greater than the PQL and less than 10 times the blank contaminant value, the sample result was qualified as detected estimated (J+) at the concentration reported in the sample results.
>
> No Action If blank contaminant values were less than the PQL and associated sample results were greater than the PQL, or if blank contaminant values were greater than the PQL and associated sample results were greater than 10 times the blank contaminant value, the result was not amended.

2.2.2.1 Method and Calibration Blanks

No contaminants were detected in the method or calibration blanks for this analysis.

2.2.2.2 EBs and FBs

Chromium was detected in EB WMW5.5S-20150422-EB (0.80 J micrograms per liter [μg/L]) and in field blank MW-25-20160421-FB (0.86 μg/L). Consequently, low-level chromium results for four samples were qualified as non-detect (“U”). The details regarding analytes detected in field generated blanks are presented in Attachment A, Section V.

2.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the SQLs attained were at or below the PQLs. Data validation review indicates that target compounds detected below the PQLs flagged (J) by the laboratory should be considered estimated. The comparability of the metals data is regarded as acceptable.

2.4 Completeness

The completeness level attained for metal field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100. No results were rejected.

2.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory PQLs met the specified requirements described in the QAPP.

3.0 Wet Chemistry

A total of 65 primary water samples and 14 QCs were analyzed for hexavalent chromium by EPA Method 218.7; chloride and bromide by EPA Method 300.0; chlorate by EPA Method 300.1B; perchlorate by EPA Method 314.0; and TDS by Standard Method 2540C. All wet chemistry data were assessed to be valid. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

3.1 Precision and Accuracy

3.1.1 Instrument Calibration

As previously discussed in Section 2.1.1, initial and continuing calibration results provide a means of evaluating accuracy.

Instrument calibrations were evaluated for all wet chemistry methods. The correlation coefficients in the initial calibrations were within the acceptance criteria of ≥0.995 and the percent recoveries in the continuing calibration verifications met the acceptance criteria.

3.1.2 Surrogate

Surrogate (dichloroacetic acid) recoveries were evaluated for chlorate analysis by EPA Method 300.1B. All surrogate percent recoveries met the acceptance criteria as stated in the QAPP.

3.1.3 MS/MSD Samples

Due to MS/MSD percent recoveries outside of acceptance criteria as stated in the QAPP, the following samples had one or more results qualified AA-20-20160419, DBMW-1-20160419, MCF-06C-20160419, WMW4.9S-20160422, DBMW-22-20160422, MCF-05-20160425, MCF-20A-20160425, PMW-7-20160422, PMW-8-20160422, RIT-10-20160422, RIT-6-20160422, WMW6.15S-20160422, HM-2-20160428, LNDMW2-20160427, MCF-20A-20160427, MW-02-20160428, MCF-06A-R-20160428, MCF-31A-20160428, MCF-31B-20160428, MW-10-20160428, MW-10-20160428-FD, and MW-06-20160428. The details regarding the qualification of results are presented in Attachment B, Section VII.

3.1.4 Duplicate Samples

Duplicate samples were evaluated for TDS analysis by SM 2540c. All duplicate RPDs met the acceptance criteria as stated in the QAPP.

3.1.5 LCS Samples

LCS samples were evaluated for all wet chemistry methods. All LCS percent recoveries met the acceptance criteria as stated in the QAPP.

3.1.6 FD Samples

The FD samples were evaluated for acceptable precision with RPDs. Results for hexavalent chromium and bromide were qualified in the following samples: PC-74-20160429 and PC-74-20160429-FD. The details regarding the qualification of results are presented in Attachment B, Section X.

3.1.7 Analyte Quantitation and Target Identification

Raw data were evaluated for the Stage 4 samples. All analyte quantitation and target identifications were acceptable. In instances where data exceeded the calibration range and was subsequently diluted, the data was qualified as not reportable by the laboratory in order to yield only one complete set of data for a given sample. The details regarding the qualification of results are presented in Attachment B, Section XII.

3.2 Representativeness

3.2.1 Sample Preservation and Holding Times

The evaluation of holding times to verify compliance with all wet chemistry methods was conducted. All water samples met the 7-day analysis holding time criteria for TDS and hexavalent chromium and the 28-day analysis holding time criteria for chlorate, chloride, bromide, and perchlorate.

The details regarding sample preservation and holding times are presented in Attachment B, Section I.

3.2.2 Blanks

As previously discussed in Section 2.2.2, method blanks, ICB/CCBs, EBs, and FBs were analyzed to evaluate representativeness.

3.2.2.1 Method and Calibration Blanks

No data were qualified due to contaminants detected in the method or calibration blanks for this analysis.

3.2.2.2 EBs and FBs

One EB (PC-76-20160429-EB) and two FBs (RIT-10-20160422-FB and PC-74-20160429-FB) had detectable chloride contamination at concentrations below the PQL. No samples were qualified on the basis of EB or FB contamination. The details regarding these results are presented in Attachment B, Section V.

3.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the SQLs attained were at or below the PQLs. Target compounds detected below the PQLs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

3.4 Completeness

The completeness level attained for wet chemistry field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

3.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory PQLs met the specified requirements described in the QAPP.

4.0 Variances in Analytical Performance

The laboratory used standard analytical methods for all of the analyses throughout the project. No systematic variances in analytical performance were noted in the laboratory case narratives.

5.0 Summary of PARCCS Criteria

The validation reports present the PARCCS results for all SDGs. Each PARCCS criterion is discussed in detail in the following sections.

5.1 Precision and Accuracy

Precision and accuracy were evaluated using data quality indicators such as calibration, surrogates, MS/MSD, duplicate, LCS/LCSD, and FDs. The precision and accuracy of the data set were considered acceptable after incorporation of validation-qualified results.

All calibrations were performed as required and met the acceptance criteria. All surrogate, MS/MSD, duplicate, LCS, and FD percent recoveries, RPDs, and difference met acceptance criteria with the exceptions noted in Sections 2.1.2, 3.1.3, and 3.1.6. All Inductively Coupled Plasma interference check sample percent recoveries met acceptance criteria.

5.2 Representativeness

All samples for each method and matrix were evaluated for holding time compliance. All samples were associated with a method blank in each individual SDG. The representativeness of the project data is considered acceptable after incorporation of validation-qualified results.

5.3 Comparability

Sampling frequency requirements were met in obtaining necessary EBs, FBs and FDs. The laboratory used standard analytical methods for the analyses. The analytical results were reported in correct standard units. Sample integrity criteria were met. Sample preservation and holding times were within QC criteria with the exceptions noted in Section 3.2.1. The overall comparability is considered acceptable after incorporation of validation-qualified results.

5.4 Completeness

Of the 553 total analytes reported, 0 sample results were rejected. The completeness for the SDGs is as follows:

Parameter	Total Analytes	No. of Rejects	% Completeness
Metals	79	0	100
Wet Chemistry	474	0	100
Total	**553**	**0**	**100**

The completeness percentage based on rejected data met the 90-percent DQO goal.

5.5 Sensitivity

Sensitivity was achieved by the laboratory to support the DQOs. Calibration concentrations and PQLs met the project requirements and low level contamination in the method blanks, calibration blanks, EBs, and FBs did not affect sensitivity.

6.0 Conclusions and Recommendations

The analytical data quality assessment for the water sample laboratory analytical results generated during the May 2016 Groundwater Sampling in the Downgradient Study Area of the NERT site in Henderson, Nevada, established that the overall project requirements and completeness levels were met. No results were rejected. Sample results that were found to be estimated (J, J-, J+, UJ) are usable for limited purposes only. Based upon the Stage 2B and Stage 4 data validation, all other results are considered valid and usable for all purposes.

7.0 References

AECOM, 2016. Quality Assurance Project Plan, Downgradient Study Area, Henderson, Nevada (QAPP), Revision. April 17, 2016.

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Eaton et al., 1998. Standard Method for the Examination of Water and Wastewater (20th ed.).Washington, DC: American Public Health Association.

NDEP 2009. Data Verification and Validation Requirements - Supplement established for the BMI Plant Sites and Common Areas Projects, Henderson, Nevada. April 13.

NDEP 2012. Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas. January 5.

Tables

Table 1
Sample Cross Reference

SDG	Client Sample ID	Lab Sample ID	Matrix	Sample Date	QC Type	Validation Level	Bromide (E300)	Chlorate (E300.1)	Chloride (E300)	Chromium (E200.8)	Chromium, Hexavalent (E218.7)	Perchlorate (E314.0)	Total Dissolved Solids (SM2540C)
16-2741	AA-23R-20160418	16-2741-1A	W	04/18/16		Stage 2B					X		
16-2741	DBMW-7-20160418	16-2741-2A	W	04/18/16		Stage 2B					X		
16-2741	DBMW-7-20160418-FD	16-2741-3A	W	04/18/16	DUP	Stage 2B					X		
16-2741	DBMW-8-20160418	16-2741-4A	W	04/18/16		Stage 2B					X		
16-2774	AA-20-20160419	16-2774-02A	W	04/19/16		Stage 2B					X		
16-2774	DBMW-1-20160419	16-2774-03A	W	04/19/16		Stage 2B					X		
16-2774	MCF-06C-20160419	16-2774-01A	W	04/19/16		Stage 2B					X		
16-2775	DBMW-4-20160419	16-2775-03A	W	04/19/16		Stage 2B					X		
16-2775	DBMW-4-20160419-EB	16-2775-02A	W	04/19/16	EB	Stage 2B					X		
16-2775	DBMW-5-20160419	16-2775-01A	W	04/19/16		Stage 2B					X		
16-2825	AA-22-20160420	16-2825-01A	W	04/20/16		Stage 2B					X		
16-2825	WMW6.15N-20160420	16-2825-05A	W	04/20/16		Stage 2B					X		
16-2825	WMW6.9N-20160420	16-2825-03A	W	04/20/16		Stage 2B					X		
16-2825	WMW6.9N-20160420-FD	16-2825-04A	W	04/20/16	DUP	Stage 2B					X		
16-2825	WMW7.8N-20160420	16-2825-02A	W	04/20/16		Stage 2B					X		
16-2837	MW-04-20160420	16-2837-04A	W	04/20/16		Stage 2B					X		
16-2837	MW-05-20160420	16-2837-02A	W	04/20/16		Stage 2B					X		
16-2837	MW-11-20160420	16-2837-01A	W	04/20/16		Stage 2B					X		
16-2837	MW-18-20160420	16-2837-03A	W	04/20/16		Stage 2B					X		
16-2878	COH2B1-20160421	16-2878-01A	W	04/21/16		Stage 2B					X		
16-2878	PC-77-20160421	16-2878-05A	W	04/21/16		Stage 2B					X		
16-2878	PC-78-20160421	16-2878-04A	W	04/21/16		Stage 2B					X		
16-2878	WMW6.55S-20160421	16-2878-02A	W	04/21/16		Stage 2B					X		
16-2878	WMW6.9S-20160421	16-2878-03A	W	04/21/16		Stage 2B					X		
16-2886	MCF-06B-20160421	16-2886-01A	W	04/21/16		Stage 2B					X		
16-2886	MW-12-20160421	16-2886-05A	W	04/21/16		Stage 2B					X		
16-2886	MW-13-20160421	16-2886-04A	W	04/21/16		Stage 2B					X		
16-2886	MW-25-20160421	16-2886-02A	W	04/21/16		Stage 2B					X		
16-2886	MW-25-20160421-FB	16-2886-03A	W	04/21/16	FB	Stage 2B					X		
16-2907	PMW-7-20160422	16-2907-02A	W	04/22/16		Stage 2B					X		
16-2907	PMW-8-20160422	16-2907-03A	W	04/22/16		Stage 2B					X		
16-2907	RIT-06-20160422	16-2907-04A	W	04/22/16		Stage 2B					X		
16-2907	RIT-10-20160422	16-2907-05A	W	04/22/16		Stage 2B					X		
16-2907	RIT-10-20160422-FB	16-2907-06A	W	04/22/16	FB	Stage 2B					X		
16-2907	WMW6.15S-20160422	16-2907-01A	W	04/22/16		Stage 2B					X		
16-2908	AA-30-20160422	16-2908-01A	W	04/22/16		Stage 2B					X		
16-2908	DBMW-22-20160422	16-2908-07A	W	04/22/16		Stage 2B					X		
16-2908	LNDMW1-20160422	16-2908-06A	W	04/22/16		Stage 2B					X		
16-2908	MW-20-20160422	16-2908-05A	W	04/22/16		Stage 2B					X		
16-2908	WMW4.9S-20160422	16-2908-04A	W	04/22/16		Stage 2B					X		
16-2908	WMW5.5S-20160422	16-2908-02A	W	04/22/16		Stage 2B					X		
16-2908	WMW5.5S-20160422-EB	16-2908-03A	W	04/22/16	EB	Stage 2B					X		

Table 1
Sample Cross Reference

16-2948	MCF-05-20160425	16-2948-02A	W	04/25/16		Stage 2B					X		
16-2948	MCF-20A-20160425	16-2948-01A	W	04/25/16		Stage 2B					X		
16-2987	MCF-05-20160426	16-2987-02A	W	04/26/16		Stage 2B					X		
16-2987	MCF-18A-20160426-0800	16-2987-01A	W	04/26/16		Stage 2B					X		
16-2988	MW-1-20160426	16-2988-01A	W	04/26/16		Stage 2B					X		
16-2988	MW-2-20160426	16-2988-02A	W	04/26/16		Stage 2B					X		
16-2988	MW-3-20160426	16-2988-03A	W	04/26/16		Stage 2B					X		
16-2988	MW-4-20160426	16-2988-04A	W	04/26/16		Stage 2B					X		
16-3021	LNDMW2-20160427	16-3021-03A	W	04/27/16		Stage 2B					X		
16-3021	LNDMW2-20160427-FB	16-3021-04A	W	04/27/16	FB	Stage 2B					X		
16-3021	WMW3.5N-20160427	16-3021-01A	W	04/27/16		Stage 2B					X		
16-3021	WMW3.5N-20160427-FD	16-3021-02A	W	04/27/16	DUP	Stage 2B					X		
16-3021	WMW4.9N-20160427	16-3021-05A	W	04/27/16		Stage 2B					X		
16-3021	WMW4.9N-20160427-EB	16-3021-06A	W	04/27/16	EB	Stage 2B					X		
16-3022	MCF-08A-20160427	16-3022-02A	W	04/27/16		Stage 2B					X		
16-3022	MCF-08B-R-20160427	16-3022-03A	W	04/27/16		Stage 2B					X		
16-3022	MCF-08B-R-20160427-F	16-3022-04A	W	04/27/16	DUP	Stage 2B					X		
16-3022	MCF-18A-20160427	16-3022-01A	W	04/27/16		Stage 2B					X		
16-3022	MCF-20A-20160427	16-3022-05A	W	04/27/16		Stage 2B					X		
16-3074	HM-2-20160428	16-3074-01A	W	04/28/16		Stage 2B					X		
16-3074	MW-02-20160428	16-3074-02A	W	04/28/16		Stage 2B					X		
16-3074	MW-06-20160428	16-3074-03A	W	04/28/16		Stage 2B					X		
16-3075	MCF-06A-R-20160428	16-3075-01A	W	04/28/16		Stage 2B					X		
16-3075	MCF-31A-20160428	16-3075-03A	W	04/28/16		Stage 2B					X		
16-3075	MCF-31B-20160428	16-3075-02A	W	04/28/16		Stage 2B					X		
16-3075	MW-10-20160428	16-3075-04A	W	04/28/16		Stage 2B					X		
16-3075	MW-10-20160428FD	16-3075-05A	W	04/28/16		Stage 2B					X		
16-3075	WMW5.7N-20160428	16-3075-06A	W	04/28/16		Stage 2B					X		
16-3096	PC-74-20160429	16-3096-03A	W	04/29/16		Stage 2B					X		
16-3096	PC-74-20160429-FB	16-3096-07A	W	04/29/16	FB	Stage 2B					X		
16-3096	PC-74-20160429-FD	16-3096-04A	W	04/29/16	DUP	Stage 2B					X		
16-3096	PC-76-20160429	16-3096-05A	W	04/29/16		Stage 2B					X		
16-3096	PC-76-20160429-EB	16-3096-08A	W	04/29/16	EB	Stage 2B					X		
16-3096	PC-76-20160429-FD	16-3096-06A	W	04/29/16	DUP	Stage 2B					X		
16-3096	UZO-17-20160429	16-3096-02A	W	04/29/16		Stage 2B					X		
16-3096	WMW3-5S-20160429	16-3096-01A	W	04/29/16		Stage 2B					X		
16-3280	WMW5.58S-20160505	16-3280-01A	W	05/05/16		Stage 2B					X		
440-144933	AA-23R-20160418	440-144933-1	W	04/18/16		Stage 2B	X	X	X	X		X	X
440-144933	DBMW-7-20160418	440-144933-3	W	04/18/16		Stage 2B	X	X	X	X		X	X
440-144933	DBMW-7-20160418-FD	440-144933-4	W	04/18/16	DUP	Stage 2B	X	X	X	X		X	X
440-144933	DBMW-8-20160418	440-144933-2	W	04/18/16		Stage 2B	X	X	X	X		X	X
440-144937	AA-20-20160419	440-144937-2	W	04/19/16		Stage 2B	X	X	X	X		X	X
440-144937	DBMW-1-20160419	440-144937-3	W	04/19/16		Stage 2B	X	X	X	X		X	X
440-144937	MCF-06C-20160419	440-144937-1	W	04/19/16		Stage 2B	X	X	X	X		X	X
440-144940	DBMW-4-20160419	440-144940-3	W	04/19/16		Stage 2B	X	X	X			X	X
440-144940	DBMW-4-20160419-EB	440-144940-2	W	04/19/16	EB	Stage 2B	X	X	X	X		X	X

Table 1
Sample Cross Reference

440-144940	DBMW-5-20160419	440-144940-1	W	04/19/16		Stage 2B	X	X	X	X		X	X
440-145066	DBMW-4-20160419	440-145066-1	W	04/19/16		Stage 2B				X			
440-145066	MW-04-20160420	440-145066-5	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145066	MW-05-20160420	440-145066-3	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145066	MW-11-20160420	440-145066-2	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145066	MW-18-20160420	440-145066-4	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145213	AA-22-20160420	440-145213-1	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145213	WMW6.15N-20160420	440-145213-5	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145213	WMW6.9N-20160420	440-145213-3	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145213	WMW6.9N-20160420-FD	440-145213-4	W	04/20/16	DUP	Stage 2B	X	X	X	X		X	X
440-145213	WMW7.8N-20160420	440-145213-2	W	04/20/16		Stage 2B	X	X	X	X		X	X
440-145220	MCF-06B-20160421	440-145220-1	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145220	MW-12-20160421	440-145220-5	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145220	MW-13-20160421	440-145220-4	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145220	MW-25-20160421	440-145220-2	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145220	MW-25-20160421-FB	440-145220-3	W	04/21/16	FB	Stage 2B	X	X	X	X		X	X
440-145222	AA-30-20160422	440-145222-1	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145222	LNDMW1-20160422	440-145222-6	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145222	MW-20-20160422	440-145222-5	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145222	WMW4.9S-20160422	440-145222-4	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145222	WMW5.5S-20160422	440-145222-2	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145222	WMW5.5S-20160422-EB	440-145222-3	W	04/22/16	EB	Stage 2B	X	X	X	X		X	X
440-145224	COH2B1-20160421	440-145224-1	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145224	PC-77-20160421	440-145224-5	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145224	PC-78-20160421	440-145224-4	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145224	WMW6.55S-20160421	440-145224-2	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145224	WMW6.9S-20160421	440-145224-3	W	04/21/16		Stage 2B	X	X	X	X		X	X
440-145369	DBMW-22-20160422	440-145369-7	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145369	MCF-05-20160425	440-145369-9	W	04/25/16		Stage 2B	X	X	X	X		X	X
440-145369	MCF-20A-20160425	440-145369-8	W	04/25/16		Stage 2B	X	X	X	X		X	X
440-145369	PMW-7-20160422	440-145369-2	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145369	PMW-8-20160422	440-145369-3	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145369	RIT-10-20160422	440-145369-5	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145369	RIT-10-20160422-FB	440-145369-6	W	04/22/16	FB	Stage 2B	X	X	X	X		X	X
440-145369	RIT-6-20160422	440-145369-4	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145369	WMW6.15S-20160422	440-145369-1	W	04/22/16		Stage 2B	X	X	X	X		X	X
440-145599	MCF-05-20160426	440-145599-2	W	04/26/16		Stage 2B	X	X	X	X		X	X
440-145599	MCF-18A-20160426-0800	440-145599-1	W	04/26/16		Stage 2B	X	X	X	X		X	X
440-145701	MCF-08A-20160427	440-145701-6	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145701	MCF-08BR-20160427	440-145701-7	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145701	MCF-08BR-20160427-FD	440-145701-8	W	04/27/16	DUP	Stage 2B	X	X	X	X		X	X
440-145701	MCF-18A-20160427	440-145701-5	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145701	MW-1-20160426	440-145701-1	W	04/26/16		Stage 2B	X	X	X	X		X	X
440-145701	MW-2-20160426	440-145701-2	W	04/26/16		Stage 2B	X	X	X	X		X	X
440-145701	MW-3-20160426	440-145701-3	W	04/26/16		Stage 2B	X	X	X	X		X	X
440-145701	MW-4-20160426	440-145701-4	W	04/26/16		Stage 2B	X	X	X	X		X	X

Table 1
Sample Cross Reference

440-145790	HM-2-20160428	440-145790-8	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145790	LNDMW2-20160427	440-145790-3	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145790	LNDMW2-20160427-FB	440-145790-4	W	04/27/16	FB	Stage 2B	X	X	X	X		X	X
440-145790	MCF-20A-20160427	440-145790-7	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145790	MW-02-20160428	440-145790-9	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145790	WMW3.5-N-20160427	440-145790-1	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145790	WMW3.5N-20160427-FD	440-145790-2	W	04/27/16	DUP	Stage 2B	X	X	X	X		X	X
440-145790	WMW4.9N-20160427	440-145790-5	W	04/27/16		Stage 2B	X	X	X	X		X	X
440-145790	WMW4.9N-20160427-EB	440-145790-6	W	04/27/16	EB	Stage 2B	X	X	X	X		X	X
440-145793	MCF-06A-R-20160428	440-145793-1	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145793	MCF-31A-20160428	440-145793-3	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145793	MCF-31B-20160428	440-145793-2	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145793	MW-10-20160428	440-145793-4	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145793	MW-10-20160428-FD	440-145793-5	W	04/28/16	DUP	Stage 2B	X	X	X	X		X	X
440-145860	MW-06-20160428	440-145860-1	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-145860	PC-74-20160429	440-145860-5	W	04/29/16		Stage 2B	X	X	X	X		X	X
440-145860	PC-74-20160429-FB	440-145860-9	W	04/29/16	FB	Stage 2B	X	X	X	X		X	X
440-145860	PC-74-20160429-FD	440-145860-6	W	04/29/16	DUP	Stage 2B	X	X	X	X		X	X
440-145860	PC-76-20160429	440-145860-8	W	04/29/16		Stage 2B	X	X	X	X		X	X
440-145860	PC-76-20160429-EB	440-145860-10	W	04/29/16	EB	Stage 2B	X	X	X	X		X	X
440-145860	PC-76-20160429-FD	440-145860-7	W	04/29/16	DUP	Stage 2B	X	X	X	X		X	X
440-145860	UZO-17-20160429	440-145860-4	W	04/29/16		Stage 2B	X	X	X	X		X	X
440-145860	WMW3.5S-20160428	440-145860-3	W	04/29/16		Stage 2B	X	X	X	X		X	X
440-145860	WMW5.7N-20160428	440-145860-2	W	04/28/16		Stage 2B	X	X	X	X		X	X
440-146623	WMW5.58S-20160505	440-146623-1	W	05/05/16		Stage 2B	X	X	X	X		X	X

Table 2
Validation Elements

Stage 2B	Metals	Wet Chemistry
Sample Receipt & Technical Holding Time	√	√
Initial Calibration (ICAL)	√	√
Initial Calibration Verification (ICV)	√	√
Continuing Calibration Verification (CCV)	√	√
Laboratory Blanks	√	√
Initial Calibration Blank and Continuing Calibration Blank (ICB/CCB)	√	√
Field Blanks	√	√
Inductively Coupled Plasma (ICP) Interference Check Sample	√	n/a
Surrogate Spikes	n/a	√
Matrix Spike (MS), Matrix Spike Duplicate (MSD)	√	√
Laboratory Duplicate (DUP)	n/a	√
Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD)	√	√
Serial Dilution	√	n/a
Field Duplicate	√	√
Project Quantitation Limits (QL)	√	√
Multiple Results for One Sample	√	√
Sample Result Verification - -	- -	- -
Overall Data Usability Assessment	√	√

Stage 4	Metals	Wet Chemistry
Sample Receipt & Technical Holding Time	√	√
Initial Calibration (ICAL)	√	√
Initial Calibration Verification (ICV)	√	√
Continuing Calibration Verification (CCV)	√	√
Laboratory Blanks	√	√
Initial Calibration Blank and Continuing Calibration Blank (ICB/CCB)	√	√
Field Blanks	√	√
Inductively Coupled Plasma (ICP) Interference Check Sample	√	n/a
Surrogate Spikes	n/a	√
Matrix Spike (MS), Matrix Spike Duplicate (MSD)	√	√
Laboratory Duplicate (DUP)	n/a	√
Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD)	√	√
Serial Dilution	√	n/a
Field Duplicate	√	√
Project Quantitation Limits (QL)	√	√
Multiple Results for One Sample	√	√
Sample Result Verification	√	√
Overall Data Usability Assessment	√	√

Notes:

√ = Reviewed

N/A = Not applicable to method or not performed during this sampling event

-- = Not applicable for Stage 2B review

Table 3
Qualification Codes and Definitions

Reason Code	Explanation
a	qualified due to low abundance (radiochemical activity)
be	qualified due to equipment blank contamination
bf	qualified due to field blank contamination
bl	qualified due to lab blank contamination
bt	qualified due to trip blank contamination
bp	qualified due to pump blank contamination (wells w/o dedicated pumps, when contamination is detected in the Pump Blk)
br	qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	qualified due to calibration problems
cp	qualified due to insufficient ingrowth (radiochemical only)
dc	duel column confirmation %D exceeded
e	concentration exceeded the calibration range
fd	qualified due to field duplicate imprecision
h	qualified due to holding time exceedance
i	qualified due to internal standard areas
k	qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	qualified due to LCS recoveries
ld	qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	qualified due to matrix spike recoveries
nb	qualified due to negative lab blank contamination (nondetect results only)
nd	qualified due to non-detected target analyte
o	other
p	qualified as a false positive due to contamination during shipping
pH	sample preservation not within acceptance range
q	qualified due to quantitation problem
s	qualified due to surrogate recoveries
sd	serial dilution did not meet control criteria
sp	detected value reported >SQL <PQL
st	sample receipt temperature exceeded
t	qualified due to elevated helium tracer concentrations
vh	volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	qualified due to low % solids
z	qualified due to ICS results

Table 4
Qualified Results

SDG	Client Sample ID	Sample Date	Method	Client Analyte ID	Analyte	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition	Qualification Finding	
16-3096	PC-74-20160429	4/29/2016	E218.7	18540-29-9	Chromium, Hexavalent	1.8		0.090	1.0	ug/l	J	fd	FD RPD >30%	40	%
16-3096	PC-74-20160429-FD	4/29/2016	E218.7	18540-29-9	Chromium, Hexavalent	2.7		0.090	1.0	ug/l	J	fd	FD RPD >30%	40	%
440-144937	AA-20-20160419	4/19/2016	E300	16887-00-6	Chloride	1000	B	2.5	250	mg/l		bl	Method Blank	0.284	mg/L
440-144937	AA-20-20160419	4/19/2016	E300	24959-67-9	Bromide	0.25	U	2.5	5.0	mg/l	UJ	m	matrix spike %R	54/58	%
440-144937	DBMW-1-20160419	4/19/2016	E300	16887-00-6	Chloride	1100	B	5.0	250	mg/l		bl	Method Blank	0.284	mg/L
440-144937	DBMW-1-20160419	4/19/2016	E300	24959-67-9	Bromide	0.25	UF1	5.0	10	mg/l	UJ	m	matrix spike %R	54/58	%
440-144937	DBMW-1-20160419	4/19/2016	E314.0	14797-73-0	Perchlorate	9000	F1	950	4000	ug/l		m	matrix spike %R	nc/nc	%
440-144937	MCF-06C-20160419	4/19/2016	E300	16887-00-6	Chloride	1700	B	5.0	250	mg/l		bl	Method Blank	0.284	mg/L
440-144937	MCF-06C-20160419	4/19/2016	E300	24959-67-9	Bromide	0.25	U	5.0	10	mg/l	UJ	m	matrix spike %R	54/58	%
440-144940	DBMW-4-20160419	4/19/2016	E300	16887-00-6	Chloride	1100	B	5.0	250	mg/l		bl	Method Blank	0.284	mg/L
440-144940	DBMW-5-20160419	4/19/2016	E300	16887-00-6	Chloride	1200	B	2.5	250	mg/l		bl	Method Blank	0.284	mg/L
440-144940	DBMW-5-20160419	4/19/2016	E300	24959-67-9	Bromide	2.9	J	2.5	5.0	mg/l	J	sp	Detect <PQL	-	-
440-145066	MW-11-20160420	4/20/2016	E300.1	14866-68-3	Chlorate	93	J	50	100	ug/l	J	sp	Detect <PQL	-	-
440-145066	MW-18-20160420	4/20/2016	E314.0	14797-73-0	Perchlorate	3.4	J	0.95	4.0	ug/l	J	sp	Detect <PQL	-	-
440-145213	WMW6.15N-20160420	4/20/2016	E200.8	7440-47-3	Chromium	3.6	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145213	WMW6.9N-20160420	4/20/2016	E200.8	7440-47-3	Chromium	3.5	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145213	WMW6.9N-20160420	4/20/2016	E300	24959-67-9	Bromide	0.67	J	0.50	1.0	mg/l	J	sp	Detect <PQL	-	-
440-145213	WMW6.9N-20160420-FD	4/20/2016	E200.8	7440-47-3	Chromium	3.9	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145213	WMW6.9N-20160420-FD	4/20/2016	E300	24959-67-9	Bromide	0.72	J	0.50	1.0	mg/l	J	sp	Detect <PQL	-	-
440-145213	WMW7.8N-20160420	4/20/2016	E200.8	7440-47-3	Chromium	2.9	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145213	WMW7.8N-20160420	4/20/2016	E300	24959-67-9	Bromide	0.28	J	0.25	0.50	mg/l	J	sp	Detect <PQL	-	-
440-145220	MW-12-20160421	4/21/2016	E200.8	7440-47-3	Chromium	18	J	5.0	20	ug/l	U	bf	Field Blank	0.80	ug/l
440-145220	MW-25-20160421-FB	4/21/2016	E200.8	7440-47-3	Chromium	0.80	J	0.50	2.0	ug/l	J	sp	Detect <PQL	-	-
440-145222	MW-20-20160422	4/22/2016	E200.8	7440-47-3	Chromium	1.1	J	1.0	4.0	ug/l	U	be	Equipment Blank	0.86	ug/l
440-145222	WMW4.9S-20160422	4/22/2016	E200.8	7440-47-3	Chromium	2.7	J	1.0	4.0	ug/l	U	be	Equipment Blank	0.86	ug/l
440-145222	WMW4.9S-20160422	4/22/2016	E300	16887-00-6	Chloride	290	F1	0.50	50	mg/l	J-	m	matrix spike %R	51/47	%
440-145222	WMW5.5S-20160422	4/22/2016	E200.8	7440-47-3	Chromium	2.6	J	1.0	4.0	ug/l	U	be	Equipment Blank	0.86	ug/l
440-145222	WMW5.5S-20160422	4/22/2016	E300	24959-67-9	Bromide	2.2	J	1.3	2.5	mg/l	J	sp	Detect <PQL	-	-
440-145222	WMW5.5S-20160422-EB	4/22/2016	E200.8	7440-47-3	Chromium	0.86	J	0.50	2.0	ug/l	J	sp	Detect <PQL	-	-
440-145224	PC-78-20160421	4/21/2016	E200.8	7440-47-3	Chromium	1.1	J	1.0	4.0	ug/l	J	sp	Detect <PQL	-	-
440-145224	PC-78-20160421	4/21/2016	E300	24959-67-9	Bromide	2.6	J	2.5	5.0	mg/l	J	sp	Detect <PQL	-	-
440-145224	WMW6.55S-20160421	4/21/2016	E300	24959-67-9	Bromide	2.2	J	1.3	2.5	mg/l	J	sp	Detect <PQL	-	-
440-145224	WMW6.9S-20160421	4/21/2016	E200.8	7440-47-3	Chromium	1.4	J	1.0	4.0	ug/l	J	sp	Detect <PQL	-	-
440-145369	DBMW-22-20160422	4/22/2016	E200.8	7440-47-3	Chromium	5.7	J	2.5	10	ug/l	J	m	Detect <PQL	-	-
440-145369	DBMW-22-20160422	4/22/2016	E300.1	14866-68-3	Chlorate	10	U	50	100	ug/l	UJ	m	matrix spike %R	nc/nc	%
440-145369	MCF-05-20160425	4/25/2016	E200.8	7440-47-3	Chromium	110	F1	2.5	10	ug/l					
440-145369	MCF-05-20160425	4/25/2016	E300.1	14866-68-3	Chlorate	10	U	500	1000	ug/l	UJ	m	matrix spike %R	nc/nc	%
440-145369	MCF-20A-20160425	4/25/2016	E300.1	14866-68-3	Chlorate	10	U	2000	4000	ug/l	UJ	m	matrix spike %R	nc/nc	%
440-145369	PMW-7-20160422	4/22/2016	E200.8	7440-47-3	Chromium	4.6	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-

Table 4
Qualified Results

SDG	Client Sample ID	Sample Date	Method	Client Analyte ID	Analyte	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition	Qualification Finding	
440-145369	PMW-7-20160422	4/22/2016	E300.1	14866-68-3	Chlorate	10	U	500	1000	ug/l	UJ	m	matrix spike %R	nc/nc	%
440-145369	PMW-8-20160422	4/22/2016	E200.8	7440-47-3	Chromium	4.6	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145369	PMW-8-20160422	4/22/2016	E300	24959-67-9	Bromide	3.8	J	2.5	5.0	mg/l	J+	m	matrix spike %R	376/319	%
440-145369	PMW-8-20160422	4/22/2016	E300.1	14866-68-3	Chlorate	180		50	100	ug/l	J-	m	matrix spike %R	nc/nc	%
440-145369	RIT-10-20160422	4/22/2016	E200.8	7440-47-3	Chromium	3.0	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145369	RIT-10-20160422	4/22/2016	E300	24959-67-9	Bromide	2.0	J	1.3	2.5	mg/l	J+	m	matrix spike %R	376/319	%
440-145369	RIT-10-20160422-FB	4/22/2016	E300	16887-00-6	Chloride	0.30	J	0.25	0.50	mg/l	J	sp	Detect <PQL	-	-
440-145369	RIT-6-20160422	4/22/2016	E200.8	7440-47-3	Chromium	4.2	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145369	RIT-6-20160422	4/22/2016	E300	24959-67-9	Bromide	4.9		1.3	2.5	mg/l	J+	m	matrix spike %R	376/319	%
440-145369	WMW6.15S-20160422	4/22/2016	E300	24959-67-9	Bromide	2.0		0.50	1.0	mg/l	J+	m	matrix spike %R	376/319	%
440-145701	MW-3-20160426	4/26/2016	E200.8	7440-47-3	Chromium	16	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-
440-145701	MW-4-20160426	4/26/2016	E200.8	7440-47-3	Chromium	17	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-
440-145790	HM-2-20160428	4/28/2016	E300	16887-00-6	Chloride	1000		2.5	250	mg/l	J-	m	matrix spike %R	50/48	%
440-145790	HM-2-20160428	4/28/2016	E300	24959-67-9	Bromide	2.5	J	2.5	5.0	mg/l	J	sp	Detect <PQL	-	-
440-145790	LNDMW2-20160427	4/27/2016	E200.8	7440-47-3	Chromium	5.1	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-
440-145790	LNDMW2-20160427	4/27/2016	E300	24959-67-9	Bromide	3.5	F1	1.3	2.5	mg/l	J-	m	matrix spike %R	48/57	%
440-145790	MCF-20A-20160427	4/27/2016	E300	16887-00-6	Chloride	50000		25	5000	mg/l	J-	m	matrix spike %R	50/48	%
440-145790	MW-02-20160428	4/28/2016	E200.8	7440-47-3	Chromium	8.6	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-
440-145790	MW-02-20160428	4/28/2016	E300	16887-00-6	Chloride	380	F1	1.3	100	mg/l	J-	m	matrix spike %R	50/48	%
440-145793	MCF-06A-R-20160428	4/28/2016	E300	16887-00-6	Chloride	56000		25	5000	mg/l	J-	m	matrix spike %R	46/51	%
440-145793	MCF-31A-20160428	4/28/2016	E300	16887-00-6	Chloride	81000		25	5000	mg/l	J-	m	matrix spike %R	46/51	%
440-145793	MCF-31B-20160428	4/28/2016	E300	16887-00-6	Chloride	54000		25	5000	mg/l	J-	m	matrix spike %R	46/51	%
440-145793	MW-10-20160428	4/28/2016	E200.8	7440-47-3	Chromium	9.4	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145793	MW-10-20160428	4/28/2016	E300	16887-00-6	Chloride	300	F1	0.25	50	mg/l	J-	m	matrix spike %R	46/51	%
440-145793	MW-10-20160428	4/28/2016	E300.1	14866-68-3	Chlorate	100	J	100	200	ug/l	J	sp	Detect <PQL	-	-
440-145793	MW-10-20160428-FD	4/28/2016	E200.8	7440-47-3	Chromium	9.5	J	2.5	10	ug/l	J	sp	Detect <PQL	-	-
440-145793	MW-10-20160428-FD	4/28/2016	E300	16887-00-6	Chloride	280		0.25	50	mg/l	J-	m	matrix spike %R	46/51	%
440-145793	MW-10-20160428-FD	4/28/2016	E300.1	14866-68-3	Chlorate	110	J	100	200	ug/l	J	sp	Detect <PQL	-	-
440-145860	MW-06-20160428	4/28/2016	E200.8	7440-47-3	Chromium	8.9	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-
440-145860	MW-06-20160428	4/28/2016	E300	16887-00-6	Chloride	180	F1	0.25	25	mg/l	J-	m	matrix spike %R	74/72	%
440-145860	PC-74-20160429	4/29/2016	E300	24959-67-9	Bromide	4.9		1.3	2.5	mg/l	J	fd	FD RPD >30%	61.3	%
440-145860	PC-74-20160429-FB	4/29/2016	E300	16887-00-6	Chloride	0.30	J	0.25	0.50	mg/l	J	sp	Detect <PQL	-	-
440-145860	PC-74-20160429-FD	4/29/2016	E300	24959-67-9	Bromide	2.6		1.3	2.5	mg/l	J	fd	FD RPD >30%	61.3	%
440-145860	PC-76-20160429-EB	4/29/2016	E300	16887-00-6	Chloride	0.30	J	0.25	0.50	mg/l	J	sp	Detect <PQL	-	-
440-145860	UZO-17-20160429	4/29/2016	E200.8	7440-47-3	Chromium	5.1	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-
440-145860	WMW3.5S-20160428	4/29/2016	E200.8	7440-47-3	Chromium	9.9	J	5.0	20	ug/l	J	sp	Detect <PQL	-	-

Appendix A

Dissolved Chromium by EPA Method 200.8

I. Sample Receipt and Technical Holding Times

All samples were collected and preserved appropriately, and all analyses were performed within the method-specified holding times were met. All analyses were performed as requested on the chain of custodies. The laboratory reported all requested analyses and the deliverable data reports were complete.

II. Instrument Calibration

Appropriate Inductivity Coupled Plasma (ICP)/Mass Spectrometry tune, initial calibration (IC), initial calibration verification (ICV), and continuing calibration verification (CCV) were performed as required by the method. All results were within QC limits and compliance requirements were met.

III. Interference Check Sample (ICS) Analysis

ICS A and ICS AB solutions were analyzed at the proper frequency. All ICS results were within acceptance criteria.

IV. Laboratory Blanks

Laboratory instrument blanks, calibration blanks and method blanks were analyzed at the proper frequency as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples DBMW-4-20160419-EB, WMW5.5S-20160422-EB, WMW4.9N-20160427-EB, and PC-76-20160429-EB were identified as equipment blanks. No contaminants were found with the following exception:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
145222-2	WMW5.5S-20160422-EB	4/21/2106	Dissolved Chromium	0.80 J µg/L	WMW5.5S-20160422 WMW4.9S-20160422 MW-20-20160422

Samples MW-25-20160421-FB, RIT-10-201604220-FB, LNDMW2-20160427-FB, PC-74-20160429-FB, and PC-76-20160429-FB were identified as field blanks. No contaminants were found with the following exception:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
145220-2	MW-25-20160421-FB	4/21/2106	Dissolved Chromium	0.86 J µg/L	MW-12-20160421

Sample concentrations were compared to concentrations detected in the field blanks as required by the QAPP. No sample data was qualified with the following exceptions:

SDG	Sample	Analyte	Reported Concentration	Modified Final Concentration
145220-2	MW12-20160421	Dissolved Chromium	18 J µg/L	U (ND < 20 µg/L)
145222-2	WMW5.5S-20160422	Dissolved Chromium	2.6 J µg/L	U (ND < 4 µg/L)
145222-2	WMW4.9S-20160422	Dissolved Chromium	2.7 J µg/L	U (ND < 4 µg/L)
145222-2	MW-20-20160422	Dissolved Chromium	1.1 J µg/L	U (ND < 4 µg/L)

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on associated project samples. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Duplicate Sample Analysis

Laboratory duplicate (DUP) analyses are not required by EPA Method 200.8 and therefore laboratory duplicate analyses were not performed for these SDGs.

VIII. ICP Serial Dilution

ICP serial dilution is not applicable to EPA Method 200.8 and therefore serial dilutions of client samples were not performed for these SDGs.

IX. Laboratory Control Samples

Laboratory control samples (LCS and LCSD) were prepared and analyzed the proper frequency as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples DBMW-7-20160418-FD, WMW6.9N-20160420-FD, MCF-08B-R-20160427-FD, WMW3.5N-20160427-FD, MW-10-20160428-FD, PC-74-20160429-FD, and PC-76-20160429-FD were identified as field duplicates. Acceptable field and analytical precision was demonstrated for all field duplicate pairs. When the sample or field duplicate concentration is <RL, the RL is used for calculation purposes.

SDG	Sample ID	Primary Conc.	Duplicate Conc.	RPD	RPD Limit	Flags	A or P
144933-2	DBMW-7-20160418	66 µg/L	63 µg/L	4.65	<30		
145213-2	WMW6.9N-20160420	3.5 J µg/L	3.9 J µg/L	10.81	<30		
145701-2	MCF-08BR-20160427	40 (RL) µg/L	40 (RL) µg/L	NC	<30		
145790-2	WMW3.5N-20160427	20 (RL) µg/L	20 (RL) µg/L	NC	<30		
145793-2	MW-10-20160428	9.4 J µg/L	9.5 J µg/L	1.06	<30		
145860-2	PC-74-20160429	20 (RL) µg/L	20 (RL) µg/L	NC	<30		
145860-2	PC-76-20160429	20 (RL) µg/L	20 (RL) µg/L	NC	<30		

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

All samples were analyzed as requested and all holding times were met. Due to field and/or equipment blank contamination, low-level detections for four samples were qualified as non-detected (“U”). No other data were qualified. Overall, based on this data validation, the data as qualified are useable for meeting project objectives. All results are considered to be valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is

100%. Additionally, because all samples in each data set were collected and analyzed under similar prescribed conditions, the data are considered to be comparable.

May 2016 Groundwater Monitoring
Dissolved Chromium - 440-144933, 440-144937, 440-144940, 440-145066, 440-145213, 440-145220, 440-145222, 440-145224, 440-145369, 440-145599, 440-145701, 440-145790, 440-145793, 440-145860, 440-146623

SDG	Client Sample ID	Analyte	Lab Result	Lab Qualifier	Units	Validator Qualifier	Reason Code Definition
440-145213	WMW6.15N-20160420	Chromium	3.6	J	µg/L	J	Detect <PQL
440-145213	WMW6.9N-20160420	Chromium	3.5	J	µg/L	J	Detect <PQL
440-145213	WMW6.9N-20160420-FD	Chromium	3.9	J	µg/L	J	Detect <PQL
440-145213	WMW7.8N-20160420	Chromium	2.9	J	µg/L	J	Detect <PQL
440-145220	MW-12-20160421	Chromium	18	J	µg/L	U	Field Blank
440-145220	MW-25-20160421-FB	Chromium	0.80	J	µg/L	J	Detect <PQL
440-145222	MW-20-20160422	Chromium	1.1	J	µg/L	U	Equipment Blank
440-145222	WMW4.9S-20160422	Chromium	2.7	J	µg/L	U	Equipment Blank
440-145222	WMW5.5S-20160422	Chromium	2.6	J	µg/L	U	Equipment Blank
440-145222	WMW5.5S-20160422-EB	Chromium	0.86	J	µg/L	J	Detect <PQL
440-145224	PC-78-20160421	Chromium	1.1	J	µg/L	J	Detect <PQL
440-145224	WMW6.9S-20160421	Chromium	1.4	J	µg/L	J	Detect <PQL
440-145369	DBMW-22-20160422	Chromium	5.7	J	µg/L	J	Detect <PQL
440-145369	MCF-05-20160425	Chromium	110	F1	µg/L	None	Ave MS/MSD and RPD within criteria
440-145369	PMW-7-20160422	Chromium	4.6	J	µg/L	J	Detect <PQL
440-145369	PMW-8-20160422	Chromium	4.6	J	µg/L	J	Detect <PQL
440-145369	RIT-10-20160422	Chromium	3.0	J	µg/L	J	Detect <PQL
440-145369	RIT-6-20160422	Chromium	4.2	J	µg/L	J	Detect <PQL
440-145701	MW-3-20160426	Chromium	16	J	µg/L	J	Detect <PQL
440-145701	MW-4-20160426	Chromium	17	J	µg/L	J	Detect <PQL
440-145790	LNDMW2-20160427	Chromium	5.1	J	µg/L	J	Detect <PQL
440-145790	MW-02-20160428	Chromium	8.6	J	µg/L	J	Detect <PQL
440-145793	MW-10-20160428	Chromium	9.4	J	µg/L	J	Detect <PQL
440-145793	MW-10-20160428-FD	Chromium	9.5	J	µg/L	J	Detect <PQL
440-145860	MW-06-20160428	Chromium	8.9	J	µg/L	J	Detect <PQL
440-145860	UZO-17-20160429	Chromium	5.1	J	µg/L	J	Detect <PQL
440-145860	WMW3.5S-20160428	Chromium	9.9	J	µg/L	J	Detect <PQL

No Sample Data Qualified in the following SDGs

May 2016 Groundwater Monitoring
Dissolved Chromium - 440-144933, 440-144937, 440-144940, 440-145066, 440-146623

Appendix B

Hexavalent Chromium by EPA Method 218.6
Chloride and Bromide by EPA Method 300.0
Chlorate by EPA Method 300.1B
Perchlorate by EPA Method 314.0
Total Dissolved Solids by Standard Method 2540C

I. Sample Receipt and Technical Holding Times

All samples were collected and preserved appropriately, and all analyses were performed within the method-specified holding times. All analyses were performed as requested on the chain of custodies. The laboratory reported all requested analyses and the deliverable data reports were complete.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the analytical method. The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample (ICS) Analysis

ICS analysis is not applicable for these methods.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions. Chloride was detected above the method detection limit (MDL) but below the practical quantitation limit (PQL) in continuing calibration blank 440-327103 from analysis group 145701-1. Data qualification was not considered necessary, since the results for applicable project samples were either ND or >10 times the contamination. In addition, chloride was detected in MB-440-352445/51 at 0.3 J mg/L. Data qualification was not considered necessary, since the results for applicable project samples were either ND or >10 times the contamination

V. Field Blanks

Samples DBMW-4-20160419-EB, WMW5.5S-20160422-EB, WMW4.9N-20160427-EB, and PC-76-20160429-EB were identified as equipment blanks. No contaminants were found with the following exceptions:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
145860-1	PC-76-20160429-EB	4/29/16	Chloride	0.3J mg/L	MW-06-20160428 WMW5.7N-20160428 WMW3.5S-20160428 UZO-17-20160429 PC-74-20160429 PC-74-20160429-FD PC-76-20160429 PC-74-20160429-FB PC-76-20160429-EB

Samples MW-25-20160421-FB, RIT-10-201604220-FB, LNDMW2-20160427-FB, PC-74-20160429-FB, and PC-76-20160429-FB were identified as field blanks. No contaminants were found with the following exceptions.

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
145369-1	RIT-10-20160422-FB	4/22/16	Chloride	0.3J mg/L	WMW6.15S-20160422 PMW-7-20160422 PMW-8-20160422 RIT-6-20160422 RIT-10-20160422 RIT-10-20160422-FB MCF-20A-20160425 MCF-05-20160425
145860-1	PC-74-20160429-FB	4/29/16	Chloride	0.3J mg/L	MW-06-20160428 WMW5.7N-20160428 WMW3.5S-20160428 UZO-17-20160429 PC-74-20160429 PC-74-20160429-FD PC-76-20160429-FD PC-76-20160429 PC-74-20160429-FB PC-76-20160429-EB

Sample concentrations were compared to concentrations detected in the field blanks as required by the QAPP. No sample data was qualified based on these results because the results in these SDGs were either ND or >10 times the contamination level.

VI. Surrogates

Surrogates were added to all samples analyzed for Chlorate by EPA Method 300.1B. All surrogate recoveries (%R) were within QC limits and no results were qualified.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on associated project samples. Percent recoveries (%R) were within QC limits with the following exceptions:

SDG	Spike ID (Associated Samples)	Analyte	MS or MSD (%R)	Associated Samples	Qualifier	A or P
144937-1	DBMW-1-20160419	Bromide	54 MS/ 58 MSD	MCF-06C-20160419 AA-20-20160419 DBMW-1-20160419	UJ	A
145222-1	WMW4.9S-20160422	Chloride	51 MS/ 47 MSD	WMW4.9S-20160422	J-	A
145369-1	MCF-20A-20160425	Bromide	149 MS/ 165 MSD	WMW6.15S-20160422 PMW-8-20160422 RIT-6-20160422 RIT-10-20160422	J+	A
145369-1	MCF-05-20160425	Bromide	376 MS/ 319 MSD	WMW6.15S-20160422 PMW-8-20160422 RIT-6-20160422 RIT-10-20160422	J+	A
145369-1	MCF-05-20160425	Chlorate	NC	PMW-7-20160422 PMW-8-20160422 DBMW-22-20160422 MCF-20A-20160425 MCF-05-20160425	J-/ UJ	A
145701-1	MCF-18A-20160427	Bromide	732 MS/741 MSD	MCF-18A-20160427	UJ	A

145790-1	LNDMW2-20160427	Bromide	48 MS/ 57 MSD	LNDMW2-20160427	J-	A
145790-1	MW-02-20160428	Chloride	50 MS/ 48 MSD	MCF-20A-20160427 HM-2-20160428 MW-02-20160428	J-	A
145793-1	MW-10-20160428	Chloride	46 MS/ 51 MSD	MCF-06A-R-20160428 MCF-31B-20160428 MCF-31A-20160428 MW-10-20160428 MW-10-20160428-FD	J-	A
145860-1	MW-06-20160428	Chloride	74 MS / 72 MSD	MW-06-20160428 WMW5.7N-20160428 WMW3.5S-20160428 UZO-17-20160429 PC-74-20160429 PC-74-20160429-FD PC-76-20160429 PC-74-20160429-FB PC-76-20160429-EB	J-	A

Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) analyses were performed for Total Dissolved Solids by Standard Method 2540C. All duplicate analyses met criteria and therefore no samples were qualified based on duplicate analysis results.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples DBMW-7-20160418-FD, WMW6.9N-20160420-FD, MCF-08B-R-20160427-FD, WMW3.5N-20160427-FD, MW-10-20160428-FD, PC-74-20160429-FD, and PC-76-20160429-FD were identified as field duplicates. Acceptable field and analytical precision was demonstrated for all field duplicate pairs with the exceptions listed in the following table. When the sample or field duplicate concentration is <RL, the RL is used for calculation purposes as follows:

SDG	Analyte	DBMW-7-20160418	FD	RPD	RPD Limit	Flags	A or P
144933-1	Chloride	1500 mg/L	1400 mg/L	6.9%	<30%		
144933-1	Chlorate	8000 µg/L	7600 µg/L	5.1%	<30%		
144933-1	Perchlorate	4400 µg/L	4600 µg/L	4.4%	<30%		
144933-1	Hexavalent Chromium	81 µg/L	79 µg/L	2.5%	<30%		
144933-1	TDS	6300 mg/L	6300 mg/L	0%	<30%		

SDG	Analyte	WMW6.9N-20160420	FD	RPD	RPD Limit	Flags	A or P
145213-1	Bromide	0.67 J mg/L	0.72 J mg/L	7.2%	<30%		

145213-1	Chloride	310 mg/L	300 mg/L	3.3%	<30%		
145213-1	TDS	2400 mg/L	2400 mg/L	0%	<30%		

SDG	Analyte	MCF-08BR-20160427	FD	RPD	RPD Limit	Flags	A or P
145701-1	Chloride	7300 mg/L	7200 mg/L	1.4%	<30%		
145701-1	TDS	29000 mg/L	28000 mg/L	3.5%	<30%		

SDG	Analyte	WMW3.5-N-20160427	FD	RPD	RPD Limit	Flags	A or P
145790-1	Chloride	1000 mg/L	1000 mg/L	0.0%	<30%		
145790-1	Chlorate	480 mg/L	480 mg/L	0.0%	<30%		
145790-1	Perchlorate	340 µg/L	360 µg/L	5.7%	<30%		
145790-1	TDS	5200 mg/L	5100 mg/L	1.9%	<30%		

SDG	Analyte	MW-10-20160428	FD	RPD	RPD Limit	Flags	A or P
145793-1	Bromide	0.63 mg/L	0.67 mg/L	6.2%	<30%		
145793-1	Chloride	300 mg/L	280 mg/L	6.9%	<30%		
145793-1	Perchlorate	9.8 µg/L	8.2 µg/L	17.8%	<30%		
145793-1	TDS	3100 mg/L	3200 mg/L	3.2%	<30%		

SDG	Analyte	PC-74-20160429	FD	RPD	RPD Limit	Flags	A or P
145860-1	Bromide	4.9 mg/L	2.6 mg/L	**61.3%**	<30%	J	A
145860-1	Chloride	590 mg/L	580 mg/L	1.7%	<30%		
145860-1	Chlorate	460 µg/L	400 µg/L	14.0%	<30%		
145860-1	Perchlorate	1700 µg/L	2100 mg/L	21.1%	<30%		
145860-1	TDS	4200 mg/L	4100 mg/L	2.4%	<30%		
16-3096	Hexavalent Chromium	0.002 µg/L	0.003 µg/L	**40.0%**	<30%	J	A

SDG	Analyte	PC-76-20160429	FD	RPD	RPD Limit	Flags	A or P
145860-1	Bromide	3.5 mg/L	3.1 mg/L	12.1%	<30%		
145860-1	Chloride	630 mg/L	640 mg/L	1.6%	<30%		
145860-1	Perchlorate	800 µg/L	950 µg/L	17.1%	<30%		
145860-1	TDS	4400 mg/L	4500 mg/L	2.2%	<30%		

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

All samples were analyzed as requested and all holding times were met. Due to MS/MSD recoveries that were outside of control criteria, less than 1% of the data were qualified as estimated (“UJ/J”). Due to Field Duplicate RPD results, only two results were qualified as estimated (“J”). No other data were qualified. Overall, based on this data validation, the data as qualified are useable for meeting project objectives. All

results are considered to be valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%. Additionally, because all samples in each data set were collected and analyzed under similar prescribed conditions, the data are considered to be comparable.

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SDG	Client Sample ID	Analyte	Lab Result	Lab Qualifier	Units	Validator Qualifier	Reason Code Definition
16-3096	PC-74-20160429	Chromium, Hexavalent	1.8		ug/l	J	FD RPD >30%
16-3096	PC-74-20160429-FD	Chromium, Hexavalent	2.7		ug/l	J	FD RPD >30%
440-144937	AA-20-20160419	Chloride	1000	B	mg/l		Method Blank
440-144937	AA-20-20160419	Bromide	0.25	U	mg/l	UJ	matrix spike %R
440-144937	DBMW-1-20160419	Chloride	1100	B	mg/l		Method Blank
440-144937	DBMW-1-20160419	Bromide	0.25	UF1	mg/l	UJ	matrix spike %R
440-144937	DBMW-1-20160419	Perchlorate	9000	F1	ug/l		matrix spike %R
440-144937	MCF-06C-20160419	Chloride	1700	B	mg/l		Method Blank
440-144937	MCF-06C-20160419	Bromide	0.25	U	mg/l	UJ	matrix spike %R
440-144940	DBMW-4-20160419	Chloride	1100	B	mg/l		Method Blank
440-144940	DBMW-5-20160419	Chloride	1200	B	mg/l		Method Blank
440-144940	DBMW-5-20160419	Bromide	2.9	J	mg/l	J	Detect <PQL
440-145066	MW-11-20160420	Chlorate	93	J	ug/l	J	Detect <PQL
440-145066	MW-18-20160420	Perchlorate	3.4	J	ug/l	J	Detect <PQL
440-145213	WMW6.9N-20160420	Bromide	0.67	J	mg/l	J	Detect <PQL
440-145213	WMW6.9N-20160420-FD	Bromide	0.72	J	mg/l	J	Detect <PQL
440-145213	WMW7.8N-20160420	Bromide	0.28	J	mg/l	J	Detect <PQL
440-145222	WMW4.9S-20160422	Chloride	290	F1	mg/l	J-	matrix spike %R
440-145222	WMW5.5S-20160422	Bromide	2.2	J	mg/l	J	Detect <PQL
440-145224	PC-78-20160421	Bromide	2.6	J	mg/l	J	Detect <PQL
440-145224	WMW6.55S-20160421	Bromide	2.2	J	mg/l	J	Detect <PQL
440-145369	DBMW-22-20160422	Chlorate	10	U	ug/l	UJ	matrix spike %R
440-145369	MCF-05-20160425	Chlorate	10	U	ug/l	UJ	matrix spike %R
440-145369	MCF-20A-20160425	Chlorate	10	U	ug/l	UJ	matrix spike %R
440-145369	PMW-7-20160422	Chlorate	10	U	ug/l	UJ	matrix spike %R
440-145369	PMW-8-20160422	Bromide	3.8	J	mg/l	J+	matrix spike %R
440-145369	PMW-8-20160422	Chlorate	180		ug/l	J-	matrix spike %R
440-145369	RIT-10-20160422	Bromide	2.0	J	mg/l	UJ	matrix spike %R
440-145369	RIT-10-20160422-FB	Chloride	0.30	J	mg/l	J	Detect <PQL
440-145369	RIT-6-20160422	Bromide	4.9		mg/l	J+	matrix spike %R
440-145369	WMW6.15S-20160422	Bromide	2.0		mg/l	J+	matrix spike %R
440-145790	HM-2-20160428	Chloride	1000		mg/l	J-	matrix spike %R
440-145790	HM-2-20160428	Bromide	2.5	J	mg/l	J	Detect <PQL

440-145790	LNDMW2-20160427	Bromide	3.5	F1	mg/l	J-	matrix spike %R
440-145790	MCF-20A-20160427	Chloride	50000		mg/l	J-	matrix spike %R
440-145790	MW-02-20160428	Chloride	380	F1	mg/l	J-	matrix spike %R
440-145793	MCF-06A-R-20160428	Chloride	56000		mg/l	J-	matrix spike %R
440-145793	MCF-31A-20160428	Chloride	81000		mg/l	J-	matrix spike %R
440-145793	MCF-31B-20160428	Chloride	54000		mg/l	J-	matrix spike %R
440-145793	MW-10-20160428	Chloride	300	F1	mg/l	J-	matrix spike %R
440-145793	MW-10-20160428	Chlorate	100	J	ug/l	J	Detect <PQL
440-145793	MW-10-20160428-FD	Chloride	280		mg/l	J-	matrix spike %R
440-145793	MW-10-20160428-FD	Chlorate	110	J	ug/l	J	Detect <PQL
SDG	**Client Sample ID**	**Analyte**	**Lab Result**	**Lab Qualifier**	**Units**	**Validator Qualifier**	**Reason Code Definition**
440-145860	MW-06-20160428	Chloride	180	F1	mg/l	J-	matrix spike %R
440-145860	PC-74-20160429	Bromide	4.9		mg/l	J	FD RPD >30%
440-145860	PC-74-20160429-FB	Chloride	0.30	J	mg/l	J	Detect <PQL
440-145860	PC-76-20160429	Bromide	3.5	J	mg/l	J	Detect <PQL
440-145860	PC-74-20160429-FD	Bromide	2.6		mg/l	J	FD RPD >30%
440-145860	PC-76-20160429-EB	Chloride	0.30	J	mg/l	J	Detect <PQL

No Sample Data Qualified in these SDGs

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