Fourth Quarter 2014 Groundwater Monitoring and Sampling Report

Maryland Square PCE Site

3661 South Maryland Parkway
Las Vegas, Nevada
Facility ID: H-000086

Cardno ATC Project No. Z085000030

Prepared for
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January 27, 2015

Cardno ATC
Shaping the Future

Executive Summary

January 27, 2015

Herman Kishner Trust
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707 Wilshire Boulevard, 45th Floor
Los Angeles, California 90017

Re: Fourth Quarter 2014 Groundwater Monitoring and Sampling Report
Maryland Square PCE Site
3661 South Maryland Parkway
Las Vegas, Nevada
NDEP Facility ID No. H-000086

Dear Mr. Vandenberg:

Cardno ATC is submitting this report documenting the results of a recent quarterly groundwater monitoring event conducted at the Maryland Square PCE Site (site). The groundwater monitoring was conducted to evaluate dissolved chlorinated ethenes, specifically tetrachloroethene (PCE), detected in the soil and groundwater in the vicinity of the above referenced site in accordance with requests from the Nevada Division of Environmental Protection (NDEP).

Work Performed Fourth Quarter 2014

Cardno ATC performed quarterly monitoring and sampling activities at 22 of the 59 site groundwater monitoring wells.

Current Phase of Project:	Monitoring and Sampling
Frequency of Sampling:	Groundwater: Select Wells Quarterly (Semi-annual or Annual for 2014)
Frequency of Monitoring:	Groundwater: Select Wells Quarterly (Semi-annual or Annual for 2014)
Purge Water Removed This Quarter:	28.60 gallons
Approximate Depth to Groundwater:	20.40 ft btoc
Groundwater Gradient:	Site Monitoring Network: 0.012 feet/foot
Groundwater Flow Direction:	Site Monitoring Network: East
Groundwater Analytical Methods:	Select VOCs by EPA 8260B, metals by EPA 6020, and hexavalent chromium (Cr(VI)) by EPA 218.6
Monitoring Wells Sampled with PCE Concentrations Greater than 5.0 µg/L:	18 of 22 monitoring points
Maximum PCE Concentration (µg/L):	11,000 (MW-14I)
Monitoring Wells Sampled with PCE Concentrations Greater than 5.0 µg/L Previous Quarter:	24 of 31 monitoring points
Maximum PCE Concentration Previous Quarter (µg/L):	9,300 (MW-14I)

Historical groundwater elevation data and analytical results are summarized in Table A-1. Current groundwater elevation data and analytical results are summarized in Table A-2. Site figures and groundwater analytical isoconcentration maps, are included as Figures 1 and 2. Groundwater field sampling forms and laboratory analytical reports are included in Appendix A and B, respectively. Mann-Kendall Trend Tests for Plume Stability are included in Appendix C.

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1 Background

The source area for the Maryland Square Tetrachloroethylene (PCE) Site is located at 3661 South Maryland Parkway in Las Vegas, Nevada. The source area is the location of a former dry cleaner (Al Phillips the Cleaner) that was contained within the former Maryland Square Shopping Center. Al Phillips the Cleaner operated at the site from 1969 through 2000.

The parent parcel for the former shopping center is located at the northwest corner of Maryland Parkway and Twain Avenue, and lies within the Southeast ¼ of the Northeast ¼ of Section 15, Township 21 South, Range 61 East. This parcel is designated as assessor's parcel number (APN) 162-15-602-009 and is a 6.57-acre tract of land. The parcel lies northwest of the corner of South Maryland Parkway and East Twain Avenue.

Properties surrounding the former Maryland Square Shopping Center consist primarily of commercial developments, as well as some residential areas. The Boulevard Mall lies directly east of the source area, across South Maryland Parkway. A residential neighborhood and a golf course are located east of The Boulevard Mall.

The initial spill report for PCE in groundwater was reported to NDEP in November 2000. The contamination was discovered during environmental investigations being performed for a property transaction. A soil boring installed during the initial environmental investigation at the former shopping center was converted into a monitoring well (MW-1). Analysis of the groundwater sample collected from MW-1 found 2,300 micrograms per liter (µg/L) or parts per billion (ppb) of PCE in groundwater. This concentration of PCE exceeded Nevada's action level of 5 µg/L, as defined in NAC445A.2273.5(1)(c), which adopts the primary maximum contamination level (MCL) of 5 µg/L for PCE in drinking water, as defined by the U.S. Environmental Protection Agency (EPA).

From 2000 through 2004, additional soil borings and monitoring wells were installed at the former Maryland Square Shopping Center and to the east on the Boulevard Mall property in an attempt to find the eastern extent of the PCE plume. In February, the parent company (DCI) of the former dry cleaners accepted responsibility for the PCE contamination and assumed control of assessment activities, using URS Corporation (URS) to perform additional characterization and groundwater monitoring.

In March 2005, after not finding the eastern extent of the PCE plume on mall property, URS installed five monitoring wells within the residential neighborhood east of the Boulevard Mall (see: http://ndep.nv.gov/pce/graphic/2012_Map_Well_History.pdf). Concentrations of PCE exceeded the action level (5 µg/L) in groundwater samples collected from three of these five wells, with the highest concentration at 1,430 µg/L. In 2006, two additional wells were installed farther east in the neighborhood, and groundwater samples from the wells confirmed the presence of the PCE plume in groundwater beneath the neighborhood.

In early 2007, the NDEP performed vapor transport modeling using the analytical data for wells within the neighborhood. The results of modeling indicated the potential for unacceptable level of PCE vapors in indoor air, via the process of vapor intrusion. In response to a NDEP requirement to sample soil gas for PCE, URS conducted a soil vapor study in March 2007. Soil borings were installed along three transects across the inferred extent of the PCE plume; one transect in the eastern parking lot of the Boulevard Mall, and two within the residential neighborhood east of the mall. Soil gas samples were collected at multiple depths within each boring. The concentrations of PCE in soil vapor samples ranged from not detected to170,000 micrograms per cubic meter (µg/m3), with the maximum concentration measured for a vapor sample collected at 20 feet bgs from boring SVB-14.

The dry cleaner's parent company (DCI) declared bankruptcy in July 2008, and URS discontinued work at the site. Converse, on behalf of the Trust, resumed quarterly monitoring as required by the NDEP. Converse continued with monitoring until July 2010, when field activities and responsibilities were transferred from Converse to Tetra Tech EM Inc. (Tetra Tech) during the second quarter of 2010. Groundwater monitoring

protocol and procedures used by Converse and accepted by NDEP were continued to maintain data consistency.

On December 27, 2010, the U.S District Court issued a Permanent Injunction that dictated the schedule for remediation of source-area soils and PCE-contaminated groundwater across the site. The injunction also decreed that groundwater monitoring should continue based on the schedule previously defined by the NDEP.

Responsibilities for groundwater monitoring and sampling were transferred from Tetra Tech to Cardno ATC in the fourth quarter of 2011. Tetra Tech continued to provide the Trust with support for indoor air testing and performed field pilot testing for groundwater remedies in early 2013. Pilot testing focused on in situ chemical oxidation (ISCO).

As of the date of this quarterly report, there are 59 monitoring wells (some of which include nested and multi-depth wells) located across the site. The site spans approximately 6,000 feet in length, from the source area to the terminus of the plume, as defined by the 5 µg/L boundary.

Additional information, including the full administrative record detailing correspondence with NDEP can be found at http://ndep.nv.gov/pce/maryland_square.htm and clicking on the Administrative Record link.

2 Groundwater Monitoring and Sampling

NDEP has directed monitoring of the site-related groundwater monitoring well network as outlined in its response letter to the Converse report titled "Groundwater Monitoring Report, 3rd Quarter 2009, Maryland Square Shopping Center," dated December 22, 2009.

Select monitoring wells are sampled in 2014 on a quarterly, semi-annual, or annual basis as per agreement with NDEP. The sampling schedule is based on the relative PCE concentrations detected in individual monitoring wells in addition to the proximity of a monitoring well to the ascertained plume area. The 2014 sampling schedule has been modified and approved by NDEP.

The NDEP modified the sampling schedule in response to Cardno ATC's request in the "Fourth Quarter 2013 Groundwater Monitoring and Sampling Report," dated January 28, 2014. The letter proposed that the 2014 monitoring be revised to include all site wells as the annual sampling event. The NDEP concurred with Cardno ATC's recommended sampling schedule, with minor changes, in the response letter dated February 21, 2014.

The NDEP approved annual sampling schedule for monitoring wells in the groundwater monitoring program is as follows:

- First Quarter – MW-1 through MW-3, MW-5 through MW-39, MW-40 (all depths), MW-41, MW-42, MW-43 MW-14I, MW-19I, MW-6D1, MW-6D2, MW-6D3, MW-19D1, MW-19D2, MW-19D3, MW-20D1, MW-20D2, and MW-20D3.
- Second Quarter – MW-1, MW-5, MW-6, MW-18, MW-38, MW-41, MW-42, MW-43, MW-14I, MW-19I, MW-6D1, MW-19D1, MW-19D2, MW-19D3, MW-20D2, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60 (plus any newly installed wells).
- Third Quarter – MW-1, MW-5, MW-6, MW-13, MW-14, MW-18, MW-19, MW-23, MW-25, MW-26, MW-32, MW-38, MW-41, MW-42, MW-43, MW-14I, MW-19I, MW-6D1, MW-6D3, MW-19D1, MW-19D2, MW-19D3, MW-20D1, MW-20D2, MW-20D3, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60 (plus any newly installed wells).
- Fourth Quarter – MW-1, MW-5, MW-6, MW-18, MW-38, MW-41, MW-42, MW-43, MW-14I, MW-19I, MW-6D1, MW-19D1, MW-19D2, MW-19D3, MW-20D2, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60 (plus any newly installed wells).

The groundwater monitoring procedures are consistent with the protocol presented by URS in its August 2007 letter and accepted by NDEP in its September 10, 2007 letter. The prescribed groundwater monitoring protocol used at the site was revised to employ the ASTM D6771-02 method in the fourth quarter of 2007. This sampling method relies on low flow pumping that moderates the velocity of water entering the pump intake from the formation pore water surrounding the well. Minimized stress and turbulence within the water-bearing unit during pumping allows collection of groundwater samples generally considered more representative of water quality in the formation than the conventional method, which calls for evacuation of three well volumes of groundwater using downhole pumps or bailers.

Cardno ATC may look to work with NDEP on a modified sampling procedure to ensure consistent groundwater sampling including establishing a consistent sampling depth for the pump to be placed in each well.

Groundwater parameters (i.e., pH, temperature, dissolved oxygen (DO), oxidation reduction potential (ORP), and electrical conductivity) were measured to evaluate the entrance of actual formation water into the well. Cardno ATC placed the inlet of the pump in the middle of the saturated zone for each well (between top of groundwater and bottom of well) for consistency with previous events. Groundwater was pumped at a flow rate of 0.25 L/min. The pump rate was lowered following the stabilization of groundwater parameters to minimize turbulence, and groundwater was transferred to clean laboratory-supplied 40-milliliter glass volatile organic analysis vials

(VOAs), sealed, labeled, and placed in a cool environment for transport to an NDEP-certified laboratory for analysis.

The groundwater monitoring procedure for MW-40 CMT wells had to be modified due to the well construction of MW-40 CMT. CMT is a product manufactured by Solinst that stands for continuous multichannel tubing, meaning that there are multiple tubings set at different depths in one borehole. The benefits of a CMT well is that each channel of tubing allows for discrete sampling at a particular depth which in turn gives a three dimensional view of contamination through the entire range of sampling depths, rather than an average of the entire well length. The method used for groundwater sampling all depths of MW-40 CMT was a 3/8 inch Model 408M Micro Double Valve Pump. The double-valve pump is a pneumatic pump which was set to the bottom of each well depth, and pumped at each depth until groundwater parameters stabilized, and then groundwater was transferred to clean laboratory-supplied 40-milliliter glass volatile organic analysis vials (VOAs), sealed, labeled, and placed in a cool environment for transport to an NDEP-certified laboratory for analysis.

Decontamination procedures were performed throughout sampling. The pump, water level meter, and field meter probe were decontaminated after sampling each well. Purge water generated during the sampling of the monitoring wells was containerized in properly labeled steel 55-gallon drums and stored onsite pending off-site disposal.

Cardno ATC submitted the collected groundwater samples to an NDEP-certified analytical laboratory for the analysis of volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 8260B. The analysis of metals (arsenic, chromium, and manganese) using EPA method 6020 for wells MW-19I, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60, and the analysis of hexavalent chromium using EPA method 218.6 for wells MW-19I, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60 was also performed.

Groundwater data collected during this sampling event are summarized in Table 1 and Table A-1. Monitoring and sampling field sheets are included in Appendix A.

2.1 Deviations

MW-23, MW-25, MW-26, and MW-32 were added to the sampling schedule to confirm that PCE concentrations had not significantly dropped at the site after the Third Quarter 2014 sampling event.

Trip, field, and equipment blanks were sent to the lab along with the groundwater samples collected at each monitoring well in order to insure quality control. Cardno ATC also collected a duplicate groundwater sample from monitoring well MW-5.

Laboratory analysis of each groundwater sample produced quantitative data within quality assurance standards, with the exception of the analysis for hexavalent chromium from MW-19I and four comments made about sample issues. The sample for MW-19I was purple, most likely due to saturation from the prior nearby potassium permanganate pilot test, and therefore the analysis could not be performed. Other comments made were:

- EPA 8260B: Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were not performed on batch P14VW186 and P14VW188 due to limited sample. LCS/LCSD was used instead to measure precision.
- EPA 8260B: Laboratory Control Sample Duplicate (LCSD) recovery biased low for some analytes on batch P14VW188. Samples from this batch were not reported for these analytes but reported from analysis that met LCSD criteria.
- EPA 8260B: RPD for Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) is outside criteria for trans-1,2-Dichloroethene on batch P14VW186, P14VW188 and P14VW189.

With the exception of the above mentioned comments, no laboratory quality control data were flagged outside of established tolerances. The analytical data on water quality for the fourth quarter were accepted as representative of actual site conditions.

2.2 Groundwater Conditions

Groundwater elevations for this sampling event are summarized in Table 1, while historical groundwater data are summarized in Table A-1. Depths to groundwater in the wells sampled during this quarterly event ranged from 13.22 feet bgs (MW-18) to 27.01 feet bgs (MW-19D2). The average groundwater elevation of monitored wells (excluding MW-40 CMT-35 through CMT-60) was 20.40 feet bgs. There was a 0.53 foot increase when comparing similar monitoring wells that had groundwater measurements for both the Third Quarter 2014 and Fourth Quarter 2014. Based on the third quarter results, the local hydraulic gradient across the site is generally toward the east.

DO readings for across the site ranged from 18.37 to 1.23 milligrams per liter (mg/L). ORP readings from across the site ranged from -162.6 to 643.3 millivolts (mV).

2.2.1 Vertical Gradient Assessment

Cardno ATC utilized measured groundwater elevations to determine vertical gradients within two of the five sets of clustered wells at the site (MW-1/MW-9, MW-6D, MW-19D, MW-20D, and MW-40 CMT). Vertical gradients are measured to determine the upward or downward flow of groundwater. Clustered wells measured will have a deep and shallow well that are screened at different lengths which shows the vertical movement of the water within the adjacent geologic units. The EPA On-Line Vertical Gradient Calculator (http://www.epa.gov/athens/learn2model/part-two/onsite/vgradient.html) was used to determine the vertical gradient at the various well clusters.

Table 2-1 Vertical Gradient Calculation, 4th Quarter 2014

Clustered/ Nested Well	Surface Elevation (feet asml)	Depth to Well Screen (feet bgs)	Screen Length (feet)	Depth to Water (feet bgs)	Magnitude (Screen mid-point value)	Flow Direction
MW-19D1 MW-19D2	MW-19D1: 1979.25 MW-19D2: 1979.28	MW-19D1: 31 MW-19D2: 60	MW-19D1: 20 MW-19D2: 10	MW-19D1: 26.30 MW-19D2: 27.01	0.02837	Down
MW-19D2 MW-19D3	MW-19D2: 1979.28 MW-19D3: 1979.32	MW-19D1: 60 MW-19D3: 92	MW-19D1: 10 MW-19D3: 10	MW-19D2: 27.01 MW-19D3: 26.48	0.01783	**Up**
MW-19D1 MW-19D3	MW-19D1: 1979.25 MW-19D3: 1979.32	MW-19D1: 31 MW-19D3: 92	MW-19D1: 20 MW-19D3: 10	MW-19D1: 26.30 MW-19D3: 26.48	0.001967	Down
MW-40 CMT-30 MW-40 CMT-45	MW-40 CMT-30: 1978.48 MW-40 CMT-45: 1978.48	MW-40 CMT-30: 30 MW-40 CMT-45: 45	MW-40 CMT-30: 0.6 MW-40 CMT-45: 0.6	MW-40 CMT-30: 25.74 MW-40 CMT-45: 25.69	0.003333	Up
MW-40 CMT-45 MW-40 CMT-60	MW-40 CMT-45: 1978.48 MW-40 CMT-60: 1978.48	MW-40 CMT-45: 45 MW-40 CMT-60: 60	MW-40 CMT-45: 0.6 MW-40 CMT-60: 0.6	MW-40 CMT-45: 25.69 MW-40 CMT-60: 25.70	0.0006667	Down
MW-40 CMT-30 MW-40 CMT-60	MW-40 CMT-30: 1978.48 MW-40 CMT-60: 1978.48	MW-40 CMT-30: 30 MW-40 CMT-60: 60	MW-40 CMT-30: 0.6 MW-40 CMT-60: 0.6	MW-40 CMT-30: 25.74 MW-40 CMT-60: 25.70	0.001333	Up

Bold: Direction change from previous quarter

2.3 Groundwater Analytical Results

Cardno ATC collected groundwater samples on November 17th through 20th, 2014 from the existing groundwater monitoring wells (MW-1, MW-5, MW-6, MW-18, MW-23, MW-25, MW-26, MW-32, MW-38, MW-41, MW-42, MW-43, MW-14I, MW-19I, MW-6D1, MW-19D1, MW-19D2, MW-19D3, MW-20D2, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60.) over the vicinity of the site (Figure 2).

Groundwater samples were submitted to Asset Laboratories of Las Vegas, Nevada, an NDEP-certified laboratory, for the analysis of VOCs using EPA method 8260B for samples collected, the analysis of metals (arsenic, chromium, and manganese) using EPA method 6020 for wells MW-19I, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60, and the analysis of hexavalent chromium using EPA method 218.6 for wells MW-19I, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60.

The laboratory analytical results compared with qualitative changes in groundwater elevation and concentrations are summarized in Table 1. Laboratory analytical reports are provided in Appendix B.

Table 2-2 Groundwater Elevations, Current PCE/TCE Concentrations, and PCE Plume Stability Test

Well ID	Depth to GW Level (feet)	Groundwater Elevation (feet amsl)	PCE (µg/L)	TCE (µg/L)	Mann-Kendall Trend (Since Well Installation)
MW-1	20.42	1971.59	240	<0.50	Decreasing
MW-2	NM	NM	NS	NS	Decreasing
MW-3	NM	NM	NS	NS	No Trend
MW-5	19.55	1969.14	740	3.9	Increasing
MW-6	20.09	1968.03	3,300	12	Increasing
MW-6D1	18.40	1970.32	21	<0.50	No Trend
MW-6D2	NM	NM	NS	NS	No Trend
MW-6D3	NM	NM	NS	NS	Increasing
MW-7	NM	NM	NS	NS	Increasing
MW-8	NM	NM	NS	NS	Decreasing
MW-9	NM	NM	NS	NS	Decreasing
MW-10	NM	NM	NS	NS	No Trend
MW-11	NM	NM	NS	NS	N/A[1]
MW-12	NM	NM	NS	NS	No Trend
MW-13	NM	NM	NS	NS	Decreasing
MW-14	NM	NM	NS	NS	Decreasing
MW-14I	19.44	1968.10	11,000	25	No Trend
MW-15	NM	NM	NS	NS	Stable
MW-16	NM	NM	NS	NS	N/A[1]
MW-17	NM	NM	NS	NS	Decreasing
MW-18	13.22	1949.68	1,100	1.7	Decreasing
MW-19	NM	NM	NS	NS	Probably Decreasing
MW-19I	26.02	1952.35	<0.50	<0.50	No Trend
MW-19D1	26.30	1952.95	1,000	5.9	**No Trend** (Stable 3rd Quarter 2014)
MW-19D2	27.01	1952.27	39	<0.50	**Increasing** (Probably Increasing 3rd Quarter 2014)
MW-19D3	26.48	1952.84	190	3.2	**Probably Increasing** (No Trend 3rd Quarter 2014)
MW-20	NM	NM	NS	NS	Decreasing
MW-20D1	NM	NM	NS	NS	No Trend
MW-20D2	26.28	1952.38	410	2.2	**No Trend** (Stable 3rd Quarter 2014)
MW-20D3	NM	NM	NS	NS	No Trend
MW-21	NM	NM	NS	NS	Decreasing
MW-22	NM	NM	NS	NS	N/A[1]
MW-23	17.19	1945.26	870	1.7	Decreasing

Well ID	Depth to GW Level (feet)	Groundwater Elevation (feet amsl)	PCE (µg/L)	TCE (µg/L)	Mann-Kendall Trend (Since Well Installation)
MW-24	NM	NM	NS	NS	Probably Decreasing
MW-25	20.32	1938.97	590	0.91	Decreasing
MW-26	18.31	1935.14	890	0.66	Decreasing
MW-27	NM	NM	NS	NS	No Trend
MW-28	NM	NM	NS	NS	Decreasing
MW-29	NM	NM	NS	NS	Decreasing
MW-30	NM	NM	NS	NS	Probably Decreasing
MW-31	NM	NM	NS	NS	No Trend
MW-32	19.37	1933.53	850	2.7	Decreasing
MW-33	NM	NM	NS	NS	Decreasing
MW-34	NM	NM	NS	NS	Decreasing
MW-35	NM	NM	NS	NS	Decreasing
MW-36	NM	NM	NS	NS	Stable
MW-37	NM	NM	NS	NS	No Trend
MW-38	15.23	1893.15	8.2	<0.50	No Trend
MW-39	NM	NM	NS	NS	Stable
MW-40 CMT-30	25.74	1952.75	35	<0.50	No Trend
MW-40 CMT-35	NM	NM	NS	NS	No Trend
MW-40 CMT-40	NM	NM	NS	NS	Decreasing
MW-40 CMT-45	25.69	1952.80	150	0.89	Stable
MW-40 CMT-50	NM	NM	NS	NS	Stable
MW-40 CMT-55	NM	NM	NS	NS	Stable
MW-40 CMT-60	25.70	1952.79	1,000	6.8	**Stable** (Probably Decreasing 3rd Quarter 2014)
MW-41	15.47	1893.42	3.7	<0.50	**Increasing** (No Trend 3rd Quarter 2014)
MW-42	16.57	1893.74	0.71	<0.50	**No Trend** (Stable 3rd Quarter 2014)
MW-43	16.63	1941.70	<0.50	<0.50	**Stable** (No Trend 3rd Quarter 2014)

Notes: [1]Mann-Kendall Trend Test was not utilized on MW-11, MW-16, and MW-22 because they had historically been reported under laboratory detection limits
NM = Not sampled and dtw measurements not taken
Amsl: Above Mean Sea Level
Bold: Trend change from previous quarter

The groundwater locations selected for quarterly monitoring represent the most recently installed wells and wells that cover the groundwater conditions at the Maryland Square site. The range of groundwater elevations spanned from 1893.15 feet above mean sea level (amsl) (MW-38) to 1971.59 feet amsl (MW-1). Groundwater elevations are summarized in Tables 1, A-1, and A-2.

Groundwater elevations decreased across groundwater monitoring wells located on the Maryland Square property by 0.13 feet compared with similar wells with Third Quarter 2014 data. Groundwater elevations across the Boulevard Mall property increased by an average of 0.55 feet. Groundwater elevations increased across groundwater monitoring wells located on the surrounding streets and golf course area by 0.26 feet when compared with similar wells with Third Quarter 2014 data. Application of a large volume of irrigation water at the golf course, especially during summer months, may influence water elevation in shallow groundwater measured in the monitoring wells. This influence is historically observed in MW-27, MW-28, MW-30, MW-31, MW-32, and MW-33.

PCE was detected in the groundwater samples collected from monitoring wells except MW-19I and MW-43. PCE was detected at concentrations ranging from 0.71 µg/L (MW-42) to 11,000 µg/L (MW-14I). PCE concentrations identified by the laboratory in the groundwater samples collected from wells MW-1, MW-5, MW-6, MW-18, MW-23, MW-25, MW-26, MW-32, MW-38, MW-6D1, MW-14I, MW-19D1, MW-19D2, MW-19D3, MW-20D2, MW-40 CMT-30, MW-40 CMT-45, and MW-40 CMT-60 exceeded the maximum contaminant levels (MCL) for PCE in groundwater of 5 µg/L.

The Third Quarter 2014 sampling results resulted in some wells experiencing decreases in PCE concentrations while other wells remained relatively unchanged. Most of the wells that experienced the largest decrease in PCE concentrations were shallow screened wells that traditionally had PCE concentrations greater than 500 µg/L. Due to the anomalous results, MW-23, MW-25, MW-26, and MW-32 were added to the sampling schedule during Fourth Quarter 2014 event. Most wells returned to their prior averages observed during previous monitoring events.

Based on NDEP comments, Cardno ATC conducted additional analysis of the groundwater samples collected from MW-5 and MW-6. NDEP noted that water levels suddenly had varied inconsistently with surrounding wells in MW-5, MW-6, MW-19, and MW-20. MW-19 and MW-20 were not monitored during the Fourth Quarter 2014 so only MW-5 and MW-6 were examined. MW-5 and MW-6 experienced a decrease in water levels while the overall water levels in the western mall parking lot increased during the fourth quarter. Cardno ATC requested additional sampling of MW-5 and MW-6 for the full suite of volatile organic compounds (VOCs) via EPA Method 8260B to evaluate for chlorinated disinfection by-products. No by-products were found during Fourth Quarter 2014, and both wells PCE concentrations increased to around their historical averages at each well. MW-5, MW-6, MW-19, and MW-20 will be evaluated for the full suite of VOCs during the First Quarter 2015 sampling.

A potential reason for the inconsistent sampling results has to do with the pump depth placement between quarters. Historically, in accordance with NDEP approved sampling techniques, Cardno ATC has measured the depth to water and total depth of the well, and if the well screen was not submerged we would place the pump depth halfway between the depth to water measurement and total depth measurement. With changing groundwater depths, this would result in the pump drawing water from a potential pathway of a higher or lower permeable zone which could result in higher or lower concentrations over time. Due to the heterogeneous soil conditions present at across the site, it is possible that the pump depth could have been placed in a higher or lower permeability zone that led to varying PCE results. In additional vertical gradients have changed to downward in some of the nested wells indicating that PCE may be also migrating vertically and that concentrations could alter with depth of screen or length of the screen (greater than 10 feet impacts the effectiveness of low flow sampling).

Additional sampling was recommended at well MW-19D following pilot testing activities utilizing potassium permanganate. Pilot testing activities seemed to have unintended consequences in the movement of contamination due to the injection that warranted further investigation. The following table shows the results of testing following pilot testing activities that occurred in March 2013.

Table 2-3 Summary of MW-19D Groundwater Testing, 1st Quarter 2013 to 4th Quarter 2014

Well ID	Date	PCE (µg/L)	TCE (µg/L)
MW-19D1	03/08/13	300	2.9
	06/13/13	690	4.2
	09/09/13	990	4.2
	11/08/13	620	3.5
	01/27/14	490	2.4
	02/19/14	210	1.1
	03/12/14	3.7	<0.50
	06/11/14	730	4.2
	09/19/14	240	1.5
	11/18/14	1,000	5.9
MW-19D2	03/08/13	170	1.5
	06/13/13	<0.50	<0.50
	09/09/13	<0.50	<0.50
	11/08/13	<0.50	<0.50
	01/27/14	<0.50	<0.50
	02/19/14	<0.50	<0.50
	03/12/14	0.53	<0.50
	06/11/14	6.0	<0.50
	09/19/14	10	<0.50
	11/18/14	39	<0.50
MW-19D3	03/08/13	0.50	<0.50
	06/13/13	0.68	<0.50
	09/09/13	710	4.8
	11/08/13	160	0.75
	01/27/14	32	<0.50
	02/19/14	36	<0.50
	03/12/14	17	<0.50
	06/11/14	40	<0.50
	09/19/14	710	4.7
	11/28/14	190	3.2

Shaded row represents results prior to pilot testing
Grey text represents First Quarter 2014 sampling event, not deemed representative of site conditions.

After potassium permanganate pilot testing, by the Third Quarter 2013 sampling event, PCE concentrations had increased significantly at MW-19D1 and MW-19D3 while decreasing significantly at MW-19D2. After monthly and quarterly monitoring of MW-19D, it appeared that PCE concentrations had either stabilized or were decreasing from the high points observed during the Third Quarter 2013 sampling at MW-19D2 and MW-19D3, but may still have been increasing at MW-19D1. After the Third Quarter 2014 sampling however, a large increase in PCE concentration occurred in MW-19D3 with a corresponding decrease in MW-19D1. The primary concern from the Third Quarter 2014 sampling event was the substantial increase in PCE concentration noted at MW-19D3, which was previously thought to have stabilized. When the initial spike happened in Third Quarter 2013, it was assumed that the nearby injection of large volumes of potassium permanganate had displaced the existing PCE contamination in the area and caused the PCE plume to travel deeper to areas it had not formerly thought to exist. Cardno ATC notes that both spikes occurred during the third quarter of the year. Cardno ATC assessed the vertical gradients between MW-19D1 and MW-19D3 for each quarter from First Quarter 2013 to Third Quarter 2014. The vertical gradient between the two wells was “up” every quarter monitored, except for Third Quarter 2013 and Third Quarter 2014 when the vertical gradient was “down”. The vertical gradient during the Fourth Quarter 2014 was also “down” but at a decreased magnitude when compared with Third Quarter 2014. Groundwater extraction planned to be performed in this area next year should control vertical and horizontal gradients.

A duplicate sample was collected from MW-5. MW-19D3 PCE concentrations were measured at 740 µg/L and 760 µg/L, a relative percent difference (RPD) of 2.7%. The duplicate sample result did not show significant statistical variation based on the levels of the concentrations.

Trichloroethene (TCE) was detected at concentrations ranging from 0.66 µg/L to 25 µg/L in the groundwater samples collected from wells MW-5, MW-6, MW-14I, MW-18, MW-19D1, MW-19D3, MW-20D2, MW-23, MW-25, MW-26, MW-32, MW-40 CMT-45 and MW-40 CMT-60. The detected concentrations were below the MCL for TCE in groundwater of 5 µg/L, with the exception of MW-6 (12 µg/L), MW-14I (25 µg/L), MW-19D1 (5.9 µg/L), and MW-40 CMT-60 (6.8 µg/L).

Cis-1,2-dichloroethene (DCE) was detected in monitoring wells MW-5 (1.5 µg/L), MW-6 (3.1 µg/L), MW-14I (17 µg/L), and MW-40 CMT-60 (2.6 µg/L). The detected concentrations were below the MCL for DCE in groundwater of 70 µg/L.

Vinyl chloride (VC) was not detected at concentrations in excess of laboratory detection levels (0.50 µg/L). The presence of small amounts of TCE and cis-1,2 DCE suggests that reductive dechlorination is not significant at the site.

Metals and Hexavalent Chromium were also analyzed this quarter, to compare with concentrations obtained by Tetra Tech after pilot tests were conducted using potassium permanganate ($KMnO_4$) and PulseOx in early 2013. The following table shows Tetra Tech data along with concentrations detected during Cardno ATC's successive sampling events.

Table 2-4 Summary of Metals Concentrations in Select Wells, 1st Quarter 2013 to 4th Quarter 2014

Well ID	Date	PCE (µg/L)	Arsenic (µg/L)	Manganese (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)
MW-19 ($KMnO_4$ Pilot Test, upgradient)	03/08/13	520	7.4	170	17	NA
	03/12/13	390	2	120,000	25	NA
	03/27/13	14	0.33	43,000	130	NA
	04/04/13	110	2	7,100	79	NA
	04/11/13	220	1.8	5,400	44	NA
	05/02/13	810	2.7	460	9.7	NA
	06/14/13	530	2.3	68	4.6	2.5
	09/09/13	840	4.0	<0.50	1.8	1.9
	11/07/13	440	3.3	<0.50	1.3	1.7
	03/07/14	910	3.2	<0.50	1.7	2.0
	06/09/14	NS	NS	NS	NS	NS
	09/15/14	NS	NS	NS	NS	NS
	11/17/14	NS	NS	NS	NS	NS
MW-19I ($KMnO_4$ Pilot Test, downgradient)	03/08/13	710	2.0	ND	1.6	NA
	03/12/13	280	1.7	2,700	14	NA
	03/26/13	9.4	0.93	27,000	44	NA
	04/04/13	3.5	3	4,700	170	NA
	04/11/13	1.7	0.19	9,400	52	NA
	05/02/13	0.61	1.2	20,000	43	NA
	06/12/13	<0.50	0.34	62,000	87	NA*
	09/09/13	<0.50	0.24	26,000	12	NA*
	11/08/13	<0.50	1.1	48,000	290	NA*
	03/12/14	<0.50	<0.10	51,000	300	NA*
	06/11/14	<0.50	0.97	260,000	370	NA*
	09/18/14	<0.50	<0.10	14,000	260	NA*
	11/18/14	<0.50	<2.5	94,000	260	NA*
MW-20 (PulseOx Pilot Test, upgradient)	03/26/13	290	4.7	NA	4.3	NA
	04/10/13	480	5.6	NA	9.7	NA
	04/23/13	850	6.1	NA	8.8	NA
	05/02/13	470	4	NA	2.7	NA

Well ID	Date	PCE (µg/L)	Arsenic (µg/L)	Manganese (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)
	06/12/13	660	2.4	<0.50	1.6	1.1
	09/09/13	570	3.2	<0.50	1.1	1.2
	11/07/13	530	2.6	<0.50	<1.0	1.3
	03/12/14	170	3.6	64	5.1	3.5
	06/09/14	NS	NS	NS	NS	NS
	09/15/14	NS	NS	NS	NS	NS
	11/17/14	NS	NS	NS	NS	NS
MW-40 CMT-30 (PulseOx Pilot Test, downgradient)	03/25/13	4.7	4	NA	ND	NA
	04/10/13	0.86	7.2	NA	65	NA
	04/23/13	8.8	4.6	NA	180	NA
	05/01/13	1.2	5.9	NA	210	NA
	06/14/13	10	3.9	<0.50	140	140
	09/04/13	2.1	2.3	43	55	120
	11/06/13	1.3	3.6	77	110	110
	03/06/14	4.5	3.6	83	15	17
	06/10/14	3.2	3.6	25	5.0	5.5
	09/18/14	4.6	4.3	70	1.6	1.1
	11/19/14	35	3.7	22	1.5	1.4
MW-40 CMT-35 (PulseOx Pilot Test, downgradient)	03/25/13	14	14	NA	ND	NA
	04/10/13	6.9	6.9	NA	ND	NA
	04/23/13	2.6	2.6	NA	5.7	NA
	05/01/13	3.5	3.5	NA	25	NA
	06/14/13	3.6	4	250	2.9	1.1
	09/04/13	9.6	9.6	450	<1.0	0.23
	11/06/13	12	7.8	430	<1.0	<0.20
	03/06/14	2.6	4.6	370	<1.0	0.31
	06/09/14	NS	NS	NS	NS	NS
	09/15/14	NS	NS	NS	NS	NS
	11/17/14	NS	NS	NS	NS	NS
MW-40 CMT-40 (PulseOx Pilot Test, downgradient)	03/25/13	270	2.5	NA	3.2	NA
	04/10/13	94	2.5	NA	6.6	NA
	04/23/13	150	2.4	NA	20	NA
	05/01/13	96	3.3	NA	38	NA
	06/14/13	53	3.0	26	9.8	22
	09/04/13	37	2.7	100	22	25
	11/06/13	51	1.9	61	14	15
	03/06/14	27	1.9	360	1.3	2.0
	06/09/14	NS	NS	NS	NS	NS
	09/15/14	NS	NS	NS	NS	NS
	11/17/14	NS	NS	NS	NS	NS
MW-40 CMT-45 (PulseOx Pilot Test, downgradient)	03/25/13	310	2.4	NA	ND	NA
	04/10/13	120	2.0	NA	15	NA
	04/23/13	100	1.8	NA	41	NA
	05/01/13	78	2.7	NA	47	NA
	06/17/13	47	1.6	<0.50	39	43
	09/04/13	110	2.4	100	7.6	8.3
	11/06/13	77	1.5	110	6.0	6.1
	03/06/14	24	1.8	160	4.0	5.1
	06/10/14	250	1.6	250	<1.0	0.85
	09/18/14	240	1.5	70	<1.0	<0.20
	11/19/14	150	1.5	7.7	1.9	2.0
MW-40 CMT-50 (PulseOx Pilot Test,	03/25/13	280	4.1	NA	ND	NA
	04/10/13	110	2.2	NA	14	NA
	04/23/13	120	2	NA	38	NA

Well ID	Date	PCE (µg/L)	Arsenic (µg/L)	Manganese (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)
downgradient)	05/01/13	79	3.1	NA	41	NA
	06/17/13	64	2.2	<0.50	8.2	8.9
	09/11/13	24	4.3	43	<1.0	0.39
	11/06/13	120	1.9	250	<1.0	0.35
	03/06/14	72	2.0	120	<1.0	0.25
	06/09/14	NS	NS	NS	NS	NS
	09/15/14	NS	NS	NS	NS	NS
	11/17/14	NS	NS	NS	NS	NS
MW-40 CMT-55 (PulseOx Pilot Test, downgradient)	03/25/13	390	1.5	NA	ND	NA
	04/10/13	570	1.6	NA	3.9	NA
	04/23/13	510	1.5	NA	10	NA
	05/01/13	430	2.7	NA	12	NA
	06/17/13	200	1.6	<0.50	26	27
	09/11/13	38	3.4	38	<1.0	0.49
	11/06/13	110	2.4	69	20	11
	03/06/14	130	1.2	380	4.7	5.1
	06/09/14	NS	NS	NS	NS	NS
	09/15/14	NS	NS	NS	NS	NS
	11/17/14	NS	NS	NS	NS	NS
MW-40 CMT-60 (PulseOx Pilot Test, downgradient)	03/25/13	1,200	1.8	NA	ND	NA
	04/10/13	1,200	1.7	NA	ND	NA
	04/23/13	1,400	1.5	NA	1.1	NA
	05/01/13	1,200	2.7	NA	2	NA
	06/17/13	1,000	1.4	<0.50	5.7	6.6
	09/11/13	20	2.5	18	<1.0	0.92
	11/06/13	190	0.96	43	3.2	3.7
	03/06/14	360	1.3	470	4.4	1.3
	06/10/14	750	1.2	140	31	18
	09/18/14	700	1.3	290	52	12
	11/19/14	1,000	1.3	<0.50	110	120

Notes: NA=Not Analyzed NS= Not Sampled
ND=Non Detect
Shaded row represents baseline test
Grey text represents First Quarter 2014 sampling event, not deemed representative of site conditions.
*=Sample could not be analyzed for Cr(VI) because sample was saturated with potassium permanganate

The primary metal of concern was the effects of the oxidant on trivalent and hexavalent chromium concentrations in groundwater. Cardno ATC performed groundwater testing after the completion of the pilot testing and found elevated levels of chromium in the tested wells, except for MW-19 and MW-20, compared to before pilot testing. Both MW-19 and MW-20 are located upgradient from the pilot testing. Cardno ATC also performed analysis of hexavalent chromium (Cr(VI)), because the oxidizing effect of the two treatments has the potential to change the non-toxic, non- mobile Cr(III) into the acutely toxic, mobile Cr(VI). Hexavalent chromium levels ranged from 1.4 µg/L to 120 µg/L. Monitoring well MW-19I (260 µg/L) and MW-40 CMT-60 (110 µg/L) exceeded the MCL of 100 µg/L for total chromium in groundwater. No MCL has been established for CR(VI), but NDEP has set a basic comparison level (BCL) of 100 µg/L in groundwater, which MW-40 CMT-60 (120 µg/L) exceeded. Literature suggests that the increase of chromium levels may be a temporary condition.

The potassium permanganate pilot test led to an expected increase of manganese at MW-19 and MW-19I due to the injection of the solution containing manganese into the groundwater. Manganese levels in MW-19 have steadily decreased to below laboratory detection limits; however monitoring well MW-19I had reported levels of manganese at 14,000 µg/L, which is equivalent to the manganese levels observed at the start of the potassium permanganate pilot test that was conducted in early 2013. Manganese has persisted within MW-19I longer than

initially anticipated. Cardno ATC also noted a corresponding increase in the chromium concentration from MW-19I. This condition will continue to be monitored in the future.

Monitoring wells affected by the pilot testing continue to have elevated results of some metals when compared with pre-pilot testing conditions. Metals will continue to be monitored in the wells affected by the pilot testing until pre-pilot test conditions are identified. PCE concentrations also appear to have undergone some rebound in wells MW-40 CMT-45 and MW-40 CMT-60, even though there is some residual manganese left from the pilot testing. Although the timeframe of the manganese within the wells lasted significantly longer than previously anticipated, rebound should be expected, especially in the deeper wells that proved difficult to administer the potassium permanganate injection effectively.

2.4 Mann-Kendall Trend Test for Plume Stability

The Mann-Kendall Trend Test for Plume Stability was used to determine whether the plume is increasing, probably increasing, decreasing, probably increasing, stable, or showing no trend at each particular well. At least four quarters of sampling data is needed for the test to determine whether the plume is increasing or decreasing at a well. A confidence factor greater than 95% was needed to state whether PCE concentrations at a given well are increasing or decreasing. A confidence factor between 90% and 95% was needed to state PCE concentrations at a given well are increasing or decreasing. Past sample data was gathered for each well. Results of the Mann-Kendall Test indicated that the PCE plume was decreasing at twenty wells and increasing at six wells. The Mann-Kendall Test also showed that the plume was probably decreasing at three wells, probably increasing at one well, stable at eight wells, and showed no trend at eighteen wells (twenty-one including MW-11, MW-16, and MW-22 which weren't analyzed due to historically low readings). Many wells have just reached or are close to the minimum amount of sampling data necessary for the Mann-Kendall Trend Test to give an output and therefore many currently show no trend.

Five wells currently are increasing to the trend test at the site (MW-5, MW-6, MW-7, MW-41, MW-6D3, and MW-19D2). Concentrations at MW-7 fluctuate between 1 and 11 µg/L over the span of twelve years. The low concentrations of PCE and small range of concentrations of MW-7 represent a low concern at the site, however the continued PCE results from the well could show that some residual source material still remains at the Maryland Square property. Concentrations at MW-41 have fluctuated between 1.7 and 3.7 over the span of five quarter. The low concentrations of PCE, small range of concentrations, and low amount of sampling events represent a low concern at the site. Although concentrations are also low at MW-6D3, ranging from less than the laboratory detection limit to 10 µg/L, MW-6D3 is screened from 100 feet to 110 feet below ground surface and could demonstrate that PCE contamination is deeper than originally thought or is migrating downward. The vertical gradient analysis between MW-6D1 and MW-6D3 showed a large magnitude of downward movement between the two wells. However, only five sampling events are used in the Mann-Kendall model currently so the model lacks precision at this time. Results at MW-19D2 may have been affected by the pilot testing that occurred during First Quarter 2013. Only one sampling event was taken before pilot testing was conducted nearby, followed by a decrease in PCE concentration from 170 µg/L to below laboratory detection limits for three consecutive quarters. The three most recent monitoring events have experienced increasing concentrations that may be indicative of some rebound at the well. There has also been hypothesized movement of PCE due to vertical gradients in the vicinity of MW-19D over multiple quarters. The condition will continue to be monitored. Wells MW-5 and MW-6 both have higher PCE concentrations (approximately 800 µg/L in MW-5 and approximately 3,000 µg/L in MW-6). MW-6 is located directly along the centerline of the plume and MW-5 is south of MW-6 by approximately 90 feet. The two wells have exhibited the increasing trend over the span of fourteen years. Based on their location, to the east of Maryland Parkway, it is possible that additional source source material remains under the road and is continuing to contribute to the plume. The future remediation plan for the site should address the possibility of source material being present under Maryland Parkway and be prepared for the possible migration on to the Boulevard Mall Property.

3 Summary

Cardno ATC provides the following summary based on the results of the Fourth Quarter 2014 groundwater sampling event:

- Tetrachloroethene (PCE) was detected at concentrations ranging from 0.71 µg/L to 11,000 µg/L. The MCL for PCE in groundwater is 5 µg/L. PCE concentrations are summarized in the following table:

Table 3-1 Summary of PCE Concentrations in Monitoring Wells across the Site, 4th Quarter 2014

Non Detect (<0.50 µg/L)	>0.50 µg/L to <5.0 µg/L	5.0 µg/L to 11,000 µg/L	
MW-19I	MW-41	MW-1	MW-20D2
MW-43	MW-42	MW-5	MW-23
		MW-6	MW-25
		MW-6D1	MW-26
		MW-14I	MW-32
		MW-18	MW-38
		MW-19D1	MW-40 CMT-30
		MW-19D2	MW-40 CMT-45
		MW-19D3	MW-40 CMT-60

- Trichloroethene (TCE) was detected at concentrations ranging from 0.66 µg/L to 25 µg/L. The MCL for TCE in groundwater is 5 µg/L. TCE concentrations are summarized in the following table:

Table 3-2 Summary of TCE Concentrations in Monitoring Wells across the Site, 4th Quarter 2014

Non Detect (<0.50 µg/L)		>0.5 µg/L to <5.0 µg/L	5.0 µg/L to 21 µg/L
MW-1	MW-40 CMT-30	MW-5	MW-6
MW-6D1	MW-41	MW-18	MW-14I
MW-19D2	MW-42	MW-19D3	MW-19D1
MW-19I	MW-43	MW-20D2	MW-40 CMT-60
MW-38		MW-23	
		MW-25	
		MW-26	
		MW-32	
		MW-40 CMT-45	

- Cis-1,2-dichloroethene (DCE) was detected in monitoring wells MW-5 (1.5 µg/L), MW-6 (3.1 µg/L), MW-14I (17 µg/L), and MW-40 CMT-60 (2.6 µg/L). The detected concentrations were below the MCL for DCE in groundwater of 70 µg/L.
- Hexavalent Chromium (Cr(VI)) was detected in monitoring wells MW-40 CMT-30 (1.4 µg/L), MW-40 CMT-45 (2.0 µg/L), and MW-40 CMT-60 (120 µg/L). MW-40 CMT-60 was above the NDEP basic comparison level (BCL) of 100 µg/L in groundwater. The total chromium concentration measured in MW-19I (260 µg/L) and MW-40 CMT-60 (110 µg/L) exceeded the MCL of 100 µg/L in groundwater. MW-19I

was not able to be analyzed for hexavalent chromium content due to the color of the groundwater sample.

3.2 Recommendations

Cardno ATC recommends continuing monitoring and sampling of the site monitoring wells in accordance with the NDEP approved 2014 schedule for 2015.

With the exception of MW-19I, PCE concentrations appear to have rebounded or remained near their pre-pilot testing concentrations. The primary metal of concern after pilot testing using potassium permanganate was chromium and the possibility of oxidation to form hexavalent chromium. Over the past year, the only wells that have experienced chromium levels at or above the respective MCL or BCL for chromium or hexavalent chromium are wells MW-19I and MW-40 CMT-60. Cardno ATC recommends that metals testing be discontinued, except for wells MW-19I and MW-40 CMT-60 until the chromium and hexavalent chromium levels in those wells are below their respective MCL or BCL.

Cardno ATC recommends working with NDEP to evaluate and determine if modifications to the sampling methodology are warranted to support consistent sample results to allow for comparison over time.

Cardno ATC will incorporate a system of custody seals on the listed monitoring wells using zip ties. The zip ties will be placed in a fashion so that if the cap is removed, the zip tie system will come apart and show if any tampering occurred between monitoring events. MW-5, MW-6, MW-19, and MW-20 will be analyzed for chlorinated disinfection by-products during the First Quarter 2015 monitoring event.

A copy of this report has been forwarded to the NDEP case officer for review.

3.3 Limitations

This report has been prepared for the exclusive use of Herman Kishner Trust, as it pertains to Maryland Square PCE Site located at 3661 South Maryland Parkway, in Las Vegas, Nevada. Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either expressed or implied. This company is not responsible for the independent conclusions, opinions, or recommendations made by others based on the records review, site inspection, field exploration, and laboratory test data presented in this report.

It should be noted that all surficial environmental assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. For these types of evaluations, it is often necessary to use information prepared by others and Cardno ATC cannot be responsible for the accuracy of such information. In addition, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does it warrant operations or conditions present of a type or at a location not investigated. This report is not a regulatory compliance audit and is not intended to satisfy the requirements of any state, federal, or local real estate transfer laws.

It must be noted that no investigation can absolutely rule out the existence of any hazardous materials at a given site. This assessment has been based upon prior site history, observable conditions, and the subsurface soil sampling described in this report. Existing hazardous materials and contaminants can escape detection using these methods.

4 Environmental Certification Jurat

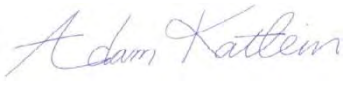
This Fourth Quarter 2014 Groundwater Monitoring and Sampling Report for Maryland Square PCE Site located at 3661 South Maryland Parkway, Las Vegas, Nevada, has been prepared in accordance with Nevada Administrative Code (NAC), Chapter 459, Section 9717.

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.

If you have any questions or require additional information, please feel free to contact the undersigned at (702) 990-9300.

Sincerely,

Cardno ATC



Adam Katlein
Senior Staff Scientist

Andrew D. Stuart
Branch Manager
Nevada Certified Environmental Manager
No. EM-1905 (Expires 01/26/17)

cc: Dr. Mary Siders, Nevada Division of Environmental Protection-Carson City, Nevada

Maryland Square PCE Site

TABLES

Cardno ATC

Shaping the Future

Table A-1: Current Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date of Well Installation	Date of Sampling	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	Screen Interval (feet bgs)	Dissolved Oxygen (mg/L)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)
Project Monitoring Wells Located on Maryland Square Property												
MW-1	Aug 00	Nov 14	1992.01	20.42	1971.59	10-30	2.12	2.4	-39.4	**240**	<0.50	<0.50
MW-7	Sep 02	Nov 14	1990.78	NM	NM	10-30	NM	NM	NM	NS	NS	NS
MW-8	Sep 02	Nov 14	1991.71	NM	NM	10-30	NM	NM	NM	NS	NS	NS
MW-9	Sep 02	Nov 14	1992.25	NM	NM	48.5-50	NM	NM	NM	NS	NS	NS
MW-12	Sep 02	Nov 14	1995.95	NM	NM	13.5-33.5	NM	NM	NM	NS	NS	NS
MW-17	Nov 03	Nov 14	1991.04	NM	NM	15-30	NM	NM	NM	NS	NS	NS
MW-34	Dec 11	Nov 14	1993.88	NM	NM	--	NM	NM	NM	NS	NS	NS
MW-35	Dec 11	Nov 14	1991.37	NM	NM	--	NM	NM	NM	NS	NS	NS
Project Monitoring Wells Located on Boulevard Mall Property												
MW-2	Oct 00	Nov 14	1983.53	NM	NM	10-32	NM	NM	NM	NS	NS	NS
MW-3	Oct 00	Nov 14	1983.81	NM	NM	10-31	NM	NM	NM	NS	NS	NS
MW-5	Oct 00	Nov 14	1988.69	19.55	1969.14	10-32	4.19	2.3	58.7	**740**	3.9	1.5
MW-6	Oct 00	Nov 14	1988.12	20.09	1968.03	10-32	3.34	2.3	79.2	**3,300**	**12**	3.1
MW-6D1	Jan 13	Nov 14	1988.72	18.40	1970.32	50-60	6.07	0.4	39.8	**21**	<0.50	<0.50
MW-6D2	Jan 13	Nov 14	1989.72	NM	NM	80-90	NM	NM	NM	NS	NS	NS

Table A-1: Current Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date of Well Installation	Date of Sampling	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	Screen Interval (feet bgs)	Dissolved Oxygen (mg/L)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)
Project Monitoring Wells Located on Boulevard Mall Property												
MW-6D3	Jan 13	Nov 14	1988.72	NM	NM	100-110	NM	NM	NM	NS	NS	NS
MW-10	Sep 02	Nov 14	1983.28	NM	NM	10-30	NM	NM	NM	NS	NS	NS
MW-11	Sep 02	Nov 14	1979.87	NM	NM	13.5-33.5	NM	NM	NM	NS	NS	NS
MW-13	May 03	Nov 14	1983.31	NM	NM	9-29	NM	NM	NM	NS	NS	NS
MW-14	Nov 03	Nov 14	1987.33	NM	NM	15-40	NM	NM	NM	NS	NS	NS
MW-14I	Jul 12	Nov 14	1987.54	19.44	1968.10	40-55	3.97	0.9	26.3	**11,000**	**25**	17
MW-15	Nov 03	Nov 14	1982.74	NM	NM	15-32	NM	NM	NM	NS	NS	NS
MW-16	Nov 03	Nov 14	1980.53	NM	NM	19-32	NM	NM	NM	NS	NS	NS
MW-19	Nov 03	Nov 14	1980.13	NM	NM	19-35	NM	NM	NM	NS	NS	NS
MW-19D1	Jan 13	Nov 14	1979.25	26.30	1952.95	31-51	4.83	2.1	67.9	**1,000**	**5.9**	<0.50
MW-19D2	Jan 13	Nov 14	1979.28	27.01	1952.27	60-70	2.88	1.6	75.4	**39**	<0.50	<0.50
MW-19D3	Jan 13	Nov 14	1979.32	26.48	1952.84	92-102	6.66	2.1	134.9	**190**	3.2	<0.50
MW-19I	Jul 12	Nov 14	1978.37	26.02	1952.35	34-54	5.13	2.2	643.3	<0.50	<0.50	<0.50
MW-20	Nov 03	Nov 14	1979.82	NM	NM	19-35	NM	NM	NM	NS	NS	NS
MW-20D1	Jan 13	Nov 14	1979.81	NM	NM	25-45	NM	NM	NM	NS	NS	NS

Table A-1: Current Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date of Well Installation	Date of Sampling	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	Screen Interval (feet bgs)	Dissolved Oxygen (mg/L)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)
Project Monitoring Wells Located on Boulevard Mall Property												
MW-20D2	Jan 13	Nov 14	1978.66	26.28	1952.38	55-65	12.19	2.1	141.6	**410**	2.2	0.78
MW-20D3	Jan 13	Nov 14	1978.69	NM	NM	90-100	NM	NM	NM	NS	NS	NS
MW-21	Nov 03	Nov 14	1979.25	NM	NM	19-36	NM	NM	NM	NS	NS	NS
MW-40 CMT-30	Jul 12	Nov 14	1978.49	25.74	1952.75	30-30.6	8.87	2.4	-48.7	**35**	<0.50	<0.50
MW-40 CMT-35	Jul 12	Nov 14	1978.49	NM	NM	35-35.6	NM	NM	NM	NS	NS	NS
MW-40 CMT-40	Jul 12	Nov 14	1978.49	NM	NM	40-40.7	NM	NM	NM	NS	NS	NS
MW-40 CMT-45	Jul 12	Nov 14	1978.49	25.69	1952.80	45-45.6	6.59	2.0	-13.5	**150**	0.89	<0.50
MW-40 CMT-50	Jul 12	Nov 14	1978.49	NM	NM	50-50.6	NM	NM	NM	NS	NS	NS
MW-40 CMT-55	Jul 12	Nov 14	1978.49	NM	NM	55-55.6	NM	NM	NM	NS	NS	NS
MW-40 CMT-60	Jul 12	Nov 14	1978.49	25.70	1952.79	60-60.6	18.37	2.0	28.0	**1,000**	**6.8**	2.6
Project Monitoring Wells Located on Surrounding Streets and Golf Course												
MW-18	Nov 03	Nov 14	1962.90	13.22	1949.68	5-26	3.85	2.3	70.7	**1,100**	1.7	<0.50
MW-22	Mar 05	Nov 14	1975.19	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-23	Mar 05	Nov 14	1962.45	17.19	1945.26	5-26	2.13	2.3	11.0	**870**	1.7	<0.50
MW-24	Mar 05	Nov 14	1960.82	NM	NM	5-26	NM	NM	NM	NS	NS	NS
MW-25	Mar 05	Nov 14	1959.29	20.32	1938.97	5-26	1.62	2.4	23.6	**590**	0.91	<0.50

Table A-1: Current Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date of Well Installation	Date of Sampling	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	Screen Interval (feet bgs)	Dissolved Oxygen (mg/L)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)
Project Monitoring Wells Located on Surrounding Streets and Golf Course												
MW-26	Mar 06	Nov 14	1953.45	18.31	1935.14	10-36	2.17	2.5	-44.4	**890**	0.66	<0.50
MW-27	Mar 06	Nov 14	1944.15	NM	NM	10-36	NM	NM	NM	NS	NS	NS
MW-28	Oct 07	Nov 14	1943.07	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-29	Oct 07	Nov 14	1932.35	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-30	Oct 07	Nov 14	1940.59	NM	NM	20-41	NM	NM	NM	NS	NS	NS
MW-31	Mar 08	Nov 14	1937.66	NM	NM	13.5-33.6	NM	NM	NM	NS	NS	NS
MW-32	Mar 08	Nov 14	1952.90	19.37	1933.53	13.5-33.7	2.37	2.4	-162.6	**850**	2.7	<0.50
MW-33	Mar 08	Nov 14	1950.98	NM	NM	13.5-33.8	NM	NM	NM	NS	NS	NS
MW-36	Jan 12	Nov 14	1955.30	NM	NM	17-38	NM	NM	NM	NS	NS	NS
MW-37	Jan 12	Nov 14	1929.98	NM	NM	17-38	NM	NM	NM	NS	NS	NS
MW-38	Apr 12	Nov 14	1908.38	15.23	1893.15	15-36	3.65	2.6	75.3	**8.2**	<0.50	<0.50
MW-39	Apr 12	Nov 14	1967.55	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-41	Aug 13	Nov 14	1908.89	15.47	1893.42	10-35	1.23	2.4	24.7	3.7	<0.50	<0.50
MW-42	Sep 13	Nov 14	1910.31	16.57	1893.74	10-35	1.73	2.7	-4.9	0.71	<0.50	<0.50
MW-43	Sep 13	Nov 14	1958.33	16.63	1941.70	10-35	2.94	2.1	97.8	<0.50	<0.50	<0.50

Notes:

NM = Not Measured
msl = mean sea level
ND = Non Detect
NS = Not Sampled

°C = degrees Celsius
g/L = gallons per liter
mg/L = milligrams per liter
mS/cm = milli Siemens per centimeter

µg/L = micrograms per liter
mV = milllivolts
NTU = Nephelometric Turbudity Units

Bold value indicates concentration that exceeds regulatory standard.

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-1	Aug 00	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	2,300	ND	ND	ND
	Oct 00	1991.81	17.54	1974.27	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 02	1992.04	17.90	1974.14	NM	NM	NM	NM	NM	NM	NM	2,000	ND	ND	ND
	May 03	1992.04	18.70	1973.34	NM	NM	NM	NM	NM	NM	NM	870	ND	ND	ND
	Sep 03	1992.04	18.97	1973.07	NM	NM	NM	NM	NM	NM	NM	2,300	ND	ND	ND
	Jan 04	1992.04	19.30	1972.74	7.0	3.5	NM	0.9	22.50	NM	NM	1,700	ND	ND	ND
	May 05	1992.04	15.24	1976.8	7.0	4.0	441.0	5.4	26.00	NM	110	3,500	ND	ND	ND
	Sep 05	1992.04	16.74	1975.3	7.1	4.2	64.0	7.0	27.50	2.7	129	1,700	ND	ND	ND
	Dec 05	1992.04	17.61	1974.43	7.0	5.1	290.0	2.0	26.90	3.2	404	820	ND	ND	ND
	Mar 06	1992.04	18.42	1973.62	NM	5.6	>999	NM	23.10	3.7	545	420	ND	ND	ND
	Jun 06	1992.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 06	1992.04	18.30	1973.74	6.3	3.7	81.0	4.6	26.70	2.4	129	1,100	ND	ND	ND
	Dec 06	1992.04	18.88	1973.16	6.7	4.4	>999	5.1	26.90	2.8	111	1,300	ND	ND	ND
	Mar 07	1992.04	20.08	1971.96	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1992.04	19.81	1972.23	7.0	2.3	611.0	6.2	25.70	1.4	468	450	ND	ND	ND
	Sep 07	1992.04	18.39	1973.65	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1992.04	19.01	1973.03	6.4	3.9	15.0	5.5	22.20	2.5	223	710	ND	ND	ND
	Mar 08	1992.04	20.03	1972.01	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1992.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	260	ND	ND	ND
	Oct 08	1992.01	19.82	1972.19	6.6	3.7	62.4	1.1	27.10	2.4	130	460	ND	ND	ND
	Feb 09	1992.01	19.65	1972.36	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1992.01	19.88	1972.13	7.1	3.7	39.6	1.6	26.20	2.4	101	NS	NS	NS	NS
	Jul 09	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	590	ND	ND	ND
	Sep 09	1992.01	19.90	1970.11	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1992.01	20.33	1971.68	6.3	3.4	-10.0	1.5	26.90	2.2	126	390	ND	ND	ND
	Feb 10	1992.01	20.04	1971.97	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1992.01	19.98	1972.03	7.0	3.3	0.0	3.2	26.13	NM	NM	400	ND	ND	ND
	Oct 10	1992.01	19.44	1972.57	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1992.01	19.54	1972.47	6.7	3.5	1.2	1.4	27.56	NM	212	430	ND	ND	ND
	Mar 11	1992.01	20.10	1971.91	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1992.01	20.18	1971.83	7.2	3.6	0.0	1.7	25.58	NM	259	460	ND	ND	ND
	Sep 11	1992.01	19.85	1972.16	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1992.01	19.65	1972.36	7.0	3.4	NM	1.3	25.97	2.2	266	410	ND	ND	ND
	Mar 12	1992.01	20.41	1971.60	7.2	3.5	5.4	1.3	25.48	2.3	-70	370	NS	NS	NS
*	Jun 12	1992.01	19.18	1972.83	7.3	3.5	15.9	3.0	25.97	2.3	90	410	ND	ND	ND
	Sep 12	1992.01	19.97	1972.04	7.6	3.6	NM	1.2	27.28	2.3	98	390	ND	ND	ND
	Nov 12	1992.01	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1992.01	20.35	1971.66	6.97	3.9	NM	0.90	24.80	2.5	59	260	<0.50	<0.50	<0.50
	Jun 13	1992.01	20.69	1971.32	7.16	3.9	NM	1.72	25.43	2.5	78	240	<0.50	<0.50	<0.50
	Sep 13	1992.01	20.52	1971.49	7.06	3.8	NM	0.76	26.95	2.4	-14	240	<0.50	<0.50	<0.50
	Nov 13	1992.01	20.31	1971.70	5.97	3.5	2.9	0.31	25.51	2.2	166	270	<0.50	<0.50	<0.50
	Mar 14	1992.01	20.10	1971.91	7.23	3.3	28.7	1.71	24.14	2.2	1	350	<0.50	<0.50	<0.50
	Jun 14	1992.01	20.29	1971.72	6.94	3.3	28.7	2.61	28.57	2.4	133	350	<0.50	<0.50	<0.50
	Sep 14	1992.01	20.15	1971.86	7.68	3.6	10.6	6.41	29.16	2.3	66	96	<0.50	<0.50	<0.50
	Nov 14	1992.01	20.42	1971.59	7.05	3.8	9.3	2.12	25.08	2.4	-39	240	<0.50	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-2	Oct 00	1983.79	15.52	1968.27	NM	NM	NM	NM	NM	NM	NM	3,000	18.0	18.0	ND
	Sep 02	1983.99	16.62	1967.37	NM	NM	NM	NM	NM	NM	NM	3,000	13.0	13.0	ND
	May 03	1983.99	17.15	1966.84	NM	NM	NM	NM	NM	NM	NM	1,400	ND	ND	ND
	Sep 03	1983.97	17.70	1966.27	NM	NM	NM	NM	NM	NM	NM	1,700	ND	ND	ND
	Jan 04	1983.97	18.25	1965.72	7.1	3.1	NM	1.1	23.20	NM	NM	1,700	ND	ND	ND
	May 05	1983.97	14.65	1969.32	6.9	3.5	698.0	4.8	23.40	NM	193	2,050	17.0	9.7	ND
	Dec 05	1983.97	16.00	1967.97	6.6	4.8	360.0	2.7	25.40	3.1	264	2,900	ND	ND	ND
	Mar 06	1983.97	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1983.97	17.55	1966.42	NM	3.7	728.0	7.0	24.90	2.4	116	1,600	ND	ND	ND
	Oct 06	1983.97	17.25	1966.72	6.1	3.5	20.0	5.1	24.40	2.2	161	1,900	ND	ND	ND
	Dec 06	1983.97	17.60	1966.37	6.8	4.2	28.0	4.9	24.50	2.7	241	1,300	ND	ND	ND
	Mar 07	1983.97	18.84	1965.13	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1983.97	19.01	1964.96	7.0	3.5	539.0	5.7	24.40	2.3	305	1,400	ND	ND	ND
	Sep 07	1983.97	17.94	1966.03	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1983.97	18.04	1965.93	6.3	3.6	144.0	6.9	21.80	2.3	314	1,000	ND	ND	ND
	Mar 08	1983.97	18.82	1965.15	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1983.97	NM	NM	NM	NM	NM	NM	NM	NM	NM	900	ND	ND	ND
	Oct 08	1983.97	18.54	1965.43	6.9	3.5	44.7	3.4	24.80	2.3	103	960	3.4	1.2	ND
	Feb 09	1983.97	18.68	1965.29	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1983.97	18.95	1965.02	7.0	3.7	15.4	1.9	24.50	2.4	116	880	3.2	1.1	ND
	Sep 09	1983.97	18.95	1965.02	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1983.97	19.32	1964.65	5.6	3.3	280.0	1.9	24.40	2.1	155	530	2.4	ND	ND
	Feb 10	1983.97	19.68	1964.29	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1983.97	19.08	1964.89	7.0	3.1	14.8	3.5	24.19	NM	NM	570	2.1	0.8	ND
	Oct 10	1983.97	18.76	1965.21	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1983.97	18.78	1965.19	6.9	3.4	32.8	3.0	24.11	NM	92	560	2.4	0.7	ND
	Mar 11	1983.97	19.19	1964.78	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1983.97	19.50	1964.47	7.2	3.4	25.9	2.6	24.47	NM	273	680	2.2	0.6	ND
	Sep 11	1983.97	19.11	1964.86	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1983.97	19.08	1964.89	7.0	3.3	NM	2.7	23.55	2.1	168	610	2.1	0.66	NS
	Mar 12	1983.97	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1983.53	19.11	1964.42	7.2	3.3	57.1	2.6	23.57	2.2	87	490	2	0.6	ND
	Sep 12	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1983.53	19.29	1964.24	7.1	3.5	NM	2.7	23.24	2.3	205	580	2.5	1.0	<0.50
	Jun 13	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1983.53	19.27	1964.26	7.3	3.7	36.9	2.0	24.28	2.4	83	720	2.3	0.9	<0.50
	Mar 14	1983.53	19.15	1964.38	7.3	3.1	39.2	1.6	23.05	2.0	-65	340	1.8	<0.50	<0.50
	Jun 14	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1983.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-3	Oct 00	1984.19	15.95	1968.24	NM	NM	NM	NM	NM	NM	NM	98	ND	ND	ND
	Sep 02	1984.46	17.20	1967.26	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	May 03	1984.46	17.70	1966.76	NM	NM	NM	NM	NM	NM	NM	6.9	ND	ND	ND
	Sep 03	1984.46	18.35	1966.08	NM	NM	NM	NM	NM	NM	NM	12	ND	ND	ND
	Jan 04	1984.46	19.25	1965.18	6.9	2.9	NM	1.0	22.40	NM	NM	6.7	ND	ND	ND
	May 05	1984.46	15.22	1969.21	7.0	2.9	NM	2.5	26.00	NM	149	ND	ND	ND	ND
	Dec 05	1984.46	16.45	1967.98	6.6	4.7	100.0	0.9	27.30	3.0	33	ND	ND	ND	ND
	Mar 06	1984.46	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1984.46	18.38	1966.05	NM	3.8	285.0	5.6	26.40	2.4	-32	ND	ND	ND	ND
	Oct 06	1984.46	17.88	1966.55	5.9	3.9	26.0	2.0	26.70	2.5	279	ND	ND	ND	ND
	Dec 06	1984.46	18.26	1966.17	6.7	4.8	272.0	2.9	26.70	3.1	9	1.2	ND	ND	ND
	Mar 07	1984.46	19.86	1964.57	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1984.46	20.23	1964.2	7.1	3.7	605.0	3.6	25.90	2.4	43	ND	ND	ND	ND
	Sep 07	1984.46	18.99	1965.44	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1984.46	18.99	1965.44	6.1	3.9	55.1	2.2	21.90	2.5	135	1.4	ND	ND	ND
	Mar 08	1984.46	19.94	1964.49	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1984.46	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1984.41	19.46	1964.95	6.7	3.8	44.2	0.4	27.50	2.4	99	6.5	ND	ND	ND
	Feb 09	1984.41	19.80	1964.61	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1984.41	20.20	1964.21	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1984.41	20.16	1964.25	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1984.41	20.48	1963.93	6.0	3.8	180.0	1.3	26.60	2.4	143	5.1	ND	ND	ND
	Feb 10	1984.41	21.07	1963.34	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1984.41	13.91	1970.50	6.8	3.5	2.2	2.0	27.36	NM	NM	NS	NS	NS	NS
	Oct 10	1984.41	19.95	1964.46	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1984.41	19.91	1964.50	6.7	3.9	12.5	0.6	27.29	NM	106	5.8	ND	ND	ND
	Mar 11	1984.41	20.47	1963.94	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1984.41	20.86	1963.55	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1984.41	20.45	1963.96	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1984.41	20.35	1964.06	6.7	4.5	NM	3.3	26.17	NM	-38	16	ND	ND	NS
	Mar 12	1984.41	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1983.81	20.43	1963.38	7.0	4.0	102.0	2.6	25.50	2.6	122	25	ND	ND	ND
	Sep 12	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1983.81	20.37	1963.44	6.9	4.5	NM	1.7	25.15	2.9	153	12	<0.50	<0.50	<0.50
	Jun 13	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1983.81	20.25	1963.56	7.2	4.3	107.0	2.0	24.79	2.8	149	11	<0.50	<0.50	<0.50
	Jun 14	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-4	Oct 00	1989.68	16.95	1972.73	NM	NM	NM	NM	NM	NM	NM	14	ND	ND	ND
	Sep 02	1989.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	25	ND	ND	ND
	May 03	1989.87	18.71	1971.16	NM	NM	NM	NM	NM	NM	NM	24	ND	ND	ND
	Sep 03	1989.85	19.05	1970.8	NM	NM	NM	NM	NM	NM	NM	100	ND	ND	ND
	Jan 04	1989.85	19.86	1969.99	7.0	2.7	NM	1.2	22.00	NM	NM	220	ND	ND	ND
	May 05	1989.85	15.83	1974.02	6.8	3.7	664.0	3.7	24.20	NM	160	25	ND	ND	ND
	Dec 05	1989.85	17.62	1972.23	6.7	4.9	670.0	3.2	25.90	3.1	219	15	ND	ND	ND
	Mar 06	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1989.85	18.36	1971.49	NM	NM	NM	NM	NM	NM	NM	27	ND	ND	ND
	Oct 06	1989.85	18.34	1971.51	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 06	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 07	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 07	1989.85	18.96	1970.89	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 08	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1989.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Feb 09	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1989.86	Dry	Dry	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1989.86	Dry	Dry	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1989.86	Dry	Dry	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Feb 10	1989.86	Dry	Dry	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 11	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 12	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 14	1989.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Abandoned June 4, 2012														

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-5	Oct 00	1988.93	16.20	1972.73	NM	NM	NM	NM	NM	NM	NM	100	ND	ND	ND
	Sep 02	1989.18	17.00	1972.18	NM	NM	NM	NM	NM	NM	NM	110	ND	ND	ND
	May 03	1989.18	17.80	1971.38	NM	NM	NM	NM	NM	NM	NM	240	ND	ND	ND
	Sep 03	1989.18	18.07	1971.11	NM	NM	NM	NM	NM	NM	NM	220	ND	ND	ND
	Jan 04	1989.18	18.65	1970.53	6.7	2.6	NM	1.2	22.30	NM	NM	370	ND	ND	ND
	May 05	1989.18	14.87	1974.31	7.1	2.6	NM	4.6	25.40	NM	184	146	ND	ND	ND
	Dec 05	1989.18	16.80	1972.38	6.8	5.3	>999	1.5	26.80	3.3	377	93	ND	ND	ND
	Mar 06	1989.18	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1989.18	17.40	1971.78	NM	3.8	>999	6.9	26.60	2.4	126	220	ND	ND	ND
	Oct 06	1989.18	17.46	1971.72	6.2	3.5	21.0	4.8	26.70	2.2	99	67	ND	ND	ND
	Dec 06	1989.18	18.01	1971.17	6.8	4.5	134.0	5.4	26.50	2.9	93	130	ND	ND	ND
	Mar 07	1989.18	19.30	1969.88	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1989.18	19.12	1970.06	7.0	3.4	375.0	6.5	25.20	2.2	460	550	ND	ND	ND
	Sep 07	1989.18	17.85	1971.33	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1989.18	18.33	1970.85	6.3	3.8	28.3	5.7	24.40	2.4	159	170	ND	ND	ND
	Mar 08	1989.18	19.31	1969.87	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1989.18	NM	NM	NM	NM	NM	NM	NM	NM	NM	400	ND	ND	ND
	Oct 08	1989.15	18.99	1970.16	6.8	3.5	21.4	4.8	27.40	2.3	119	340	2.7	1.2	ND
	Feb 09	1989.15	18.99	1970.16	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1989.15	19.17	1969.98	7.0	3.6	0.0	5.6	26.20	2.3	125	700	4.6	1.3	ND
	Sep 09	1989.15	19.14	1970.01	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1989.15	19.55	1969.6	5.8	3.2	-6.0	3.8	27.10	2.1	132	520	3.9	1.4	ND
	Feb 10	1989.15	19.57	1969.58	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1989.15	19.21	1969.94	7.1	3.1	7.0	6.7	25.60	NM	273	550	2.9	1.3	ND
	Oct 10	1989.15	18.67	1970.48	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1989.15	18.85	1970.30	7.0	5.4	2.0	4.7	25.64	NM	104	360	2.4	1.0	ND
	Mar 11	1989.15	19.41	1969.74	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1989.15	19.50	1969.65	6.9	3.5	14.0	4.9	26.58	NM	412	670	2.7	1.1	ND
	Sep 11	1989.15	19.19	1969.96	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1989.15	19.22	1969.93	6.9	4.0	NM	3.8	25.54	NM	-30	540	2.5	1.1	ND
	Mar 12	1989.15	19.74	1969.41	7.2	3.3	123.0	5.6	23.51	2.4	-38	800	NS	NS	NS
*	Jun 12	1988.69	19.25	1969.44	7.3	3.3	50.1	6.0	25.30	2.1	106	520	2.5	1.2	ND
	Sep 12	1988.69	18.25	1970.44	7.3	3.3	NM	5.3	26.25	2.2	129	340	2.2	0.95	ND
	Nov 12	1988.69	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1988.69	19.69	1969.00	7.1	3.6	NM	4.4	25.23	2.3	134	530	2.3	0.67	<0.50
	Jun 13	1988.69	20.00	1968.69	7.2	3.5	NM	4.7	27.60	2.3	126	600	2.9	0.95	<0.50
	Sep 13	1988.69	19.60	1969.09	7.0	3.4	NM	4.3	26.63	2.2	167	830	3.7	1.3	<0.50
	Nov 13	1988.69	19.52	1969.17	7.8	3.6	9.7	4.1	25.37	2.3	90	690	2.8	1.2	<0.50
	Mar 14	1988.69	19.37	1969.32	7.3	3.1	18.3	5.1	24.90	2.0	-85	440	2.2	<0.50	<0.50
	Jun 14	1988.69	19.68	1969.01	7.0	3.4	37.4	5.1	27.98	2.2	87	780	2.6	1.1	<0.50
	Sep 14	1988.69	19.08	1969.61	7.5	3.4	4.2	6.6	28.41	2.2	70	350	0.94	<0.50	<0.50
	Nov 14	1988.69	19.55	1969.14	7.1	3.6	4.5	4.2	25.89	2.3	59	740	3.9	1.5	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-6	Oct 00	1988.72	17.41	1971.31	NM	NM	NM	NM	NM	NM	NM	2,200	13.0	8.1	ND
	Sep 02	1989.01	18.26	1970.75	NM	NM	NM	NM	NM	nM	NM	1,000	41.0	14.0	ND
	May 03	1989.01	18.87	1970.14	NM	NM	NM	NM	NM	NM	NM	710	22.0	ND	ND
	Sep 03	1989.01	19.25	1969.76	NM	NM	NM	NM	NM	NM	NM	1,300	ND	ND	ND
	Jan 04	1989.01	19.74	1969.27	7.0	2.3	NM	1.2	22.40	NM	NM	2,400	ND	ND	ND
	May 05	1989.01	16.21	1972.8	6.9	2.4	NM	2.8	25.90	NM	123	2,090	13.0	11.0	ND
	Sep 05	1989.01	17.26	1971.75	7.0	4.0	34.0	6.2	26.90	2.3	-119	890	13.0	23.0	ND
	Dec 05	1989.01	17.88	1971.13	6.8	4.9	220.0	1.1	26.50	3.2	163	530	41.0	21.0	ND
	Mar 06	1989.01	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1989.01	18.80	1970.21	NM	4.0	707.0	6.3	26.70	2.4	172	1,100	ND	ND	ND
	Oct 06	1989.01	18.73	1970.28	6.3	3.6	7.0	4.1	26.50	2.3	61	1,300	ND	ND	ND
	Dec 06	1989.01	19.18	1969.83	6.7	4.2	96.0	4.4	26.20	2.7	239	810	9.9	8.9	ND
	Mar 07	1989.01	20.40	1968.61	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1989.01	20.28	1968.73	7.1	3.5	352.0	5.6	24.90	2.2	241	1,300	ND	ND	ND
	Sep 07	1989.01	19.00	1970.01	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1989.01	19.29	1969.72	6.2	3.8	4.3	5.4	24.80	2.4	277	1,500	ND	ND	ND
	Mar 08	1989.01	20.26	1968.75	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1989.01	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,900	ND	ND	ND
	Oct 08	1989.03	20.00	1969.03	6.8	3.5	46.3	3.3	26.30	2.3	117	2,000	13.0	3.9	ND
	Feb 09	1989.03	20.03	1969	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1989.03	20.20	1968.83	7.0	3.5	76.3	2.8	26.70	2.2	121	2,800	14.0	4.1	ND
	Sep 09	1989.03	20.27	1968.76	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1989.03	20.66	1968.37	5.9	3.1	87.0	2.5	26.30	1.9	132	2,100	14.0	6.4	ND
	Feb 10	1989.03	20.77	1968.26	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1989.03	20.38	1968.65	7.0	3.0	23.2	4.1	26.32	NM	NM	2,500	13.0	6.2	NS
	Oct 10	1989.03	19.94	1969.09	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1989.03	20.02	1969.01	6.9	3.3	7.0	3.5	25.26	NM	86	2,300	13.0	8.2	ND
	Mar 11	1989.03	20.49	1968.54	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1989.03	20.66	1968.37	7.0	3.3	8.2	3.7	26.52	NM	365	2,400	10.0	3.7	ND
	Sep 11	1989.03	20.30	1968.73	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1989.03	20.30	1968.73	7.0	3.2	NM	3.4	25.16	2.1	113	2,900	12	5.6	ND
	Mar 12	1989.03	20.84	1968.19	7.3	3.2	107.0	4.4	24.30	2.1	-44	3,500	NS	NS	NS
*	Jun 12	1988.12	19.71	1968.41	7.6	3.1	57.1	7.5	27.25	2.0	114	1,700	8.5	5.4	ND
	Sep 12	1988.12	19.23	1968.89	7.3	3.1	NM	3.7	26.27	2.0	122	3,000	17	8.1	ND
	Nov 12	1988.12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1988.12	20.23	1967.89	7.1	3.4	NM	3.3	24.83	2.2	100	2,600	10	2.2	<0.50
	Jun 13	1988.12	20.58	1967.54	7.3	3.4	NM	3.6	30.62	2.2	130	2,400	7.7	1.3	<0.50
	Sep 13	1988.12	20.25	1967.87	7.0	3.3	NM	3.0	29.86	2.2	90	2,500	11	11	<0.50
	Nov 13	1988.12	20.14	1967.98	7.8	3.5	16.2	3.1	25.27	2.3	97	3,100	12	3.5	<0.50
	Mar 14	1988.12	20.00	1968.12	7.2	2.9	152.0	4.8	24.30	1.9	-108	2,700	11	2.3	<0.50
	Jun 14	1988.12	20.30	1967.82	7.2	3.2	21.3	6.7	26.43	2.1	158	3,000	8.7	2.6	<0.50
	Sep 14	1988.12	19.27	1968.85	7.4	3.2	56.6	6.5	32.77	2.1	64	700	4.0	1.2	<0.50
	Nov 14	1988.12	20.09	1968.03	6.9	3.5	5.0	3.3	24.83	2.3	79	3,300	12.0	3.1	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-6D1	Mar 13	1988.72	16.29	1972.43	7.6	0.6	NM	5.7	23.48	0.4	86	<0.50	<0.50	<0.50	<0.50
	Jun 13	1988.72	20.20	1968.52	7.5	0.7	NM	5.2	25.82	0.4	280	<0.50	<0.50	<0.50	<0.50
	Sep 13	1988.72	21.40	1967.32	7.4	0.9	NM	4.4	27.20	0.6	61	58	<0.50	<0.50	<0.50
	Nov 13	1988.72	19.24	1969.48	6.9	0.6	49.3	5.0	23.81	0.4	84	3.2	<0.50	<0.50	<0.50
	Mar 14	1988.72	16.20	1972.52	7.4	0.5	62.4	4.3	26.16	0.3	87	1.2	<0.50	<0.50	<0.50
	Jun 14	1988.72	19.60	1969.12	7.3	0.6	47.4	5.8	26.70	0.4	200	0.67	<0.50	<0.50	<0.50
	Sep 14	1988.72	20.40	1968.32	7.2	0.8	51.3	4.2	25.75	0.5	120	120	<0.50	<0.50	<0.50
	Nov 14	1988.72	18.40	1970.32	7.4	0.7	6.7	6.1	23.50	0.4	40	21	<0.50	<0.50	<0.50
MW-6D2	Mar 13	1988.72	14.94	1973.78	7.6	0.6	NM	4.3	22.93	0.4	55	<0.50	<0.50	<0.50	<0.50
	Jun 13	1988.72	20.40	1968.32	7.5	0.7	NM	5.9	25.49	0.4	142	<0.50	<0.50	<0.50	<0.50
	Sep 13	1988.72	21.61	1967.11	7.4	0.7	NM	5.0	26.61	0.5	58	33	<0.50	<0.50	<0.50
	Nov 13	1988.72	18.94	1969.78	7.5	0.6	18.0	NM	23.22	0.4	24	3.3	<0.50	<0.50	<0.50
	Mar 14	1988.72	15.90	1972.82	7.3	0.5	52.3	4.4	24.76	0.3	88	1.6	<0.50	<0.50	<0.50
	Jun 14	1988.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1988.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1989.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-6D3	Mar 13	1988.72	14.04	1974.68	7.6	0.5	NM	0.7	22.18	0.3	29	<0.50	<0.50	<0.50	<0.50
	Jun 13	1988.72	24.40	1964.32	7.7	0.5	NM	2.8	31.09	0.4	155	<0.50	<0.50	<0.50	<0.50
	Sep 13	1988.72	24.89	1963.83	7.2	0.6	NM	2.2	28.92	0.4	112	2.0	<0.50	<0.50	<0.50
	Nov 13	1988.72	22.16	1966.56	6.9	0.5	43.6	5.7	23.58	0.3	78	3.0	<0.50	<0.50	<0.50
	Mar 14	1988.72	16.70	1972.02	7.3	0.5	86.4	5.4	24.62	0.3	61	1.9	<0.50	<0.50	<0.50
	Jun 14	1988.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1988.72	26.93	1961.79	7.42	0.49	67.50	6.17	27.28	0.32	65.40	10.0	<0.50	<0.50	<0.50
	Nov 14	1988.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-7	Sep 02	1990.28	18.27	1972.01	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	May 03	1990.28	16.60	1973.68	NM	NM	NM	NM	NM	NM	NM	1.7	ND	ND	ND
	Sep 03	1990.25	16.79	1973.46	NM	NM	NM	NM	NM	NM	NM	2.0	ND	ND	ND
	Jan 04	1990.25	17.32	1972.93	7.0	2.2	NM	0.9	22.40	NM	NM	11	ND	ND	ND
	May 05	1990.25	13.86	1976.39	7.1	1.8	NM	4.0	24.80	NM	129	ND	ND	ND	ND
	Sep 05	1990.25	14.97	1975.28	7.0	4.6	140.0	6.2	26.60	3.0	144	3.3	ND	ND	ND
	Dec 05	1990.25	15.45	1974.80	6.7	5.3	5.0	1.8	23.80	3.4	472	1.2	ND	ND	ND
	Mar 06	1990.25	16.41	1973.84	4.7	6.7	428.0	NM	22.40	4.2	634	1.5	ND	ND	ND
	Jun 06	1990.25	16.50	1973.75	NM	4.1	>999	6.6	26.20	2.6	-14	2.2	ND	ND	ND
	Oct 06	1990.25	16.50	1973.75	6.2	3.7	>999	4.4	25.00	2.3	92	2.9	ND	ND	ND
	Dec 06	1990.25	16.87	1973.38	6.9	4.8	>999	5.7	25.10	3.0	65	2.1	ND	ND	ND
	Mar 07	1990.25	18.19	1972.06	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1990.25	18.08	1972.17	7.1	3.6	450.0	6.3	25.10	2.2	129	1.1	ND	ND	ND
	Sep 07	1990.25	16.31	1973.94	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1990.25	16.60	1973.65	6.2	4.0	0.0	2.3	22.50	2.6	161	1.3	ND	ND	ND
	Mar 08	1990.25	17.93	1972.32	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1990.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1990.22	17.57	1972.65	6.6	3.8	204.0	3.5	26.70	2.4	134	2.5	ND	ND	ND
	Feb 09	1990.22	17.52	1972.70	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1990.22	17.92	1972.30	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1990.22	18.13	1972.09	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1990.22	18.50	1971.72	5.8	3.4	46.0	3.2	26.70	2.2	160	7.9	ND	ND	ND
	Feb 10	1990.22	18.36	1971.86	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1990.22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1990.22	17.54	1972.68	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1990.22	17.65	1972.57	6.9	3.7	230.8	4.9	26.17	NM	98	2.0	ND	ND	ND
	Mar 11	1990.22	18.19	1972.03	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1990.22	18.40	1971.82	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1990.22	18.02	1972.20	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1990.22	17.86	1972.36	7.0	3.5	NM	3.7	25.20	2.2	302	8.9	ND	ND	ND
	Mar 12	1990.22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1989.78	17.78	1972.00	7.3	3.5	8.0	4.8	27.56	2.3	-42	10	ND	ND	ND
	Sep 12	1989.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1989.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1989.78	18.47	1971.31	7.0	3.8	NM	3.4	25.22	2.5	70	10	<0.50	<0.50	<0.50
	Jun 13	1989.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1989.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1990.78	18.40	1972.38	6.1	3.4	53.0	1.64	26.34	2.17	165	8.4	<0.50	<0.50	<0.50
	Mar 14	1990.78	18.12	1972.66	7.3	3.3	39.0	4.18	24.49	2.11	90	1.3	<0.50	<0.50	<0.50
	Jun 14	1990.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1990.78	18.23	1972.55	7.42	3.48	59.40	6.32	28.59	2.25	108	4.7	<0.50	<0.50	<0.50
	Nov 14	1990.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-8	Sep 02	1994.25	18.55	1975.70	NM	NM	NM	NM	NM	NM	NM	5.4	ND	ND	ND
	May 03	1994.25	19.50	1974.75	NM	NM	NM	NM	NM	NM	NM	3.2	ND	ND	ND
	Sep 03	1994.23	19.55	1974.68	NM	NM	NM	NM	NM	NM	NM	3.7	ND	ND	ND
	Jan 04	1994.23	19.91	1974.32	7.0	2.2	NM	1.0	22.00	NM	NM	4.7	ND	ND	ND
	May 05	1994.23	15.51	1978.72	7.0	1.8	NM	3.6	27.70	NM	107	5.6	5.6	ND	ND
	Dec 05	1994.23	18.48	1975.75	6.7	4.2	>999	2.1	24.10	2.7	483	3.6	ND	ND	ND
	Mar 06	1994.23	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1994.23	18.89	1975.34	NM	3.7	>999	6.9	27.40	2.3	185	2.6	ND	ND	ND
	Oct 06	1994.23	19.12	1975.11	6.2	3.4	>999	5.9	26.70	2.2	108	3.4	ND	ND	ND
	Dec 06	1994.23	19.60	1974.63	6.2	3.4	>999	5.9	26.70	2.2	108	4.3	ND	ND	ND
	Mar 07	1994.23	20.56	1973.67	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1994.23	20.31	1973.92	7.1	3.5	259.0	7.3	27.30	2.3	287	2.8	ND	ND	ND
	Sep 07	1994.23	19.14	1975.09	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1994.23	19.81	1974.42	6.5	3.7	0.0	3.5	25.50	2.4	158	2.8	ND	ND	ND
	Mar 08	1994.23	20.61	1973.62	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1994.23	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1994.22	20.79	1973.43	6.8	3.5	421.0	5.2	26.90	2.2	154	3.7	ND	ND	ND
	Feb 09	1994.22	20.29	1973.93	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1994.22	20.44	1973.78	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1994.22	20.41	1973.81	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1994.22	20.71	1973.51	6.7	3.2	450.0	5.0	26.80	2.0	133	2.8	ND	ND	ND
	Feb 10	1994.22	20.86	1973.36	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1994.22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1994.22	19.68	1974.54	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1994.22	19.94	1974.28	7.0	3.5	39.5	5.3	26.65	NM	98	4	ND	ND	ND
	Mar 11	1994.22	20.41	1973.81	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1994.22	20.50	1973.72	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1994.22	20.27	1973.95	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 12	1994.22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1991.71	19.32	1972.39	7.4	3.2	93.1	6.6	27.55	2.1	17	3.5	ND	ND	ND
	Sep 12	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1991.71	20.65	1971.06	7.0	3.5	NM	5.0	25.97	2.3	78	1.5	<0.50	<0.50	<0.50
	Jun 13	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1991.71	20.60	1971.11	6.1	3.2	95.0	2.3	26.12	2.1	194	2.2	<0.50	<0.50	<0.50
	Mar 14	1991.71	20.45	1971.26	7.3	3.1	92.9	5.4	24.07	2.0	89	1.6	<0.50	<0.50	<0.50
	Jun 14	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-9	Sep 02	1992.26	18.46	1973.80	NM	NM	NM	NM	NM	NM	NM	670	ND	ND	ND
	May 03	1992.26	19.15	1973.11	NM	NM	NM	NM	NM	NM	NM	59	ND	ND	ND
	Sep 03	1992.26	19.02	1973.24	NM	NM	NM	NM	NM	NM	NM	9.2	ND	ND	ND
	Jan 04	1992.26	19.05	1973.21	7.0	2.5	NM	1.2	22.60	NM	NM	10	ND	ND	ND
	May 05	1992.26	15.36	1976.90	7.1	2.7	296.0	7.6	26.10	NM	130	353	ND	ND	ND
	Sep 05	1992.26	17.85	1974.41	7.2	1.8	4.0	6.6	27.10	1.2	111	64	ND	ND	ND
	Dec 05	1992.26	17.68	1974.58	6.9	2.5	33.0	2.5	26.60	1.6	123	190	ND	ND	ND
	Mar 06	1992.26	18.55	1973.71	5.1	2.1	>999	NM	25.90	1.3	496	ND	ND	ND	ND
	Jun 06	1992.26	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 06	1992.26	18.40	1973.86	6.3	2.4	0.0	4.1	25.70	1.5	86	160	ND	ND	ND
	Dec 06	1992.26	19.00	1973.26	6.8	3.0	0.0	5.1	25.50	1.9	233	45	ND	ND	ND
	Mar 07	1992.26	20.19	1972.07	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1992.26	19.95	1972.31	7.1	2.5	0.0	5.6	26.10	1.6	428	170	ND	ND	ND
	Sep 07	1992.26	18.51	1973.75	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1992.26	19.20	1973.06	NM	NM	NM	NM	NM	NM	NM	110	ND	ND	ND
	Mar 08	1992.26	20.16	1972.10	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1992.26	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1992.25	19.87	1972.38	7.0	1.4	162.0	4.7	26.60	0.9	58	12	ND	ND	ND
	Feb 09	1992.25	19.76	1972.49	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1992.25	20.00	1972.25	7.5	1.4	>-5.0	4.0	26.50	0.8	-9	13	ND	ND	ND
	Sep 09	1992.25	20.20	1972.05	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1992.25	20.45	1971.80	7.0	1.1	-10.0	4.0	26.40	0.7	-157	5.5	ND	ND	ND
	Feb 10	1992.25	20.21	1972.04	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1992.25	20.10	1972.15	7.3	1.2	12.0	5.1	27.67	NM	NM	6.6	ND	ND	ND
	Oct 10	1992.25	19.44	1972.81	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1992.25	19.63	1972.62	7.1	1.2	7.0	3.5	27.31	NM	50	3.7	ND	ND	ND
	Mar 11	1992.25	20.13	1972.12	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1992.25	20.40	1971.85	7.1	1.2	0.4	0.5	31.96	NM	286	2.3	ND	ND	ND
	Sep 11	1992.25	19.99	1972.26	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1992.25	19.91	1972.34	7.3	1.2	NM	2.2	24.70	0.8	265	5.6	ND	ND	ND
	Mar 12	1992.25	20.50	1971.75	7.5	1.2	17.8	1.7	26.86	0.8	-79	5.2	NS	NS	NS
*	Jun 12	1992.25	19.45	1972.80	7.6	1.0	13.4	4.7	30.27	0.8	-8	5.7	ND	ND	ND
	Sep 12	1992.25	19.07	1973.18	7.7	1.2	NM	2.2	27.57	0.8	118	3.7	ND	ND	ND
	Nov 12	1992.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1992.25	20.56	1971.69	7.2	1.4	NM	0.6	25.53	0.9	-0.1	6.6	<0.50	<0.50	<0.50
	Jun 13	1992.25	20.91	1971.34	7.2	1.4	NM	2.3	25.44	0.9	110	9.8	<0.50	<0.50	<0.50
	Sep 13	1992.25	20.69	1971.56	7.3	1.4	NM	2.4	27.88	0.9	-81	6.6	<0.50	<0.50	<0.50
	Nov 13	1992.25	20.53	1971.72	6.4	1.3	35.3	0.6	25.32	0.8	56	11	<0.50	<0.50	<0.50
	Mar 14	1992.25	20.36	1971.89	7.3	1.4	13.8	4.1	24.73	0.9	75	11	<0.50	<0.50	<0.50
	Jun 14	1992.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1992.25	20.55	1971.70	7.25	1.31	17.60	3.98	29.12	0.86	58.50	7.9	<0.50	<0.50	<0.50
	Nov 14	1992.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
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Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-10	Sep 02	1983.81	18.51	1965.30	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	May 03	1983.81	18.65	1965.16	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	Sep 03	1983.81	19.45	1964.36	NM	NM	NM	NM	NM	NM	NM	15	ND	ND	ND
	Jan 04	1983.81	20.32	1963.49	7.0	3.1	NM	1.0	24.40	NM	NM	ND	ND	ND	ND
	May 05	1983.81	16.76	1967.05	6.8	3.2	25.0	1.5	28.10	NM	-253	ND	ND	ND	ND
	Sep 05	1983.81	16.95	1966.86	7.0	2.9	28.0	3.9	27.90	1.9	-239	ND	ND	ND	ND
	Dec 05	1983.81	17.64	1966.17	6.7	3.7	57.0	1.5	23.90	2.3	-140	ND	ND	ND	ND
	Mar 06	1983.81	19.25	1964.56	5.7	1.8	153.0	NM	21.30	1.2	-154	ND	ND	ND	ND
	Jun 06	1983.81	17.90	1965.91	NM	2.1	>999	3.5	28.10	1.5	-303	ND	ND	ND	ND
	Oct 06	1983.81	19.00	1964.81	6.2	1.4	86.0	1.6	27.10	0.9	-272	ND	ND	ND	ND
	Dec 06	1983.81	19.21	1964.60	6.8	3.9	144.0	3.9	26.60	2.5	-321	1	ND	ND	ND
	Mar 07	1983.81	20.84	1962.97	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1983.81	21.39	1962.42	7.0	3.5	>999	2.7	27.30	2.1	-179	ND	ND	ND	ND
	Sep 07	1983.81	20.38	1963.43	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1983.81	20.26	1963.55	6.9	3.6	0.0	0.6	24.50	2.3	-170	1	ND	ND	ND
	Mar 08	1983.81	21.06	1962.75	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1983.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1983.78	20.45	1963.33	6.8	2.9	100.0	0.0	27.70	1.9	-226	ND	ND	ND	ND
	Feb 09	1983.78	20.90	1962.88	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1983.78	21.42	1962.36	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1983.78	21.46	1962.32	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1983.78	21.67	1962.11	6.3	2.6	-10.0	0.2	27.40	1.6	-330	ND	ND	ND	ND
	Feb 10	1983.78	22.47	1961.31	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1983.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1983.78	21.23	1962.55	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1983.78	21.10	1962.68	7.1	1.0	1.0	0.1	28.00	NM	-274	ND	ND	ND	ND
	Mar 11	1983.78	21.76	1962.02	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1983.78	22.18	1961.60	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1983.78	21.75	1962.03	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1983.78	21.62	1962.16	6.9	1.3	NM	0.2	26.91	NM	-335	ND	ND	ND	ND
	Mar 12	1983.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1983.28	21.76	1961.52	7.4	3.0	11.0	1.0	27.50	2.0	-283	0.9	ND	ND	ND
	Sep 12	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1983.28	21.36	1961.92	7.1	2.7	NM	0.7	26.34	1.7	-238	<0.50	<0.50	<0.50	<0.50
	Jun 13	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1983.28	21.43	1961.85	7.3	3.0	76.1	4.7	27.18	1.9	-78	<0.50	<0.50	<0.50	<0.50
	Jun 14	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-11	Sep 02	1980.24	24.22	1956.02	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	May 03	1980.24	24.25	1955.99	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	Sep 03	1980.24	25.62	1954.62	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jan 04	1980.24	26.22	1954.02	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	May 05	1980.24	22.55	1957.69	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 06	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 06	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 06	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 07	1980.24	25.51	1954.73	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 07	1980.24	26.13	1954.11	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 08	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Feb 09	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Feb 10	1980.21	27.54	1952.67	6.7	3.3	3.0	5.0	24.30	2.1	-134	ND	ND	ND	ND
	Jun 10	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1980.21	26.69	1953.52	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 11	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1980.21	27.36	1952.85	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1980.21	27.45	1952.76	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1980.21	27.28	1952.93	6.9	3.3	NM	0.2	24.72	21.3	-94	1.4	ND	ND	ND
	Mar 12	1980.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1979.87	27.37	1952.50	7.3	3.4	3.9	0.9	26.07	2.2	-194	1.4	ND	ND	ND
	Sep 12	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1979.87	25.81	1954.06	7.0	3.7	NM	1.2	24.43	2.4	-104	<0.50	<0.50	<0.50	<0.50
	Jun 13	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1979.87	26.32	1953.55	7.2	3.2	13.2	0.9	24.93	2.1	-19	<0.50	<0.50	<0.50	<0.50
	Jun 14	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1979.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-12	Sep 02	1996.59	14.90	1981.69	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	May 03	1996.59	15.07	1981.52	NM	NM	NM	NM	NM	NM	NM	1.3	ND	ND	ND
	Sep 03	1996.59	15.30	1981.29	NM	NM	NM	NM	NM	NM	NM	14	ND	ND	ND
	Jan 04	1996.59	15.40	1981.19	7.0	2.2	NM	NM	22.40	NM	NM	6.1	ND	ND	ND
	May 05	1996.59	12.34	1984.25	6.8	2.6	NM	3.2	24.90	NM	219	ND	ND	ND	ND
	Sep 05	1996.59	13.45	1983.14	7.0	4.2	160.0	5.0	25.60	2.7	95	1.1	ND	ND	ND
	Dec 05	1996.59	14.20	1982.39	6.7	5.0	210.0	2.0	22.50	3.2	523	1.2	ND	ND	ND
	Mar 06	1996.59	15.00	1981.59	NM	6.7	91.0	NM	23.50	4.2	503	1.1	ND	ND	ND
	Jun 06	1996.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 06	1996.59	14.71	1981.88	6.3	3.9	>999	3.9	26.10	2.5	112	ND	ND	ND	ND
	Dec 06	1996.59	15.05	1981.54	6.6	4.4	>999	6.2	25.30	2.8	206	1.4	ND	ND	ND
	Mar 07	1996.59	16.55	1980.04	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1996.59	16.31	1980.28	7.1	3.8	>999	3.5	25.50	2.4	-39	ND	ND	ND	ND
	Sep 07	1996.59	14.27	1982.32	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1996.59	15.04	1981.55	6.3	3.9	286.0	2.6	24.70	2.5	207	ND	ND	ND	ND
	Mar 08	1996.59	16.51	1980.08	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1996.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1996.48	15.73	1980.75	6.7	3.8	366.0	0.8	26.90	2.4	119	2	ND	ND	ND
	Feb 09	1996.48	15.61	1980.87	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1996.48	16.26	1980.22	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1996.48	16.29	1980.19	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1996.48	16.76	1979.72	6.0	3.5	370.0	1.5	27.60	2.2	54	1.2	ND	ND	ND
	Feb 10	1996.48	16.92	1979.56	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1996.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1996.48	15.58	1980.90	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1996.48	15.85	1980.63	6.8	3.6	20.4	1.6	26.18	NM	109	0.76	ND	ND	ND
	Mar 11	1996.48	16.49	1979.99	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1996.48	16.66	1979.82	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1996.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1996.48	15.93	1980.55	7.0	3.5	NM	2.0	24.82	2.3	315	0.95	ND	ND	ND
	Mar 12	1996.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1995.95	15.37	1980.58	7.3	3.5	15.3	2.8	28.24	2.3	-18	1.2	ND	ND	ND
	Sep 12	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1995.95	16.76	1979.19	7.0	3.8	NM	2.4	25.55	2.5	46	0.65	<0.50	<0.50	<0.50
	Jun 13	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1995.95	16.66	1979.29	6.0	3.4	79.0	1.1	24.57	2.2	189	0.86	<0.50	<0.50	<0.50
	Mar 14	1995.95	16.26	1979.69	7.3	3.3	83.0	4.4	23.31	2.1	48	0.67	<0.50	<0.50	<0.50
	Jun 14	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1995.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-13	May 03	1984.23	17.25	1966.98	NM	NM	NM	NM	NM	NM	NM	2,100	ND	ND	ND
	Sep 03	1984.23	17.60	1966.63	NM	NM	NM	NM	NM	NM	NM	2,800	ND	ND	ND
	Jan 04	1984.23	18.00	1966.23	6.6	3.3	NM	1.1	22.20	NM	NM	2,700	ND	ND	ND
	May 05	1984.23	14.76	1969.47	7.0	2.1	>999	4.2	24.50	NM	118	5,310	ND	ND	ND
	Sep 05	1984.23	15.60	1968.63	7.1	4.0	270.0	6.9	25.40	2.5	144	2,600	ND	ND	ND
	Dec 05	1984.23	16.05	1968.18	6.7	5.0	330.0	2.2	24.90	3.2	250	3,400	ND	ND	ND
	Mar 06	1984.23	17.24	1966.99	5.5	3.6	44.0	NM	22.80	2.3	68	3,700	ND	ND	ND
	Jun 06	1984.23	17.40	1966.83	NM	3.7	425.0	7.1	24.20	2.4	120	2,900	NS	NS	NS
	Oct 06	1984.23	17.15	1967.08	6.2	3.6	50.0	3.8	24.60	2.3	169	2,800	ND	ND	ND
	Dec 06	1984.23	17.47	1966.76	6.8	4.3	94.0	4.2	24.50	2.7	330	3,200	ND	ND	ND
	Mar 07	1984.23	18.58	1965.65	6.9	3.5	308.0	9.5	24.00	2.3	514	2,500	ND	ND	ND
	Jun 07	1984.23	18.66	1965.57	7.0	3.5	0.0	6.1	23.60	2.2	411	3,700	ND	ND	ND
	Sep 07	1984.23	17.41	1966.82	6.7	3.3	3.0	4.7	27.70	2.1	228	2,000	ND	ND	ND
	Dec 07	1984.23	17.50	1966.73	6.4	3.7	19.7	6.5	21.30	2.4	282	2,500	ND	ND	ND
	Mar 08	1984.23	18.31	1965.92	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1984.23	NM	NM	NM	NM	NM	NM	NM	NM	NM	2,300	ND	ND	ND
	Oct 08	1984.18	18.25	1965.93	6.8	3.5	50.3	3.1	24.80	2.2	87	2,600	5.3	ND	ND
	Feb 09	1984.18	18.28	1965.90	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1984.18	18.41	1965.77	7.0	3.8	15.7	3.0	24.40	2.4	120	2,200	2.9	ND	ND
	Sep 09	1984.18	18.63	1965.55	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1984.18	19.05	1965.13	6.0	3.4	0.0	2.0	25.20	2.1	135	1,700	3.7	ND	ND
	Feb 10	1984.18	19.22	1964.96	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1984.18	18.72	1965.46	7.0	3.2	5.2	2.9	25.27	NM	NM	1,600	3.2	ND	ND
	Oct 10	1984.18	18.44	1965.74	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1984.18	18.45	1965.73	6.9	3.5	2.0	2.3	23.79	NM	90	1,900	3.9	ND	ND
	Mar 11	1984.18	18.75	1965.43	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1984.18	19.15	1965.03	7.1	3.5	4.0	2.7	24.74	NM	284	1,600	3.2	ND	ND
	Sep 11	1984.18	18.64	1965.54	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1984.18	18.67	1965.51	6.9	3.7	NM	1.6	23.97	2.4	113	1,700	2.4	ND	ND
	Mar 12	1984.18	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1983.31	18.45	1964.86	7.2	3.5	19.6	1.9	23.36	2.3	86	1,500	3.7	ND	ND
	Sep 12	1983.31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1983.31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1983.31	18.53	1964.78	7.0	3.8	NM	1.6	22.69	2.5	159	1,300	2.8	<0.50	<0.50
	Jun 13	1983.31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1983.31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1983.31	18.50	1964.81	7.5	3.9	19.7	0.9	23.77	2.5	104	1,800	3.5	<0.50	<0.50
	Mar 14	1983.31	18.37	1964.94	7.2	3.2	12.2	3.6	23.95	2.1	-158	1,500	3.7	<0.50	<0.50
	Jun 14	1983.31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1983.31	18.31	1965.00	7.39	3.52	7.97	5.92	29.88	2.31	133	640	2.8	<0.50	<0.50
	Nov 14	1983.31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
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Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-14	Nov 03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,900	ND	ND	ND
	Jan 04	1987.89	18.35	1969.54	7.0	2.3	NM	1.3	22.30	NM	NM	2,100	ND	ND	ND
	May 05	1987.89	15.02	1972.87	7.0	3.2	NM	NM	24.70	NM	140	2,920	5.5	ND	ND
	Dec 05	1987.89	16.50	1971.39	6.8	5.3	>999	2.1	26.10	3.3	206	3,400	ND	ND	ND
	Mar 06	1987.89	17.54	1970.35	5.2	6.8	898.0	NM	24.20	4.3	234	2,500	ND	ND	ND
	Jun 06	1987.89	17.61	1970.28	NM	3.9	>999	6.8	25.40	2.5	119	1,800	NS	NS	NS
	Oct 06	1987.89	17.42	1970.47	6.1	3.6	>999	7.0	24.80	2.3	297	1,900	ND	ND	ND
	Dec 06	1987.89	17.78	1970.11	6.8	4.5	350.0	4.2	25.70	2.9	226	3,500	ND	ND	ND
	Mar 07	1987.89	18.93	1968.96	6.8	3.7	455.0	8.1	25.10	2.4	501	1,900	ND	ND	ND
	Jun 07	1987.89	18.80	1969.09	7.0	3.7	259.0	6.4	24.80	2.4	299	1,700	ND	ND	ND
	Sep 07	1987.89	17.40	1970.49	6.8	3.5	103.0	4.2	32.20	2.2	220	650	ND	ND	ND
	Dec 07	1987.89	17.66	1970.23	6.4	4.0	9.7	5.7	23.30	2.6	147	1,500	ND	ND	ND
	Mar 08	1987.89	18.63	1969.26	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1987.89	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,500	ND	ND	ND
	Oct 08	1987.86	18.60	1969.26	6.8	3.7	249.0	3.1	25.70	2.4	116	1,500	2.9	ND	ND
	Feb 09	1987.86	18.47	1969.39	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1987.86	18.63	1969.23	7.0	4.0	>-5.0	2.9	25.60	2.5	118	1,900	4.4	ND	ND
	Sep 09	1987.86	18.88	1968.98	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1987.86	19.20	1968.66	5.6	3.6	300.0	1.8	26.20	2.3	132	1,200	2.1	ND	ND
	Feb 10	1987.86	19.26	1968.60	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1987.86	18.88	1968.98	7.0	3.3	84.2	3.6	25.49	NM	NM	1,500	2.4	ND	ND
	Oct 10	1987.86	18.50	1969.36	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1987.86	18.56	1969.30	6.9	3.6	25.8	2.9	25.07	NM	101	1,500	2.6	ND	ND
	Mar 11	1987.86	18.97	1968.89	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1987.86	19.15	1968.71	7.3	3.6	11.4	3.2	25.78	NM	259	1,700	2.0	ND	ND
	Sep 11	1987.86	18.74	1969.12	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1987.86	18.72	1969.14	7.0	3.5	NM	2.6	25.40	2.3	111	1,700	2.5	ND	ND
	Mar 12	1987.86	19.33	1968.53	7.2	3.6	87.5	4.3	23.33	2.3	-51	1,600	NS	NS	NS
*	Jun 12	1987.33	18.71	1968.62	7.3	3.5	122.0	3.9	25.77	2.3	104	1,400	2.5	ND	ND
	Sep 12	1987.33	18.28	1969.05	7.3	3.5	NM	3.2	25.71	2.3	144	1,300	2.8	ND	ND
	Nov 12	1987.33	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1987.33	19.12	1968.21	7.0	3.9	NM	2.6	24.10	2.5	112	1,900	2.9	<0.50	<0.50
	Jun 13	1987.33	19.44	1967.89	7.2	3.1	NM	3.5	28.28	2.5	130	1,300	2.1	<0.50	<0.50
	Sep 13	1987.33	19.16	1968.17	7.0	3.7	NM	2.8	26.13	2.4	91	1,400	2.5	<0.50	<0.50
	Nov 13	1987.33	18.96	1968.37	7.8	3.9	28.9	2.6	25.17	3.5	96	1,500	2.7	<0.50	<0.50
	Mar 14	1987.33	18.89	1968.44	7.3	3.0	165.0	6.0	24.70	2.1	-114	930	2.2	<0.50	<0.50
	Jun 14	1987.33	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1987.33	18.95	1968.38	7.34	3.60	67.60	3.53	27.45	2.34	122	330	1.0	<0.50	<0.50
	Nov 14	1987.33	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
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Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-14I	Mar 13	NM	19.52	NM	7.4	1.3	NM	4.1	24.19	0.9	95	7,200	51	4.9	<0.50
	Jun 13	1987.54	19.95	1967.59	7.5	1.4	NM	4.2	30.76	0.9	101	5,500	27	3.8	<0.50
	Sep 13	1987.54	19.66	1967.88	7.4	1.4	NM	2.9	35.26	0.9	82	3,700	23	1.6	<0.50
	Nov 13	1987.54	19.53	1968.01	7.8	1.4	6.3	4.0	24.38	0.9	102	10,000	38	17	<0.50
	Mar 14	1987.54	19.53	1968.01	7.3	1.1	11.3	4.4	25.36	0.7	134	7,600	32	17	<0.50
	Jun 14	1987.54	19.69	1967.85	7.2	1.3	6.5	4.4	28.29	0.9	111	9,800	21	6.9	<0.50
	Sep 14	1987.54	19.41	1968.13	7.3	1.3	6.4	4.0	30.32	0.9	93	9,300	21	1.4	<0.50
	Nov 14	1987.54	19.44	1968.10	7.0	1.3	3.4	4.0	24.91	0.9	26	11,000	25	17	<1.0

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-15	Nov 03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	5.2	ND	ND	ND
	Jan 04	1983.28	15.60	1967.68	6.4	2.2	NM	1.0	22.40	NM	NM	2.7	ND	ND	ND
	May 05	1983.28	12.59	1970.69	7.0	2.3	NM	2.9	25.10	NM	164	ND	ND	ND	ND
	Sep 05	1983.28	13.45	1969.83	7.0	3.6	36.0	3.5	25.80	2.3	-24	3.6	ND	ND	ND
	Dec 05	1983.28	13.77	1969.51	6.6	4.5	140.0	1.0	25.90	2.8	-38	5	ND	ND	ND
	Mar 06	1983.28	15.00	1968.28	4.7	6.4	20.0	NM	23.90	4.0	613	4.5	ND	ND	ND
	Jun 06	1983.28	15.15	1968.13	NM	3.8	300.0	4.3	26.00	2.5	106	4.4	NS	NS	NS
	Oct 06	1983.28	14.91	1968.37	6.2	3.7	10.0	2.0	25.70	2.3	51	3.3	ND	ND	ND
	Dec 06	1983.28	15.17	1968.11	6.8	4.7	15.0	3.4	25.90	3.0	28	3.7	ND	ND	ND
	Mar 07	1983.28	16.31	1966.97	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1983.28	16.16	1967.12	7.0	3.6	37.0	3.1	25.30	2.3	362	3	ND	ND	ND
	Sep 07	1983.28	14.80	1968.48	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1983.28	14.71	1968.57	6.4	3.7	0.0	1.9	23.30	2.3	170	3	ND	ND	ND
	Mar 08	1983.28	16.62	1966.66	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1983.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1983.25	15.80	1967.45	6.8	3.6	132.0	2.1	27.00	2.3	112	7.8	ND	ND	ND
	Feb 09	1983.25	15.76	1967.49	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1983.25	15.89	1967.36	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1983.25	16.34	1966.91	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1983.25	16.68	1966.57	5.8	3.2	44.0	1.8	26.60	2.1	34	3	ND	ND	ND
	Feb 10	1983.25	16.81	1966.44	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1983.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1983.25	16.10	1967.15	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1983.25	16.08	1967.17	6.8	3.4	7.6	2.3	27.60	NM	154	2.5	ND	ND	ND
	Mar 11	1983.25	16.29	1966.96	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1983.25	16.64	1966.61	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1983.25	16.18	1967.07	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1983.25	16.17	1967.08	6.8	4.0	NM	2.1	26.75	NM	-42	3.5	ND	ND	ND
	Mar 12	1983.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 12	1982.74	16.70	1966.04	7.3	3.1	25.4	4.1	27.82	2.1	-64	4.2	ND	ND	ND
	Sep 12	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1982.74	16.41	1966.33	7.0	3.6	NM	2.9	26.24	2.3	48	2.7	<0.50	<0.50	<0.50
	Jun 13	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1982.74	16.25	1966.49	7.2	3.1	62.6	2.9	26.32	2.0	66	2.8	<0.50	<0.50	<0.50
	Jun 14	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1982.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-16	Nov 03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	ND	ND	ND	ND
	Jan 04	1980.63	26.22	1954.41	7.0	2.3	NM	0.7	22.40	NM	NM	ND	ND	ND	ND
	May 05	1980.63	23.41	1957.22	7.1	2.9	NM	1.1	25.20	NM	-4	ND	ND	ND	ND
	Sep 05	1980.63	24.12	1956.51	7.0	3.4	520.0	3.5	24.60	2.3	-31	ND	ND	ND	ND
	Dec 05	1980.63	24.21	1956.42	6.7	3.8	>999	1.3	25.30	2.4	48	ND	ND	ND	ND
	Mar 06	1980.63	25.06	1955.57	5.2	5.7	199.0	NM	23.80	3.6	162	ND	ND	ND	ND
	Jun 06	1980.63	26.05	1954.58	NM	3.4	>999	5.6	27.10	2.2	-64	ND	ND	ND	ND
	Oct 06	1980.63	25.67	1954.96	6.3	3.4	32.0	2.0	24.60	2.2	-145	ND	ND	ND	ND
	Dec 06	1980.63	25.56	1955.07	6.5	3.6	271.0	2.9	24.40	1.3	-52	ND	ND	ND	ND
	Mar 07	1980.63	26.33	1954.30	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1980.63	27.28	1953.35	6.7	3.3	282.0	2.2	25.00	2.1	94	ND	ND	ND	ND
	Sep 07	1980.63	27.03	1953.60	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1980.63	26.46	1954.17	6.5	3.4	0.0	1.9	24.90	2.2	82	ND	ND	ND	ND
	Mar 08	1980.63	26.33	1954.30	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1980.63	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1980.61	27.19	1953.42	6.9	3.2	68.0	0.0	24.90	2.1	38	ND	2.8	ND	ND
	Feb 09	1980.61	26.52	1954.09	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1980.61	27.30	1953.31	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1980.61	27.86	1952.75	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1980.61	27.99	1952.62	5.7	3.0	100.0	0.4	26.00	1.9	-96	1.9	ND	ND	ND
	Feb 09	1980.61	28.43	1952.18	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1980.61	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1980.61	27.95	1952.66	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1980.61	27.68	1952.93	6.6	3.1	2.5	0.2	26.52	NM	140	ND	ND	ND	ND
	Mar 11	1980.61	27.49	1953.12	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1980.61	28.22	1952.39	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1980.61	28.36	1952.25	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1980.61	28.17	1952.44	6.9	3.5	NM	0.2	24.40	NM	-74	ND	ND	ND	ND
	Mar 12	1980.61	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1980.53	28.51	1952.02	7.2	2.9	NM	1.2	25.13	1.9	-23	ND	ND	ND	ND
	Sep 12	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1980.53	26.86	1953.67	7.0	3.3	NM	1.7	25.33	2.2	-111	<0.50	<0.50	<0.50	<0.50
	Jun 13	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1980.53	27.39	1953.14	7.3	2.8	1.8	2.5	24.61	1.8	23	<0.50	<0.50	<0.50	<0.50
	Jun 14	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1980.53	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-17	May 05	1990.92	15.07	1975.85	6.9	3.5	22.0	5.9	24.10	NM	181	520	ND	ND	ND
	Dec 05	1990.92	17.05	1973.87	6.9	4.7	6.0	2.3	26.80	3.0	240	470	ND	ND	ND
	Mar 06	1990.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1990.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 06	1990.92	17.91	1973.01	6.2	3.5	2.0	7.4	24.90	2.2	174	1,300	ND	ND	ND
	Dec 06	1990.92	18.41	1972.51	6.9	4.1	25.0	6.8	24.10	2.7	386	710	ND	ND	ND
	Mar 07	1990.92	19.63	1971.29	7.0	3.6	87.0	8.1	24.30	2.3	350	440	ND	ND	ND
	Jun 07	1990.92	19.48	1971.44	7.0	3.7	37.0	7.3	25.00	2.3	471	300	ND	ND	ND
	Sep 07	1990.92	17.91	1973.01	6.7	3.4	0.0	5.0	26.70	2.2	197	380	ND	ND	ND
	Dec 07	1990.92	18.45	1972.47	6.3	3.9	0.0	4.8	19.70	2.5	176	480	ND	ND	ND
	Mar 08	1990.92	19.51	1971.41	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1990.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	360	ND	ND	ND
	Oct 08	1990.89	18.84	1972.05	6.8	3.7	-3.1	4.1	25.00	2.4	136	290	ND	ND	ND
	Feb 09	1990.89	19.12	1971.77	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1990.89	19.44	1971.45	5.6	3.8	0.0	1.3	25.00	2.4	170	270	ND	ND	ND
	Sep 09	1990.89	19.58	1971.31	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1990.89	19.95	1970.94	6.6	3.5	-10.0	3.0	25.20	2.2	131	310	ND	ND	ND
	Feb 10	1990.89	19.71	1971.18	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1990.89	19.62	1971.27	7.0	2.9	-0.7	3.1	25.10	NM	NM	270	ND	ND	ND
	Oct 10	1990.89	19.10	1971.79	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1990.89	19.14	1971.75	6.6	3.7	1.3	1.8	26.48	NM	207	240	ND	ND	ND
	Mar 11	1990.89	19.65	1971.24	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1990.89	19.85	1971.04	6.7	3.7	0.5	1.7	25.89	NM	399	350	ND	ND	ND
	Sep 11	1990.89	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1990.89	19.45	1971.44	7.0	3.5	NM	2.7	24.09	2.6	274	350	ND	ND	ND
	Mar 12	1990.89	20.03	1970.86	7.2	3.6	4.1	1.3	24.72	2.3	-92	320	NS	NS	NS
*	Jun 12	1991.04	19.09	1971.95	7.2	3.5	4.5	1.6	24.31	2.3	101	260	ND	ND	ND
	Sep 12	1991.04	18.83	1972.21	7.5	3.5	NM	2.0	25.50	2.8	72	250	ND	ND	ND
	Nov 12	1991.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1991.04	19.94	1971.10	7.0	3.7	NM	1.0	23.75	2.4	54	190	<0.50	<0.50	<0.50
	Jun 13	1991.04	20.30	1970.74	7.0	3.8	NM	1.1	23.43	2.4	91	150	<0.50	<0.50	<0.50
	Sep 13	1991.04	20.18	1970.86	7.1	3.7	NM	1.4	25.61	2.4	-86	130	<0.50	<0.50	<0.50
	Nov 13	1991.04	19.90	1971.14	6.0	3.2	1.7	0.4	24.10	2.1	154	120	<0.50	<0.50	<0.50
	Mar 14	1991.04	19.67	1971.37	7.2	3.2	2.0	2.2	23.49	2.1	47	69	<0.50	<0.50	<0.50
	Jun 14	1991.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1991.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1991.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-18	May 05	1962.87	8.71	1954.16	7.1	3.9	>999	5.6	24.30	NM	139	1,600	ND	ND	ND
	Sep 05	1962.87	9.69	1953.18	7.1	4.1	3.0	6.2	26.30	2.6	88	1,700	ND	ND	ND
	Dec 05	1962.87	9.70	1953.17	6.8	4.7	NM	2.0	25.20	3.0	420	2,400	ND	ND	ND
	Mar 06	1962.87	10.21	1952.66	5.2	6.2	3.0	NM	23.30	3.9	237	1,700	NS	NS	NS
	Jun 06	1962.87	11.64	1951.23	NM	3.6	304.0	6.2	25.40	2.3	166	1,600	NS	NS	NS
	Oct 06	1962.87	11.21	1951.66	6.3	3.5	0.0	4.1	25.50	2.2	127	2,100	ND	ND	ND
	Dec 06	1962.87	10.98	1951.89	6.8	4.2	0.0	4.3	24.70	2.7	297	1,400	ND	ND	ND
	Mar 07	1962.87	11.36	1951.51	7.0	3.4	23.0	7.5	22.80	2.2	286	1,400	ND	ND	ND
	Jun 07	1962.87	12.53	1950.34	7.0	3.5	24.0	5.5	23.90	2.2	394	1,300	ND	ND	ND
	Sep 07	1962.87	12.45	1950.42	6.8	3.3	22.0	5.4	29.30	2.1	210	930	ND	ND	ND
	Dec 07	1962.87	11.54	1951.33	6.3	3.6	0.0	5.8	21.60	2.3	232	1,400	ND	ND	ND
	Mar 08	1962.87	11.15	1951.72	6.9	3.5	0.2	4.3	21.20	2.2	212	1,800	ND	ND	ND
	Jun 08	1962.87	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,200	ND	ND	ND
	Oct 08	1962.86	11.96	1950.90	5.5	3.5	14.3	7.8	25.50	2.2	196	950	3.7	ND	ND
	Feb 09	1962.86	11.48	1951.38	6.7	3.3	0.0	3.8	22.70	2.1	90	1,500	5.2	ND	ND
	Jun 09	1962.86	12.36	1950.50	7.3	3.5	20.2	3.5	23.90	2.3	131	3,500	5.1	ND	ND
	Sep 09	1962.86	13.24	1949.62	6.6	3.9	18.9	4.3	28.00	2.5	136	1,200	ND	ND	ND
	Nov 09	1962.86	13.27	1949.59	5.9	3.3	40.0	3.6	25.80	2.1	132	1,400	4.1	ND	ND
	Feb 10	1962.86	13.37	1949.49	6.9	3.3	9.0	4.0	23.30	2.1	134	1,600	4.8	ND	ND
	Jun 10	1962.86	12.90	1949.96	7.1	3.1	-0.9	8.0	25.10	NM	NM	1,100	3.5	ND	ND
	Oct 10	1962.86	13.43	1949.43	6.7	3.3	-0.7	4.4	26.19	2.2	528	1,300	3.4	ND	ND
	Nov 10	1962.86	13.20	1949.66	6.8	3.3	0.2	4.0	25.79	NM	192	1,200	3.8	ND	ND
	Mar 11	1962.86	12.43	1950.43	7.5	3.4	25.7	7.8	22.14	NM	118	1,000	2.7	ND	ND
	Jun 11	1962.86	13.32	1949.54	7.4	3.4	0.7	4.4	24.99	NM	234	1,300	2.9	ND	ND
	Sep 11	1962.86	13.61	1949.25	7.0	3.4	39.0	6.2	26.60	2.2	276	1,300	3.2	ND	ND
	Nov 11	1962.86	13.39	1949.47	7.0	3.2	NM	4.0	24.97	2.1	178	1,100	3.3	ND	ND
	Mar 12	1962.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1962.9	13.80	1949.10	7.3	3.2	6.1	4.8	25.23	2.1	115	1,300	3.4	ND	ND
	Sep 12	1962.9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1962.9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1962.9	12.06	1950.84	7.1	3.6	NM	2.6	23.54	2.3	83	1,200	2.5	<0.50	<0.50
	Jun 13	1962.9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1962.9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1962.9	13.62	1949.28	6.8	3.6	8.3	3.6	25.49	2.4	152	780	<0.50	<0.50	<0.50
	Mar 14	1962.9	12.75	1950.15	7.3	3.2	58.1	4.6	19.23	2.1	247	230	<0.50	<0.50	<0.50
	Jun 14	1962.9	13.78	1949.12	7.1	3.4	4.8	4.9	27.63	2.2	71	1,100	1.2	<0.50	<0.50
	Sep 14	1962.9	13.97	1948.93	8.0	2.9	7.6	2.5	30.26	1.8	92	620	0.78	<0.50	<0.50
	Nov 14	1962.9	13.22	1949.68	7.0	3.5	2.9	3.9	24.09	2.3	71	1,100	1.7	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-19	Nov 03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,100	ND	ND	ND
	Jan 04	1980.26	25.65	1954.61	7.0	1.9	NM	1.0	22.40	NM	NM	1,200	ND	ND	ND
	May 05	1980.26	22.70	1957.56	7.1	1.9	NM	5.8	25.00	NM	130	873	ND	ND	ND
	Dec 05	1980.26	23.65	1956.61	6.6	4.7	NM	2.0	24.70	3.0	388	1,300	ND	ND	ND
	Mar 06	1980.26	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1980.26	25.55	1954.71	NM	3.7	>999	7.9	27.10	2.4	86	910	ND	ND	ND
	Oct 06	1980.26	25.23	1955.03	6.1	3.7	>999	4.6	23.90	2.4	175	840	ND	ND	ND
	Dec 06	1980.26	25.01	1955.25	6.8	4.4	>999	5.7	23.90	2.8	595	1,200	ND	ND	ND
	Mar 07	1980.26	25.77	1954.49	6.9	3.7	>999	9.1	24.30	2.3	284	890	ND	ND	ND
	Jun 07	1980.26	26.84	1953.42	7.1	3.5	>999	6.7	24.50	2.3	551	870	ND	ND	ND
	Sep 07	1980.26	26.41	1953.85	6.8	3.4	352.0	5.1	27.40	2.2	201	510	ND	ND	ND
	Dec 07	1980.26	25.52	1954.74	6.4	3.8	440.0	5.6	24.30	2.4	150	990	ND	ND	ND
	Mar 08	1980.26	25.35	1954.91	7.0	3.7	7.6	5.2	24.80	2.3	190	1,200	NS	NS	NS
	Jun 08	1980.26	NM	NM	NM	NM	NM	NM	NM	NM	NM	930	ND	ND	ND
	Oct 08	1980.24	26.19	1954.05	6.9	3.5	18.0	4.1	24.40	2.2	135	1,300	5.7	ND	ND
	Feb 09	1980.24	25.76	1954.48	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1980.24	26.59	1953.65	7.0	3.6	178.0	4.5	25.80	2.3	125	1,400	6.1	ND	ND
	Sep 09	1980.24	27.34	1952.90	6.4	3.9	999.0	4.7	26.60	2.5	157	880	ND	ND	ND
	Nov 09	1980.24	27.42	1952.82	5.9	3.4	>990	2.7	25.50	2.2	131	580	3.7	ND	ND
	Feb 10	1980.24	27.78	1952.46	6.9	3.2	120.0	4.8	23.70	2.1	135	990	5.5	ND	ND
	Jun 10	1980.24	27.08	1953.16	7.0	3.0	2.7	5.0	25.41	NM	NM	930	4.2	ND	ND
	Oct 10	1980.24	27.50	1952.74	7.1	3.2	15.3	5.2	25.28	2.1	394	420	3.2	ND	ND
	Nov 10	1980.24	27.24	1953.00	7.1	3.3	15.5	5.0	25.25	NM	241	840	4.1	ND	ND
	Mar 11	1980.24	26.73	1953.51	6.9	3.4	71.3	5.4	24.59	NM	258	880	3.7	ND	ND
	Jun 11	1980.24	27.55	1952.69	7.4	3.3	20.5	5.0	26.19	NM	190	1,000	3.5	ND	ND
	Sep 11	1980.24	27.68	1952.56	7.0	3.4	570.0	6.5	26.90	2.2	250	950	3.6	ND	ND
	Nov 11	1980.24	27.50	1952.74	7.1	3.1	NM	4.6	23.94	2.0	131	1,100	4.2	ND	ND
	Mar 12	1980.24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1980.13	27.88	1952.25	7.5	3.1	27.1	5.3	25.86	2.0	102	1,000	3.5	ND	ND
	Sep 12	1980.13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1980.13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1980.13	NM	NM	NM	NM	NM	NM	NM	NM	NM	520	3.2	<0.50	<0.50
	Jun 13	1980.13	27.46	1952.67	7.2	3.4	NM	4.9	28.16	2.2	119	530	3.4	<0.50	<0.50
	Sep 13	1980.13	27.94	1952.19	7.2	3.2	NM	4.7	27.22	2.1	255	840	3.2	<0.50	<0.50
	Nov 13	1980.13	27.48	1952.65	6.3	3.1	65.8	3.2	26.49	2.0	228	440	3.2	<0.50	<0.50
	Mar 14	1980.13	26.66	1953.47	7.3	3.0	72.1	3.2	24.47	2.0	160	910	3.7	<0.50	<0.50
	Jun 14	1980.13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1980.13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1980.13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-19I	Sep 12	1967.55	26.60	1940.95	7.7	3.0	NM	3.9	26.53	2.0	131	690	4.0	0.8	ND
	Nov 12	1967.55	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1967.55	NM	NM	NM	NM	NM	NM	NM	NM	NM	710	5.2	0.74	<0.50
	Jun 13	1967.55	26.42	1941.13	7.3	3.4	NM	4.4	26.1	2.1	589	<0.50	<0.50	<0.50	<0.50
	Sep 13	1978.37	26.92	1951.45	7.0	3.9	NM	5.2	28.5	2.5	650	<0.50	<0.50	<0.50	<0.50
	Nov 13	1978.37	26.47	1951.90	4.3	4.2	20.8	4.3	25.6	2.7	579	<0.50	<0.50	<0.50	<0.50
	Mar 14	1978.37	25.62	1952.75	7.3	3.4	69.4	3.6	23.0	2.2	626	<0.50	<0.50	<0.50	<0.50
	Jun 14	1978.37	26.71	1951.66	6.9	3.5	15.7	5.6	28.5	2.2	650	<0.50	<0.50	<0.50	<0.50
	Sep 14	1978.37	26.81	1951.56	7.4	3.3	46.2	7.3	27.0	2.1	631	<0.50	<0.50	<0.50	<0.50
	Nov 14	1978.37	26.02	1952.35	7.1	3.4	6.3	5.1	22.5	2.2	643	<0.50	<0.50	<0.50	<0.50
MW-19D1	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	300	2.9	<0.50	<0.50
	Jun 13	1979.25	27.73	1951.52	7.3	3.0	NM	4.7	27.42	1.9	3	690	4.2	<0.50	<0.50
	Sep 13	1979.25	27.17	1952.08	7.0	3.2	NM	4.3	26.23	2.1	485	990	4.2	<0.50	<0.50
	Nov 13	1979.25	26.70	1952.55	7.3	2.4	28.1	4.7	24.24	1.7	385	620	3.5	<0.50	<0.50
	Jan 14	1979.25	25.81	1953.44	7.3	1.1	NM	4.8	23.10	0.7	274	490	2.4	<0.50	<0.50
	Feb 14	1979.25	25.83	1953.42	7.4	0.5	NM	3.7	23.68	0.4	230	210	1.1	<0.50	<0.50
	Mar 14	1979.25	25.91	1953.34	7.4	0.5	52.8	4.1	23.31	0.3	239	3.7	<0.50	<0.50	<0.50
	Jun 14	1979.25	26.97	1952.28	7.0	2.6	56.2	5.5	31.79	1.7	501	730	4.2	<0.50	<0.50
	Sep 14	1979.25	27.06	1952.19	7.8	2.9	61.4	6.4	29.97	2.1	333	240	1.5	<0.50	<0.50
	Nov 14	1979.25	26.30	1952.95	7.1	3.3	18.6	4.8	23.11	2.1	68	1,000	5.9	<0.50	<0.50
MW-19D2	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	170	1.5	<0.50	<0.50
	Jun 13	1979.28	27.85	1951.43	7.4	2.7	NM	2.0	26.09	1.8	607	<0.50	<0.50	<0.50	<0.50
	Sep 13	1979.28	28.50	1950.78	7.2	2.4	NM	2.6	25.10	1.6	565	<0.50	<0.50	<0.50	<0.50
	Nov 13	1979.28	27.71	1951.57	7.5	2.6	18.0	3.3	24.83	1.7	485	<0.50	<0.50	<0.50	<0.50
	Jan 14	1979.28	26.66	1952.62	7.4	2.0	NM	3.5	22.53	1.3	531	<0.50	<0.50	<0.50	<0.50
	Feb 14	1979.28	26.85	1952.43	7.4	2.1	NM	2.1	23.04	1.3	502	<0.50	<0.50	<0.50	<0.50
	Mar 14	1979.28	26.97	1952.31	7.4	2.1	28.0	4.0	23.12	1.4	509	0.53	<0.50	<0.50	<0.50
	Jun 14	1979.28	27.88	1951.40	7.2	2.2	17.0	3.7	29.19	1.4	617	6.0	<0.50	<0.50	<0.50
	Sep 14	1979.28	27.67	1951.61	7.6	2.2	7.9	4.8	26.23	1.4	531	10	<0.50	<0.50	<0.50
	Nov 14	1979.28	27.01	1952.27	7.2	2.5	3.8	2.9	23.63	1.6	75	39	<0.50	<0.50	<0.50
MW-19D3	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.50	<0.50	<0.50	<0.50
	Jun 13	1979.32	25.53	1953.79	7.7	0.5	NM	4.0	28.15	0.3	68	0.68	<0.50	<0.50	<0.50
	Sep 13	1979.32	28.80	1950.52	6.9	3.2	NM	4.9	24.91	2.1	133	710	4.8	<0.50	<0.50
	Nov 13	1979.32	25.42	1953.90	7.6	1.0	10.3	4.1	24.27	0.7	424	160	0.75	<0.50	<0.50
	Jan 14	1979.32	24.87	1954.45	7.4	0.5	NM	4.8	22.46	0.3	368	32	<0.50	<0.50	<0.50
	Feb 14	1979.32	24.67	1954.65	7.4	0.5	NM	4.6	22.68	0.3	344	36	<0.50	<0.50	<0.50
	Mar 14	1979.32	24.72	1954.60	7.4	0.5	17.0	4.4	23.47	0.3	80	17	<0.50	<0.50	<0.50
	Jun 14	1979.32	26.99	1952.33	7.7	0.6	41.6	4.6	33.28	0.4	158	40	<0.50	<0.50	<0.50
	Sep 14	1979.32	29.00	1950.32	7.0	3.1	6.9	6.5	26.73	2.0	256	710	4.7	<0.50	<0.50
	Nov 14	1979.32	26.48	1952.84	7.1	3.2	50.6	6.7	23.14	2.1	135	190	3.2	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-20	Nov 03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,800	ND	ND	ND
	Jan 04	1979.99	25.50	1954.49	6.9	2.1	NM	1.1	22.60	NM	NM	290	2.8	ND	ND
	May 05	1979.99	22.58	1957.41	7.2	1.3	NM	5.0	23.60	NM	131	1,460	ND	ND	ND
	Dec 05	1979.99	23.55	1956.44	6.8	4.4	NM	0.8	20.50	2.8	272	1,800	ND	ND	ND
	Mar 06	1979.99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1979.99	25.48	1954.51	NM	3.8	736.0	6.9	28.60	2.1	70	2,100	ND	ND	ND
	Oct 06	1979.99	25.04	1954.95	6.1	2.6	>999	4.1	23.70	1.8	234	2,000	ND	ND	ND
	Dec 06	1979.99	24.85	1955.14	6.8	4.1	284.0	4.3	23.90	2.6	245	2,500	ND	ND	ND
	Mar 07	1979.99	26.63	1953.36	6.9	3.3	999.0	9.8	23.80	2.2	530	1,500	ND	ND	ND
	Jun 07	1979.99	26.76	1953.23	7.0	3.5	>999	5.4	23.80	2.2	346	1,300	ND	ND	ND
	Sep 07	1979.99	26.30	1953.69	6.8	3.3	248.0	4.4	32.50	2.1	207	730	ND	ND	ND
	Dec 07	1979.99	25.38	1954.61	6.3	3.8	24.6	5.4	21.90	2.4	180	1,400	ND	ND	ND
	Mar 08	1979.99	25.12	1954.87	6.9	3.5	33.0	4.0	23.60	2.3	184	1,600	NS	NS	NS
	Jun 08	1979.99	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,200	ND	ND	ND
	Oct 08	1979.95	26.05	1953.90	7.3	3.5	-5.0	2.3	25.20	NM	181	1,000	3.5	ND	ND
	Feb 09	1979.95	25.57	1954.38	6.6	3.5	247.0	2.5	23.40	2.2	99	830	ND	ND	ND
	Jun 09	1979.95	26.45	1953.50	6.9	3.7	>-5.0	2.2	23.90	2.3	140	1,100	3.3	ND	ND
	Sep 09	1979.95	27.21	1952.74	6.5	4.1	386.0	2.5	25.70	2.6	146	940	ND	ND	ND
	Nov 09	1979.95	27.30	1952.65	5.8	3.4	380.0	1.9	25.30	2.2	142	640	2.2	ND	ND
	Feb 10	1979.95	27.54	1952.41	6.9	3.3	38.0	2.5	24.30	2.0	130	990	3.3	ND	ND
	Jun 10	1979.95	27.86	1952.09	7.0	3.2	1.4	3.5	24.59	NM	NM	780	2.4	ND	ND
	Oct 10	1979.95	27.35	1952.60	6.4	3.3	39.3	2.9	26.58	2.2	519	340	1.8	ND	ND
	Nov 10	1979.95	27.12	1952.83	6.6	3.4	0.9	3.0	25.50	NM	194	890	2.6	ND	ND
	Mar 11	1979.95	26.59	1953.36	6.9	3.5	49.7	3.4	25.69	NM	237	800	2.3	ND	ND
	Jun 11	1979.95	27.40	1952.55	6.8	3.5	3.1	3.5	31.92	NM	452	740	1.9	ND	ND
	Sep 11	1979.95	27.56	1952.39	6.9	3.6	20.0	3.4	26.50	2.2	182	680	1.8	ND	ND
	Nov 11	1979.95	27.35	1952.60	7.0	3.3	NM	2.8	24.35	2.2	131	800	1.9	ND	ND
	Mar 12	1979.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1979.82	27.62	1952.20	7.4	3.3	40.1	3.7	25.17	2.2	87	660	2.1	ND	ND
	Sep 12	1979.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1979.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1979.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	290	1.8	<0.50	<0.50
	Jun 13	1979.82	27.20	1952.62	7.2	3.7	NM	4.7	26.67	2.4	192	660	2.1	<0.50	<0.50
	Sep 13	1979.82	27.70	1952.12	7.0	3.5	NM	4.5	26.41	2.3	428	570	1.8	<0.50	<0.50
	Nov 13	1979.82	27.28	1952.54	6.1	3.4	21.8	2.5	25.53	2.2	245	530	1.4	<0.50	<0.50
	Mar 14	1979.82	26.46	1953.36	7.3	3.1	22.0	3.9	25.92	2.0	345	170	0.66	<0.50	<0.50
	Jun 14	1979.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1979.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1979.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-20D1	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	69	2.8	3.6	<0.50
	Jun 13	1978.81	26.17	1952.64	7.3	3.0	NM	5.2	27.38	2.0	115	110	<0.50	<0.50	<0.50
	Sep 13	1978.81	27.01	1951.80	7.1	3.4	NM	4.8	27.83	2.2	113	100	0.56	<0.50	<0.50
	Nov 13	1978.81	26.60	1952.21	7.1	3.3	83.3	4.5	25.16	2.2	57	260	0.86	<0.50	<0.50
	Mar 14	1978.81	25.70	1953.11	7.4	0.9	70.4	4.9	25.09	0.6	76	76	<0.50	<0.50	<0.50
	Jun 14	1978.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1979.81	27.05	1952.76	7.6	3.1	29.1	4.0	27.20	2.0	213	160	0.62	<0.50	<0.50
	Nov 14	1979.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-20D2	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	25	<0.50	<0.50	<0.50
	Jun 13	1978.66	26.23	1952.43	7.4	0.8	NM	4.6	25.83	0.5	107	64	<0.50	<0.50	<0.50
	Sep 13	1978.66	26.90	1951.76	7.0	3.5	NM	4.2	27.95	2.3	114	210	0.77	<0.50	<0.50
	Nov 13	1978.66	26.92	1951.74	6.7	2.5	9.0	4.3	24.88	1.6	75	160	1.0	0.81	<0.50
	Mar 14	1978.66	26.05	1952.61	7.4	0.5	11.1	5.4	23.88	0.3	68	11	<0.50	<0.50	<0.50
	Jun 14	1978.66	26.55	1952.11	7.3	2.1	9.3	5.5	27.33	1.4	77	120	0.78	<0.50	<0.50
	Sep 14	1978.66	27.21	1951.45	7.4	3.4	7.5	3.9	25.21	2.2	229	140	0.84	<0.50	<0.50
	Nov 14	1978.66	26.28	1952.38	7.2	3.2	10.3	12.2	24.38	2.1	142	410	2.20	0.78	<0.50
MW-20D3	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.66	<0.50	<0.50	<0.50
	Jun 13	1978.69	26.17	1952.52	7.1	0.5	NM	3.9	24.81	0.3	119	<0.50	<0.50	<0.50	<0.50
	Sep 13	1978.69	27.28	1951.41	7.1	3.0	NM	4.9	33.54	1.9	100	25	<0.50	0.80	<0.50
	Nov 13	1978.69	26.57	1952.12	6.9	1.4	31.9	4.0	24.89	0.9	81	62	<0.50	<0.50	<0.50
	Mar 14	1978.69	22.92	1955.77	7.4	0.5	61.1	4.8	23.65	0.3	277	7.9	<0.50	<0.50	<0.50
	Jun 14	1978.69	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1978.69	31.52	1947.17	7.4	0.8	37.2	3.9	28.12	0.5	215	9.6	<0.50	<0.50	<0.50
	Nov 14	1978.69	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-21	Nov 03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	51	ND	ND	ND
	Jan 04	1979.56	24.72	1954.84	6.9	2.0	NM	1.1	22.30	NM	NM	55	ND	ND	ND
	May 05	1979.56	21.76	1957.80	7.1	2.8	NM	2.9	24.60	NM	131	30	ND	ND	ND
	Sep 05	1979.56	22.70	1956.86	7.1	4.7	39.0	4.1	25.80	2.6	109	19	2.4	1.5	ND
	Dec 05	1979.56	22.85	1956.71	6.6	4.6	>999	0.5	24.30	2.9	264	16	1.8	1.3	ND
	Mar 06	1979.56	23.46	1956.10	5.5	3.6	140.0	NM	23.00	2.3	309	43	ND	ND	ND
	Jun 06	1979.56	24.68	1954.88	NM	3.5	>999	4.7	28.50	2.3	112	32	ND	ND	ND
	Oct 06	1979.56	24.35	1955.21	6.2	3.5	>999	2.0	24.10	2.2	79	23	ND	ND	ND
	Dec 06	1979.56	24.15	1955.41	6.7	4.5	617.0	2.7	24.00	2.9	89	39	ND	ND	ND
	Mar 07	1979.56	24.87	1954.69	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1979.56	25.95	1953.61	7.0	3.4	>999	4.2	24.20	2.2	373	28	ND	ND	ND
	Sep 07	1979.56	25.44	1954.12	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1979.56	24.34	1955.22	6.2	3.7	>999	4.4	19.30	2.4	117	83	ND	ND	ND
	Mar 08	1979.56	24.19	1955.37	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1979.56	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1979.54	24.80	1954.74	7.2	3.4	545.0	0.0	24.50	NM	173	20	ND	ND	ND
	Feb 09	1979.54	24.73	1954.81	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1979.54	25.53	1954.01	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1979.54	26.39	1953.15	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1979.54	26.40	1953.14	6.0	3.4	90.0	0.9	24.90	2.2	119	11	ND	ND	ND
	Feb 10	1979.54	26.14	1953.40	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1979.54	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1979.54	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1979.54	26.32	1953.22	6.6	3.5	2.6	0.3	25.18	NM	202	13	ND	ND	ND
	Mar 11	1979.54	25.68	1953.86	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1979.54	26.57	1952.97	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1979.54	26.67	1952.87	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1979.54	26.47	1953.07	6.8	4.0	NM	0.2	24.75	NM	-38	13	ND	ND	ND
	Mar 12	1979.54	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1979.25	26.77	1952.48	7.3	3.4	8.6	1.0	26.21	2.2	-127	9.4	ND	ND	ND
	Sep 12	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1979.25	25.03	1954.22	6.9	3.7	NM	0.2	24.49	2.4	107	8.4	<0.50	<0.50	<0.50
	Jun 13	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1979.25	25.58	1953.67	7.2	3.1	61.2	2.7	23.96	2.0	430	1.4	<0.50	<0.50	<0.50
	Jun 14	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1979.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-22	May 05	1974.76	23.04	1951.72	6.8	3.9	474.0	1.7	24.10	NM	46	ND	ND	ND	ND
	Sep 05	1974.76	24.18	1950.58	6.9	4.3	10.0	7.2	23.90	2.7	46	ND	ND	ND	ND
	Dec 05	1974.76	24.30	1950.46	6.4	4.2	NM	1.3	24.60	2.7	213	1	ND	ND	ND
	Mar 06	1974.76	24.68	1950.08	4.8	6.1	30.0	NM	24.00	3.8	269	ND	ND	ND	ND
	Jun 06	1974.76	25.91	1948.85	NM	3.4	287.0	6.0	26.40	2.2	376	ND	ND	ND	ND
	Oct 06	1974.76	25.79	1948.97	6.0	3.7	11.0	2.4	23.80	2.4	141	ND	ND	ND	ND
	Dec 06	1974.76	25.49	1949.27	6.5	4.5	0.0	3.5	23.50	2.9	477	ND	ND	ND	ND
	Mar 07	1974.76	24.73	1950.03	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 07	1974.76	26.91	1947.85	6.7	3.8	26.0	3.4	24.30	2.4	137	ND	ND	ND	ND
	Sep 07	1974.76	26.90	1947.86	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1974.76	25.88	1948.88	6.3	4.0	55.6	2.3	23.80	2.5	216	ND	ND	ND	ND
	Mar 08	1974.76	25.17	1949.59	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1974.76	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1974.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Feb 09	1974.75	25.60	1949.15	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1974.75	26.59	1948.16	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1974.75	27.58	1947.17	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1974.75	27.38	1947.37	6.0	3.6	31.0	1.4	24.50	2.3	131	1.4	ND	ND	ND
	Feb 10	1974.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1974.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1974.75	27.82	1946.93	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1974.75	27.55	1947.20	6.7	3.7	0.1	1.6	24.30	NM	129	ND	ND	ND	ND
	Mar 11	1974.75	26.58	1948.17	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1974.75	27.45	1947.30	7.2	3.4	50.2	5.2	24.89	NM	266	NS	NS	NS	NS
	Sep 11	1974.75	27.87	1946.88	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1974.75	27.57	1947.18	6.9	3.6	NM	1.6	23.70	2.3	88	0.55	ND	ND	ND
	Mar 12	1974.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1975.19	28.05	1947.14	6.8	4.1	250.0	4.0	26.20	2.6	102	0.58	ND	ND	ND
	Sep 12	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1975.19	26.27	1948.92	6.9	3.9	NM	1.7	23.49	2.5	140	<0.50	<0.50	<0.50	<0.50
	Jun 13	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1975.19	26.95	1948.24	7.3	3.3	120.0	5.0	24.37	2.2	17	0.58	<0.50	<0.50	<0.50
	Jun 14	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-23	May 05	1962.32	13.06	1949.26	7.0	3.6	NM	2.6	24.50	NM	121	1,430	ND	ND	ND
	Dec 05	1962.32	14.05	1948.27	6.7	4.9	NM	2.1	24.90	3.1	320	1,900	ND	ND	ND
	Mar 06	1962.32	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 06	1962.32	15.60	1946.72	NM	3.7	318.0	5.8	23.80	2.3	238	1,500	ND	ND	ND
	Oct 06	1962.32	15.48	1946.84	6.3	3.5	0.0	2.5	24.00	2.2	107	2,000	ND	ND	ND
	Dec 06	1962.32	15.16	1947.16	6.8	4.2	0.0	3.2	24.20	2.7	2	2,100	ND	ND	ND
	Mar 07	1962.32	15.12	1947.20	NM	NM	NM	NM	NM	NM	NM	2.1	ND	ND	ND
	Jun 07	1962.32	16.40	1945.92	7.0	3.5	31.0	4.2	23.50	2.2	301	1,300	ND	ND	ND
	Sep 07	1962.32	16.61	1945.71	6.8	3.3	1.0	3.8	25.80	2.1	204	750	ND	ND	ND
	Dec 07	1962.32	15.80	1946.52	6.3	3.7	0.0	5.5	22.10	2.4	250	1,200	ND	ND	ND
	Mar 08	1962.32	15.18	1947.14	7.0	6.3	0.4	2.2	24.00	4.1	188	1,400	ND	ND	ND
	Jun 08	1962.32	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,100	ND	ND	ND
	Oct 08	1962.29	16.34	1945.95	6.7	3.5	18.3	2.0	23.40	2.3	170	1,300	4.4	ND	ND
	Feb 09	1962.29	15.41	1946.88	6.7	3.4	0.0	1.1	23.00	2.2	82	1,100	ND	ND	ND
	Jun 09	1962.29	16.40	1945.89	7.2	3.6	7.1	0.6	23.80	2.3	124	1,400	4.6	ND	ND
	Sep 09	1962.29	17.30	1944.99	6.6	4.0	24.5	2.0	25.40	2.5	133	1,200	ND	ND	ND
	Nov 09	1962.29	17.31	1944.98	5.9	3.3	51.0	2.0	24.80	2.1	139	880	3.2	ND	ND
	Feb 10	1962.29	17.18	1945.11	6.8	3.4	9.0	1.8	23.70	2.2	135	1,000	3.8	ND	ND
	Jun 10	1962.29	16.93	1945.36	7.0	3.2	3.8	4.2	26.24	NM	NM	900	2.6	ND	ND
	Oct 10	1962.29	17.53	1944.76	5.7	3.4	-0.1	2.2	23.60	2.2	610	1,100	2.6	ND	ND
	Nov 10	1962.29	17.30	1944.99	7.0	3.4	0.1	2.5	22.72	NM	76	970	2.7	ND	ND
	Mar 11	1962.29	16.30	1945.99	6.9	3.6	2.9	1.9	23.42	NM	202	1,100	2.5	ND	ND
	Jun 11	1962.29	17.22	1945.07	NM	NM	NM	NM	NM	NM	NM	970	2.3	ND	ND
	Sep 11	1962.29	17.67	1944.62	6.9	3.5	8.0	3.0	24.50	2.2	229	1,000	2.4	ND	ND
	Nov 11	1962.29	17.41	1944.88	7.0	3.3	NM	2.3	23.58	2.1	170	1,100	2.4	ND	ND
	Mar 12	1962.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1962.45	17.83	1944.62	7.3	3.2	5.1	5.8	24.66	2.1	114	950	2.3	ND	ND
	Sep 12	1962.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1962.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1962.45	15.95	1946.50	7.0	3.6	NM	1.4	23.52	2.4	107	960	2.2	<0.50	<0.50
	Jun 13	1962.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1962.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1962.45	17.57	1944.88	6.7	3.7	5.1	2.1	24.32	2.4	152	900	1.8	<0.50	<0.50
	Mar 14	1962.45	16.63	1945.82	7.2	3.2	46.2	2.5	18.77	2.1	226	170	0.63	<0.50	<0.50
	Jun 14	1962.45	17.74	1944.71	6.9	3.4	6.0	2.4	27.06	2.2	151	850	1.4	<0.50	<0.50
	Sep 14	1962.45	17.89	1944.56	7.9	2.8	57.4	3.2	26.69	1.9	95	120	<0.50	<0.50	<0.50
	Nov 14	1962.45	17.19	1945.26	7.0	3.5	2.4	2.1	23.68	2.3	11	870	1.7	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-24	May 05	1960.74	10.72	1950.02	7.0	3.6	>999	1.5	23.10	NM	76	ND	ND	ND	ND
	Sep 05	1960.74	11.75	1948.99	7.0	3.8	25.0	3.6	25.80	2.4	5	4.3	ND	ND	ND
	Dec 05	1960.74	11.65	1949.09	6.6	4.5	29.0	1.0	25.60	2.7	183	6.7	ND	ND	ND
	Mar 06	1960.74	12.10	1948.64	4.7	6.0	1.0	NM	22.60	3.8	503	6.5	ND	ND	ND
	Jun 06	1960.74	13.16	1947.58	NM	3.4	201.0	5.1	25.10	2.2	132	5.6	ND	ND	ND
	Oct 06	1960.74	13.06	1947.68	6.2	3.2	0.0	1.2	25.50	2.0	-23	2.6	ND	ND	ND
	Dec 06	1960.74	12.80	1947.94	6.9	4.1	0.0	2.6	25.10	2.6	62	2.6	ND	ND	ND
	Mar 07	1960.74	12.88	1947.86	NM	NM	NM	NM	NM	NM	NM	1	ND	ND	ND
	Jun 07	1960.74	13.94	1946.80	7.1	3.3	23.0	2.5	23.20	2.1	409	ND	ND	ND	ND
	Sep 07	1960.74	14.24	1946.50	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Dec 07	1960.74	13.58	1947.16	6.2	3.5	0.0	1.7	24.40	2.2	118	NS	NS	NS	NS
	Mar 08	1960.74	12.98	1947.76	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1960.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 08	1960.73	14.03	1946.70	6.8	3.4	-2.3	1.1	25.20	2.1	152	6.1	ND	ND	ND
	Feb 09	1960.73	13.20	1947.53	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1960.73	14.10	1946.63	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 09	1960.73	14.93	1945.80	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1960.73	14.99	1945.74	5.9	3.1	45.0	1.4	26.50	1.9	130	2.9	ND	ND	ND
	Feb 10	1960.73	14.23	1946.50	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1960.73	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Oct 10	1960.73	15.16	1945.57	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1960.73	14.90	1945.83	7.0	3.2	-0.8	1.4	25.24	NM	68	0.81	ND	ND	ND
	Mar 11	1960.73	14.06	1946.67	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1960.73	14.89	1945.84	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 11	1960.73	15.31	1945.42	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1960.73	15.12	1945.61	7.0	3.1	NM	1.3	24.98	2.0	149	0.95	ND	ND	ND
	Mar 12	1960.73	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1960.82	15.49	1945.33	6.9	3.4	110.0	1.8	25.00	2.2	94	1.3	ND	ND	ND
	Sep 12	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1960.82	13.62	1947.20	7.1	3.6	NM	1.8	22.77	2.3	62	1.3	<0.50	<0.50	<0.50
	Jun 13	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1960.82	14.34	1946.48	7.3	3.0	10.2	2.4	20.18	1.9	42	2.0	<0.50	<0.50	<0.50
	Jun 14	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1960.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-25	May 05	1960.74	16.01	1944.73	7.0	4.0	>999	4.3	23.60	NM	141	993	ND	ND	ND
	Sep 05	1960.74	17.45	1943.29	7.0	4.2	30.0	5.1	26.20	2.7	57	920	ND	ND	ND
	Dec 05	1960.74	16.85	1943.89	6.6	5.3	0.0	1.4	24.70	3.3	417	1,000	ND	ND	ND
	Mar 06	1960.74	17.30	1943.44	5.2	6.7	94.0	NM	23.60	4.2	255	970	ND	ND	ND
	Jun 06	1960.74	18.64	1942.10	NM	3.9	228.0	5.7	23.50	2.5	376	960	ND	ND	ND
	Oct 06	1960.74	18.75	1941.99	6.2	3.7	0.0	3.1	23.60	2.4	106	1,300	ND	ND	ND
	Dec 06	1960.74	18.61	1942.13	6.7	4.5	0.0	3.8	23.90	2.8	429	1,200	ND	ND	ND
	Mar 07	1960.74	17.72	1943.02	7.0	3.7	>999	7.5	23.30	2.4	258	670	ND	ND	ND
	Jun 07	1960.74	19.31	1941.43	7.0	3.7	50.0	4.5	23.00	2.4	485	960	ND	ND	ND
	Sep 07	1960.74	19.96	1940.78	6.7	3.5	15.0	3.6	27.00	2.3	195	560	ND	ND	ND
	Dec 07	1960.74	18.92	1941.82	6.3	3.9	0.0	4.8	19.40	2.5	168	780	ND	ND	ND
	Mar 08	1960.74	17.87	1942.87	6.9	3.7	11.9	2.5	24.40	2.3	170	890	ND	ND	ND
	Jun 08	1960.74	NM	NM	NM	NM	NM	NM	NM	NM	NM	630	ND	ND	ND
	Oct 08	1960.73	19.84	1940.89	6.8	3.7	30.2	2.3	23.50	2.4	-94	730	1.5	ND	ND
	Feb 09	1960.73	18.07	1942.66	6.7	3.5	0.0	2.1	23.70	2.3	66	770	ND	ND	ND
	Jun 09	1960.73	19.35	1941.38	7.2	3.7	6.9	1.2	24.10	2.4	127	880	2.0	ND	ND
	Sep 09	1960.73	18.60	1942.13	6.5	4.2	14.2	2.5	25.90	2.7	136	770	ND	ND	ND
	Nov 09	1960.73	20.65	1940.08	5.8	3.5	66.0	2.2	24.70	2.2	140	570	1.3	ND	ND
	Feb 10	1960.73	19.81	1940.92	6.8	3.5	9.0	2.2	22.50	2.2	122	460	2.3	ND	ND
	Jun 10	1960.73	19.85	1940.88	7.0	3.3	-0.1	5.5	26.26	NM	NM	550	0.9	ND	ND
	Oct 10	1960.73	20.85	1939.88	5.9	3.5	-0.7	2.4	24.21	2.3	603	760	0.9	ND	ND
	Nov 10	1960.73	20.62	1940.11	6.7	3.5	0.5	2.8	25.16	NM	182	550	0.9	ND	ND
	Mar 11	1960.73	18.97	1941.76	7.0	3.4	0.0	4.1	20.24	NM	115	420	0.6	ND	ND
	Jun 11	1960.73	19.83	1940.90	7.3	3.6	-1.2	2.4	24.31	NM	216	700	0.8	ND	ND
	Sep 11	1960.73	20.83	1939.90	6.9	3.7	4.0	2.9	24.00	2.3	257	680	0.8	ND	ND
	Nov 11	1960.73	20.62	1940.11	7.0	3.4	NM	2.3	23.26	2.2	166	740	0.82	ND	ND
	Mar 12	1960.73	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1959.29	21.06	1938.23	6.8	3.9	56.0	2.9	25.20	2.5	89	640	0.88	ND	ND
	Sep 12	1959.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1959.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1959.29	18.75	1940.54	7.0	3.8	NM	2.3	23.84	2.5	127	660	0.75	<0.50	<0.50
	Jun 13	1959.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1959.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1959.29	20.87	1938.42	6.2	3.9	6.5	1.4	24.38	2.5	114	700	0.88	<0.50	<0.50
	Mar 14	1959.29	19.48	1939.81	5.9	3.3	28.3	2.7	15.90	2.1	229	340	0.61	<0.50	<0.50
	Jun 14	1959.29	20.94	1938.35	6.9	3.6	3.9	2.3	27.02	2.4	258	780	0.69	<0.50	<0.50
	Sep 14	1959.29	20.82	1938.47	7.5	3.5	47.8	NM	27.69	2.3	90	550	<0.50	<0.50	<0.50
	Nov 14	1959.29	20.32	1938.97	7.0	3.7	2.4	1.6	22.93	2.4	24	590	0.91	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-26	Mar 06	1953.48	15.60	1937.88	6.8	3.8	0.0	2.6	23.80	2.4	158	730	ND	ND	ND
	Jun 06	1953.48	17.00	1936.48	NM	2.3	229.0	4.8	24.10	1.5	305	770	ND	ND	ND
	Oct 06	1953.48	17.17	1936.31	6.2	69.4	0.0	2.9	23.70	2.4	180	1,100	ND	ND	ND
	Dec 06	1953.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 07	1953.48	15.66	1937.82	7.0	3.8	>999	7.1	23.50	2.4	422	790	ND	ND	ND
	Jun 07	1953.48	17.50	1935.98	7.0	3.5	41.0	4.8	23.60	2.5	517	960	ND	ND	ND
	Sep 07	1953.48	18.12	1935.36	6.7	3.6	5.0	3.5	27.10	2.3	176	620	ND	ND	ND
	Dec 07	1953.48	17.01	1936.47	6.4	4.0	0.0	5.1	21.70	2.5	212	910	ND	ND	ND
	Mar 08	1953.48	15.91	1937.57	7.0	3.8	0.7	7.9	24.30	2.4	176	1,100	ND	ND	ND
	Jun 08	1953.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	930	ND	ND	ND
	Oct 08	1953.48	18.34	1935.14	6.8	3.9	-7.2	2.7	24.00	2.5	86	900	1.4	ND	ND
	Feb 09	1953.48	16.04	1937.44	6.7	3.7	0.0	3.3	23.90	2.3	82	960	ND	ND	ND
	Jun 09	1953.48	17.57	1935.91	7.2	3.8	49.3	2.2	25.40	2.5	133	970	1.5	ND	ND
	Sep 09	1953.48	18.79	1934.69	6.6	4.3	10.5	2.8	26.40	2.8	137	910	ND	ND	ND
	Nov 09	1953.48	18.85	1934.63	5.8	3.6	210.0	2.8	24.30	2.3	139	690	ND	ND	ND
	Feb 10	1953.48	17.61	1935.87	6.9	3.6	7.0	2.5	22.60	2.3	143	790	1.8	ND	ND
	Jun 10	1953.48	17.95	1935.53	7.0	2.4	0.2	6.6	26.14	NM	NM	680	0.7	ND	ND
	Oct 10	1953.48	19.09	1934.39	6.8	3.7	-0.8	2.0	24.60	2.4	504	450	0.6	ND	ND
	Nov 10	1953.48	18.75	1934.73	6.9	3.7	0.6	2.6	24.91	NM	92	750	0.7	ND	ND
	Mar 11	1953.48	18.83	1934.65	6.9	3.8	0.0	2.7	23.78	NM	141	760	0.6	ND	ND
	Jun 11	1953.48	17.82	1935.66	6.7	3.7	-1.2	2.0	25.86	NM	475	860	0.67	ND	ND
	Sep 11	1953.48	19.04	1934.44	6.9	3.8	7.0	2.9	24.40	2.4	260	780	0.6	ND	ND
	Nov 11	1953.48	18.72	1934.76	7.0	3.6	NM	2.1	23.33	2.3	161	690	0.61	ND	ND
	Mar 12	1953.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1953.45	19.24	1934.21	6.8	4.1	72.0	2.8	26.00	2.6	85	740	0.54	ND	ND
	Sep 12	1953.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1953.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1953.45	16.81	1936.64	7.0	3.8	NM	2.7	24.35	2.6	118	740	0.51	<0.50	<0.50
	Jun 13	1953.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1953.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1953.45	19.02	1934.43	6.4	4.0	7.0	2.4	24.59	2.6	138	770	0.62	<0.50	<0.50
	Mar 14	1953.45	17.44	1936.01	7.3	2.2	20.3	4.8	21.08	1.4	270	210	<0.50	<0.50	<0.50
	Jun 14	1953.45	19.10	1934.35	6.9	3.7	2.1	2.8	26.43	2.4	233	860	0.50	<0.50	<0.50
	Sep 14	1953.45	18.60	1934.85	7.3	3.6	32.7	NM	25.85	2.4	80	360	<0.50	<0.50	<0.50
	Nov 14	1953.45	18.31	1935.14	7.0	3.8	2.4	2.2	22.84	2.5	-44	890	0.66	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-27	Mar 06	1944.23	13.48	1930.75	6.8	3.3	0.0	2.4	21.90	2.1	142	220	ND	ND	ND
	Jun 06	1944.23	18.50	1925.73	NM	3.7	626.0	4.6	26.10	2.3	69	350	ND	ND	ND
	Oct 06	1944.23	16.16	1928.07	6.2	3.3	0.0	2.8	22.20	2.1	155	380	ND	ND	ND
	Dec 06	1944.23	13.85	1930.38	6.8	4.0	507.0	4.5	22.20	2.6	444	380	ND	ND	ND
	Mar 07	1944.23	12.58	1931.65	7.0	3.3	83.0	7.0	21.90	2.1	181	160	ND	ND	ND
	Jun 07	1944.23	18.43	1925.80	7.0	3.3	238.0	4.1	22.20	2.1	392	340	ND	ND	ND
	Sep 07	1944.23	17.85	1926.38	6.8	3.4	22.0	3.4	24.20	2.2	198	320	ND	ND	ND
	Dec 07	1944.23	14.41	1929.82	6.4	3.8	0.0	3.5	20.60	2.5	153	430	ND	ND	ND
	Mar 08	1944.23	13.65	1930.58	7.0	3.4	1.4	2.5	22.60	2.2	174	580	ND	ND	ND
	Jun 08	1944.23	NM	NM	NM	NM	NM	NM	NM	NM	NM	320	ND	ND	ND
	Oct 08	1944.23	18.33	1925.90	6.5	3.8	25.2	1.1	22.59	2.4	105	510	2.6	ND	ND
	Feb 09	1944.23	13.22	1931.01	6.6	3.6	0.0	0.7	21.90	2.3	108	510	ND	ND	ND
	Jun 09	1944.23	18.39	1925.84	7.1	3.9	0.0	0.5	24.10	2.5	128	570	3.3	ND	ND
	Sep 09	1944.23	19.73	1924.50	6.6	4.3	-6.7	0.9	24.20	2.7	131	640	ND	ND	ND
	Nov 09	1944.23	18.92	1925.31	NM	NM	NM	NM	NM	NM	NM	400	2.0	ND	ND
	Feb 10	1944.23	13.00	1931.23	NM	NM	NM	NM	NM	NM	NM	770	3.5	ND	ND
	Jun 10	1944.23	17.77	1926.46	7.1	3.4	10.2	6.8	24.66	NM	NM	330	1.4	ND	ND
	Oct 10	1944.23	18.87	1925.36	6.9	3.6	0.4	1.4	22.95	2.4	434	420	1.4	ND	ND
	Nov 10	1944.23	17.19	1927.04	6.8	3.7	2.9	1.5	23.57	NM	115	480	1.8	ND	ND
	Mar 11	1944.23	12.99	1931.24	7.0	3.7	259.3	6.7	21.37	NM	108	370	1.2	ND	ND
	Jun 11	1944.23	16.68	1927.55	7.3	3.7	-1.4	1.6	23.61	NM	180	440	1.3	ND	ND
	Sep 11	1944.23	20.23	1924.00	6.8	3.8	10.0	2.2	23.60	2.4	237	470	1.3	ND	ND
	Nov 11	1944.23	17.32	1926.91	7.0	3.5	NM	2.1	22.62	2.3	164	380	1.3	ND	ND
	Mar 12	1944.23	16.22	1928.01	7.2	3.6	5.9	2.5	23.10	2.4	-58	470	NS	NS	NS
*	Jun 12	1944.15	14.46	1929.69	6.8	3.9	230.0	2.9	23.80	2.4	108	440	0.97	ND	ND
	Sep 12	1944.15	18.54	1925.61	7.3	3.6	NM	2.1	23.06	2.3	152	430	1.2	ND	ND
	Nov 12	1944.15	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1944.15	15.33	1928.82	7.0	4.0	NM	1.8	23.16	2.6	100	450	1.0	<0.50	<0.50
	Jun 13	1944.15	20.37	1923.78	7.0	4.0	NM	2.1	25.31	2.6	95	300	1.1	<0.50	<0.50
	Sep 13	1944.15	19.67	1924.48	7.2	2.0	NM	2.4	27.75	1.3	88	350	0.79	<0.50	<0.50
	Nov 13	1944.15	17.49	1926.66	7.2	4.0	7.2	1.7	24.27	2.6	120	420	0.94	<0.50	<0.50
	Mar 14	1944.15	14.67	1929.48	7.2	3.4	29.3	4.3	23.18	2.2	15	220	0.59	<0.50	<0.50
	Jun 14	1944.15	18.96	1925.19	7.0	3.7	4.9	2.3	27.29	2.4	271	430	0.94	<0.50	<0.50
	Sep 14	1944.15	17.94	1926.21	7.3	3.4	24.2	NM	25.78	2.1	96	290	<0.50	<0.50	<0.50
	Nov 14	1944.15	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-28	Nov 07	1942.97	14.02	1928.95	6.8	4.2	196.0	9.6	26.80	2.7	125	3	ND	ND	ND
	Dec 07	1942.97	12.80	1930.17	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 08	1942.97	11.61	1931.36	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1942.97	NM	NM	NM	NM	NM	NM	NM	NM	NM	1	ND	ND	ND
	Oct 08	1942.96	14.60	1928.36	6.8	4.2	165.0	0.6	22.80	2.7	82	2.2	ND	ND	ND
	Feb 09	1942.96	11.66	1931.30	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1942.96	13.91	1929.05	7.2	4.2	63.8	0.0	23.50	2.7	119	3.3	ND	ND	ND
	Sep 09	1942.96	14.96	1928.00	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1942.96	14.83	1928.13	6.0	3.8	180.0	1.1	23.20	2.5	136	1.3	ND	ND	ND
	Feb 10	1942.96	12.78	1930.18	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1942.96	13.91	1929.05	7.0	3.7	3.7	3.3	23.89	NM	NM	0.94	ND	ND	ND
	Oct 10	1942.96	14.93	1928.03	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1942.96	14.31	1928.65	6.7	3.9	0.6	0.9	24.25	NM	162	0.66	ND	ND	ND
	Mar 11	1942.96	12.10	1930.86	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1942.96	13.50	1929.46	7.0	4.0	2.4	0.7	23.71	NM	185	ND	ND	ND	ND
	Sep 11	1942.96	14.93	1928.03	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1942.96	14.42	1928.54	7.0	3.7	NM	1.0	22.10	2.4	157	0.62	ND	ND	ND
	Mar 12	1942.96	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1943.07	15.30	1927.77	6.8	4.1	32.0	1.1	22.70	2.6	133	0.73	ND	ND	ND
	Sep 12	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1943.07	12.50	1930.57	7.0	4.1	NM	1.9	24.06	2.7	70	0.50	<0.50	<0.50	<0.50
	Jun 13	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1943.07	12.87	1930.20	7.3	3.5	20.8	1.8	22.59	2.3	66	0.69	<0.50	<0.50	<0.50
	Jun 14	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1943.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-29	Nov 07	1932.27	14.20	1918.07	6.9	4.3	15.1	6.0	21.80	2.7	108	2.5	ND	ND	ND
	Dec 07	1932.27	14.01	1918.26	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 08	1932.27	13.77	1918.50	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 08	1932.27	NM	NM	NM	NM	NM	NM	NM	NM	NM	1	ND	ND	ND
	Oct 08	1932.25	14.44	1917.81	6.8	4.0	500.0	3.9	20.00	2.6	122	2.2	ND	ND	ND
	Feb 09	1932.25	13.81	1918.44	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 09	1932.25	13.98	1918.27	7.2	4.0	212.0	3.3	20.50	2.6	133	1.3	ND	ND	ND
	Sep 09	1932.25	14.38	1917.87	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 09	1932.25	14.37	1917.88	6.1	3.8	200.0	3.9	20.80	2.4	139	ND	ND	ND	ND
	Feb 10	1932.25	14.19	1918.06	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 10	1932.25	13.92	1918.33	6.9	3.5	3.8	4.8	23.43	NM	NM	0.58	ND	ND	ND
	Oct 10	1932.25	14.19	1918.06	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 10	1932.25	13.90	1918.35	6.8	3.9	1.5	4.0	21.09	NM	138	ND	ND	ND	ND
	Mar 11	1932.25	13.52	1918.73	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Jun 11	1932.25	13.65	1918.60	6.9	3.9	-1.4	4.1	20.62	NM	232	ND	ND	ND	ND
	Sep 11	1932.25	13.84	1918.41	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 11	1932.25	13.85	1918.40	7.0	3.7	NM	4.0	19.77	2.4	183	ND	ND	ND	ND
	Mar 12	1932.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1932.35	13.99	1918.36	6.9	3.8	79.0	5.2	20.30	2.4	133	ND	ND	ND	ND
	Sep 12	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1932.35	13.30	1919.05	7.0	4.1	NM	4.4	19.43	2.7	85	<0.50	<0.50	<0.50	<0.50
	Jun 13	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 14	1932.35	13.55	1918.80	7.3	3.6	42.3	3.6	18.53	2.4	170	<0.50	<0.50	<0.50	<0.50
	Jun 14	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1932.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-30	Nov 07	1940.56	20.11	1920.45	6.8	3.7	144.0	3.1	24.20	2.4	135	74	ND	ND	ND
	Dec 07	1940.56	17.12	1923.44	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 08	1940.56	16.32	1924.24	6.9	3.3	7.2	3.7	18.80	2.1	204	86	ND	ND	ND
	Jun 08	1940.56	NM	NM	NM	NM	NM	NM	NM	NM	NM	49	ND	ND	ND
	Oct 08	1940.56	20.91	1919.65	6.7	3.7	221.0	0.9	20.10	2.4	124	100	1.8	ND	ND
	Feb 09	1940.56	16.05	1924.51	6.6	3.3	7.2	3.2	19.60	2.1	97	71	ND	ND	ND
	Jun 09	1940.56	19.88	1920.68	7.1	3.7	34.3	1.2	21.40	2.3	141	110	2.0	ND	ND
	Sep 09	1940.56	21.57	1918.99	6.6	4.2	0.8	2.0	23.40	2.7	127	70	1.1	ND	ND
	Nov 09	1940.56	20.55	1920.01	5.9	3.3	-10.0	2.3	20.40	2.1	167	85	1.4	ND	ND
	Feb 10	1940.56	16.49	1924.07	6.7	3.2	12.0	3.9	19.60	2.1	162	60	ND	ND	ND
	Jun 10	1940.56	18.98	1921.58	6.9	2.9	1.0	5.3	25.04	NM	NM	41	ND	ND	ND
	Oct 10	1940.56	20.63	1919.93	6.0	3.1	0.1	4.2	21.95	2.0	595	62	ND	ND	ND
	Nov 10	1940.56	19.32	1921.24	6.6	3.1	0.7	4.4	22.09	NM	212	54	ND	ND	ND
	Mar 11	1940.56	15.85	1924.71	6.5	3.3	0.0	4.7	19.41	NM	142	50	ND	ND	ND
	Jun 11	1940.56	18.17	1922.39	6.3	3.1	-1.1	4.2	22.48	NM	446	50	ND	ND	ND
	Sep 11	1940.56	21.28	1919.28	7.1	2.9	16.0	7.9	22.20	1.9	237	25	ND	ND	ND
	Nov 11	1940.56	19.47	1921.09	7.0	2.8	NM	4.7	20.48	1.8	182	38	ND	ND	ND
	Mar 12	1940.56	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1940.59	21.42	1919.17	6.9	3.2	210.0	3.7	21.00	2.0	125	84	0.73	ND	ND
	Sep 12	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1940.59	17.38	1923.21	6.9	3.3	NM	4.2	19.45	2.1	144	62	<0.50	<0.50	<0.50
	Jun 13	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1940.59	19.89	1920.70	6.6	3.3	7.6	3.3	22.07	2.1	141	96	0.58	<0.50	<0.50
	Mar 14	1940.59	17.14	1923.45	7.2	2.9	3.8	3.5	21.39	1.9	166	42	<0.50	<0.50	<0.50
	Jun 14	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1940.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-31	Mar 08	1937.93	15.23	1922.70	7.0	4.7	125.0	6.0	22.50	2.9	152	49	ND	ND	ND
	Jun 08	1937.93	NM	NM	NM	NM	NM	NM	NM	NM	NM	31	ND	ND	ND
	Oct 08	1937.93	18.94	1918.99	6.7	4.2	265.0	3.6	22.40	2.7	123	39	ND	ND	ND
	Feb 09	1937.93	15.59	1922.34	6.5	4.0	11.0	3.4	21.90	2.6	99	44	ND	ND	ND
	Jun 09	1937.93	17.30	1920.63	7.0	4.3	77.9	4.6	21.10	2.8	137	45	ND	ND	ND
	Sep 09	1937.93	19.08	1918.85	6.6	4.8	45.2	4.9	23.60	3.0	124	38	ND	ND	ND
	Nov 09	1937.93	18.40	1919.53	6.0	4.0	230.0	4.0	22.90	2.5	141	24	ND	ND	ND
	Feb 10	1937.93	16.41	1921.52	6.7	4.0	18.0	3.9	21.10	2.5	148	34	1.2	ND	ND
	Jun 10	1937.93	16.94	1920.99	6.9	3.7	14.8	5.2	23.60	NM	NM	34	ND	ND	ND
	Oct 10	1937.93	18.80	1919.13	5.9	4.0	3.5	3.9	22.86	2.6	582	30	ND	ND	ND
	Nov 10	1937.93	18.33	1919.60	6.5	4.0	10.1	3.9	24.41	NM	225	27	ND	ND	ND
	Mar 11	1937.93	15.70	1922.23	6.9	4.1	22.7	5.0	22.63	NM	145	26	ND	ND	ND
	Jun 11	1937.93	16.76	1921.17	6.2	4.0	9.8	4.2	25.43	NM	480	64	ND	ND	ND
	Sep 11	1937.93	18.73	1919.20	6.8	4.1	9.5	4.8	24.90	2.6	256	57	ND	ND	ND
	Nov 11	1937.93	17.93	1920.00	6.9	3.8	NM	3.9	21.23	2.5	178	58	ND	ND	ND
	Mar 12	1937.93	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1937.66	18.37	1919.29	6.8	4.1	440.0	3.9	23.20	2.6	121	44	0.52	ND	ND
	Sep 12	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1937.66	16.27	1921.39	6.9	4.2	NM	2.9	21.34	2.7	139	61	<0.50	<0.50	<0.50
	Jun 13	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1937.66	18.55	1919.11	6.4	4.2	12.7	2.4	24.30	2.7	192	54	<0.50	<0.50	<0.50
	Mar 14	1937.66	16.45	1921.21	7.2	3.6	16.7	2.3	25.83	2.4	92	35	<0.50	<0.50	<0.50
	Jun 14	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1937.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-32	Mar 08	1952.82	17.25	1935.57	7.4	3.6	5.4	2.4	23.30	2.3	136	720	ND	ND	ND
	Jun 08	1952.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	750	ND	ND	ND
	Oct 08	1952.82	19.95	1932.87	6.9	3.8	23.7	1.0	23.80	2.4	-101	990	6.1	ND	ND
	Feb 09	1952.82	17.22	1935.60	6.7	3.6	22.5	1.0	23.40	2.3	75	1,000	7.2	ND	ND
	Jun 09	1952.82	19.14	1933.68	7.1	3.7	32.7	2.7	23.40	2.4	120	1,000	5.3	ND	ND
	Sep 09	1952.82	20.47	1932.35	6.5	4.2	4.1	1.2	25.30	2.7	157	1,000	ND	ND	ND
	Nov 09	1952.82	20.44	1932.38	5.8	3.4	180.0	2.8	24.10	2.2	145	660	3.7	ND	ND
	Feb 10	1952.82	18.81	1934.01	6.8	3.5	16.0	1.6	22.70	2.2	158	830	5.4	ND	ND
	Jun 10	1952.82	19.46	1933.36	7.0	3.2	1.2	6.3	26.41	NM	NM	480	2.6	ND	ND
	Oct 10	1952.82	20.77	1932.05	6.5	3.5	8.2	2.7	24.89	2.3	585	660	2.7	ND	ND
	Nov 10	1952.82	20.40	1932.42	6.6	3.5	1.9	2.4	24.50	NM	244	740	3.3	ND	ND
	Mar 11	1952.82	18.21	1934.61	7.1	3.5	4.3	6.7	23.41	NM	111	610	2.3	ND	ND
	Jun 11	1952.82	19.40	1933.42	6.8	3.5	-1.3	3.4	24.82	NM	424	790	2.3	ND	ND
	Sep 11	1952.82	20.91	1931.91	6.9	3.6	10.0	5.1	24.40	2.3	274	610	1.9	ND	ND
	Nov 11	1952.82	20.24	1932.58	7.0	3.3	NM	3.3	23.32	2.2	161	700	2.7	ND	ND
	Mar 12	1952.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1952.90	20.94	1931.96	6.9	3.6	240.0	4.7	25.10	2.3	101	640	2.0	ND	ND
	Sep 12	1952.90	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1952.90	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1952.90	18.43	1934.47	7.0	3.7	NM	3.4	23.98	2.4	114	720	1.8	<0.50	<0.50
	Jun 13	1952.90	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1952.90	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1952.90	20.68	1932.22	6.6	3.7	8.3	2.5	24.57	2.4	124	610	2.0	<0.50	<0.50
	Mar 14	1952.90	18.83	1934.07	7.3	3.3	72.5	1.0	24.26	2.1	73	640	12	<0.50	<0.50
	Jun 14	1952.90	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1952.90	20.15	1932.75	7.4	3.3	64.4	NM	27.43	2.2	78	360	1	<0.50	<0.50
	Nov 14	1952.90	19.37	1933.53	7.0	3.6	4.9	2.4	23.12	2.4	-163	850	3	<0.50	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-33	Mar 08	1950.92	16.02	1934.90	7.0	3.5	82.4	7.6	20.30	2.2	161	2.4	ND	ND	ND
	Jun 08	1950.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	1	ND	ND	ND
	Oct 08	1950.92	18.00	1932.92	6.7	3.8	6.7	1.0	22.20	2.4	85	3.4	ND	ND	ND
	Feb 09	1950.92	16.11	1934.81	6.4	3.7	0.0	0.0	21.30	2.4	120	ND	ND	ND	ND
	Jun 09	1950.92	17.28	1933.64	7.0	4.0	0.0	0.0	21.40	2.5	138	ND	ND	ND	ND
	Sep 09	1950.92	18.93	1931.99	6.6	4.2	2.2	1.2	23.50	2.7	166	3.3	ND	ND	ND
	Nov 09	1950.92	18.78	1932.14	6.0	3.5	200.0	1.7	22.60	2.2	136	1.4	ND	ND	ND
	Feb 10	1950.92	17.28	1933.64	6.7	3.5	0.0	0.7	21.50	2.2	146	ND	ND	ND	ND
	Jun 10	1950.92	17.71	1933.21	6.9	3.4	1.1	2.1	28.96	NM	NM	ND	ND	ND	ND
	Oct 10	1950.92	19.42	1931.50	6.1	3.6	3.7	1.4	23.04	2.3	558	ND	ND	ND	ND
	Nov 10	1950.92	19.25	1931.67	6.6	3.6	1.7	1.6	23.34	NM	217	ND	ND	ND	ND
	Mar 11	1950.92	17.36	1933.56	6.5	3.8	2.8	1.7	21.27	NM	107	ND	ND	ND	ND
	Jun 11	1950.92	18.00	1932.92	7.3	3.8	-1.2	0.8	22.54	NM	74	ND	ND	ND	ND
	Sep 11	1950.92	19.31	1931.61	6.9	3.8	10.0	4.2	23.10	2.4	191	ND	ND	ND	ND
	Nov 11	1950.92	18.72	1932.20	7.0	3.6	NM	2.2	21.62	2.3	181	ND	ND	ND	ND
	Mar 12	1950.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
*	Jun 12	1950.98	19.03	1931.95	6.8	4.0	130.0	1.3	22.90	2.5	136	ND	ND	ND	ND
	Sep 12	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 12	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 13	1950.98	17.25	1933.73	6.9	4.2	NM	1.9	21.50	2.7	134	<0.50	<0.50	<0.50	<0.50
	Jun 13	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 13	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 13	1950.98	19.40	1931.58	6.9	4.0	7.6	1.4	21.58	2.6	146	<0.50	<0.50	<0.50	<0.50
	Mar 14	1950.98	17.66	1933.32	7.2	3.4	68.8	4.9	18.82	2.2	45	<0.50	<0.50	<0.50	<0.50
	Jun 14	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1950.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

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Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-34	Dec 11	--		--								910	NS	NS	NS
	Jan 12	--		--								1000	NS	NS	NS
	Mar 12	--		--	7.2	3.7	27.4	2.0	22.63	2.4	-47	1000	NS	NS	NS
*	Jun 12	1993.88	17.74	1976.14	7.3	3.4	16.4	2.4	24.19	2.4	89	860	0.97	ND	ND
	Sep 12	1993.88	18.07	1975.81	7.3	3.6	NM	2.1	24.43	2.4	141	730	1.2	ND	ND
	Nov 12	1993.88	17.75	1976.13	8.0	3.7	NM	2.0	24.86	2.4	45	550	1.1	<0.50	<0.50
	Mar 13	1993.88	19.06	1974.82	7.1	4.0	NM	1.6	22.65	2.6	125	550	0.86	<0.50	<0.50
	Jun 13	1993.88	19.32	1974.56	7.3	4.0	NM	1.9	24.03	2.6	63	380	0.90	<0.50	<0.50
	Sep 13	1993.88	19.36	1974.52	7.0	3.8	NM	1.6	25.41	2.5	71	440	0.78	<0.50	<0.50
	Nov 13	1993.88	19.14	1974.74	6.1	3.4	20.0	0.9	23.56	2.3	184	500	0.86	<0.50	<0.50
	Mar 14	1993.88	18.75	1975.13	7.3	3.4	10.4	3.8	22.73	2.2	81	360	0.73	<0.50	<0.50
	Jun 14	1993.88	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1993.88	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1993.88	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-35	Dec 11	--		--								410	NS	NS	NS
	Jan 12	--		--								630	NS	NS	NS
	Mar 12	--	20.03	--	7.3	3.4	181.0	3.6	23.81	2.2	-21	580	NS	NS	NS
*	Jun 12	1991.37	18.90	1972.47	7.3	3.4	87.1	4.0	24.30	2.2	100	530	ND	ND	ND
	Sep 12	1991.37	18.77	1972.60	7.2	3.4	NM	3.5	23.19	2.2	150	520	ND	ND	ND
	Nov 12	1991.37	18.55	1972.82	8.0	3.4	NM	3.9	24.06	2.2	70	480	<0.50	<0.50	<0.50
	Mar 13	1991.37	19.99	1971.38	7.1	3.7	NM	3.2	23.20	2.4	129	340	<0.50	<0.50	<0.50
	Jun 13	1991.37	20.30	1971.07	7.2	3.8	NM	3.9	24.12	2.5	84	250	<0.50	<0.50	<0.50
	Sep 13	1991.37	20.21	1971.16	7.2	3.6	NM	3.3	25.54	2.3	50	250	<0.50	<0.50	<0.50
	Nov 13	1991.37	19.93	1971.44	6.1	3.8	45.8	1.8	23.47	2.2	184	310	<0.50	<0.50	<0.50
	Mar 14	1991.37	19.72	1971.65	7.3	3.3	323	5.4	23.24	2.1	89	92	<0.50	<0.50	<0.50
	Jun 14	1991.37	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1991.37	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1991.37	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-36	Mar 12	1955.30	19.51	1935.79	7.1	3.5	15.8	2.3	23.44	2.3	-62	160	NS	NS	NS
*	Jun 12	1955.30	21.26	1934.04	6.8	3.8	110.0	2.2	25.30	2.5	74	130	ND	ND	ND
	Sep 12	1955.30	21.55	1933.75	7.5	3.4	NM	1.9	25.53	2.2	128	130	ND	ND	ND
	Nov 12	1955.30	20.62	1934.68	7.8	3.5	NM	2.1	22.87	2.7	71	150	<0.50	<0.50	<0.50
	Mar 13	1955.30	19.03	1936.27	6.9	3.8	NM	1.7	23.48	2.5	121	160	0.52	<0.50	<0.50
	Jun 13	1955.30	20.75	1934.55	7.0	3.8	NM	1.8	25.96	2.5	104	110	0.52	<0.50	<0.50
	Sep 13	1955.30	21.48	1933.82	7.0	3.6	NM	1.7	24.72	2.4	131	140	<0.50	<0.50	<0.50
	Nov 13	1955.30	21.22	1934.08	7.4	3.9	9.4	1.9	23.32	2.5	126	130	<0.50	<0.50	<0.50
	Mar 14	1955.30	19.50	1935.80	7.3	3.1	53.6	4.2	24.34	2.1	147	62	<0.50	<0.50	<0.50
	Jun 14	1955.30	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1955.30	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1955.30	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-37	Mar 12	1930.06	18.89	1911.17	7.2	3.7	9.5	5.6	20.42	2.4	-27	36	NS	NS	NS
*	Jun 12	1929.98	19.10	1910.88	6.9	3.8	200.0	6.3	20.80	2.4	128	34	ND	ND	ND
	Sep 12	1929.98	20.05	1909.93	7.4	3.7	NM	5.5	21.79	2.4	144	32	ND	ND	ND
	Nov 12	1929.98	19.66	1910.32	7.9	3.8	NM	5.0	20.46	2.5	97	31	<0.50	<0.50	<0.50
	Mar 13	1929.98	18.83	1911.15	7.0	4.1	NM	4.3	19.76	2.7	139	34	<0.50	<0.50	<0.50
	Jun 13	1929.98	19.33	1910.65	7.0	4.1	NM	4.2	21.58	2.6	114	37	<0.50	<0.50	<0.50
	Sep 13	1929.98	19.80	1910.18	7.0	3.8	NM	4.6	21.66	2.5	215	40	<0.50	<0.50	<0.50
	Nov 13	1929.98	19.79	1910.19	6.5	4.0	7.2	4.2	21.71	2.6	335	33	<0.50	<0.50	<0.50
	Mar 14	1929.98	18.44	1911.54	7.4	3.5	33.9	4.6	23.10	2.3	113	30	<0.50	<0.50	<0.50
	Jun 14	1929.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1929.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1929.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-38	Jun 12	1908.38	15.05	1893.33	6.8	3.9	550.0	5.0	22.00	2.5	124	5.8	ND	ND	ND
	Sep 12	1908.38	14.95	1893.43	7.6	3.8	NM	4.2	24.26	2.5	140	5.7	ND	ND	ND
	Nov 12	1908.38	14.69	1893.69	7.9	3.8	NM	3.6	22.20	2.5	89	5.9	<0.50	<0.50	<0.50
	Mar 13	1908.38	14.48	1893.90	7.0	4.2	NM	3.9	20.46	2.7	138	7.3	<0.50	<0.50	<0.50
	Jun 13	1908.38	15.05	1893.33	7.0	4.1	NM	3.9	23.24	2.7	117	7.8	<0.50	<0.50	<0.50
	Sep 13	1908.38	14.75	1893.63	6.8	3.9	NM	3.8	23.26	2.5	380	6.6	<0.50	<0.50	<0.50
	Nov 13	1908.38	14.97	1893.41	6.5	4.2	19.1	3.3	22.33	2.7	356	7.0	<0.50	<0.50	<0.50
	Mar 14	1908.38	14.65	1893.73	7.2	3.6	6.8	2.2	20.57	2.4	92	7.3	<0.50	<0.50	<0.50
	Jun 14	1908.38	15.16	1893.22	7.1	3.9	17.4	3.2	54.90	2.5	100	5.4	<0.50	<0.50	<0.50
	Sep 14	1908.38	15.12	1893.26	7.2	3.8	22.4	6.1	25.74	2.5	82	5.8	<0.50	<0.50	<0.50
	Nov 14	1908.38	15.23	1893.15	6.9	4.0	7.6	3.7	21.82	2.6	75	8.2	<0.50	<0.50	<0.50
MW-39	Jun 12	1967.55	26.15	1941.40	7.3	3.4	252.0	3.3	25.73	2.2	50	250	0.63	ND	ND
	Sep 12	1967.55	26.10	1941.45	7.4	3.5	NM	1.6	25.75	2.2	132	240	0.83	ND	ND
	Nov 12	1967.55	25.51	1942.04	7.7	3.5	NM	2.2	22.11	2.3	61	270	0.91	<0.50	<0.50
	Mar 13	1967.55	24.20	1943.35	7.0	3.8	NM	1.4	22.63	2.4	137	280	0.83	<0.50	<0.50
	Jun 13	1967.55	25.63	1941.92	7.0	3.8	NM	1.7	26.48	2.5	94	210	0.83	<0.50	<0.50
	Sep 13	1967.55	26.34	1941.21	6.9	3.7	NM	2.0	26.67	2.4	122	250	0.76	<0.50	<0.50
	Nov 13	1967.55	26.01	1941.54	6.7	3.9	133	1.4	26.36	2.5	157	260	0.81	<0.50	<0.50
	Mar 14	1967.55	24.87	1942.68	7.3	3.3	120	4.9	28.81	2.1	116	59	<0.50	<0.50	<0.50
	Jun 14	1967.55	26.07	1941.48	7.2	3.5	60	4.1	30.55	2.3	389	120	<0.50	<0.50	<0.50
	Sep 14	1967.55	26.15	1941.40	7.5	3.2	84	4.8	26.92	2.0	135	120	<0.50	<0.50	<0.50
	Nov 14	1967.55	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-40 CMT-30	Nov 12	NM	25.28	NM	7.9	3.6	NM	2.6	17.93	2.3	-68	340	1.1	<0.50	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	4.7	<0.50	<0.50	<0.50
	Jun 13	1978.49	26.15	1952.34	7.6	3.3	NM	4.7	35.97	2.1	160	10	<0.50	<0.50	<0.50
	Sep 13	1978.49	26.71	1951.78	7.9	2.2	NM	3.0	34.38	1.5	35	2.1	<0.50	<0.50	<0.50
	Nov 13	1978.49	26.35	1952.14	7.6	3.0	9.6	3.0	20.28	1.9	91	1.3	<0.50	<0.50	<0.50
	Mar 14	1978.49	26.52	1951.97	7.6	3.1	73.6	3.8	23.63	2.0	103	4.5	<0.50	<0.50	<0.50
	Jun 14	1978.49	26.44	1952.05	8.3	3.6	5.0	4.4	46.19	2.3	79	3.2	<0.50	<0.50	<0.50
	Sep 14	1978.49	26.65	1951.84	8.4	2.7	18.1	5.1	32.95	1.8	313	4.6	<0.50	<0.50	<0.50
	Nov 14	1978.49	25.74	1952.75	8.1	3.6	2.7	8.9	19.34	2.4	-49	35	<0.50	<0.50	<0.50
MW-40 CMT-35	Nov 12	NM	25.30	NM	8.1	4.1	NM	1.9	17.84	2.7	-163	260	6.6	<0.50	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	48	3.1	<0.50	<0.50
	Jun 13	NM	26.15	NM	7.3	3.3	NM	5.0	36.39	2.2	127	3.6	<0.50	<0.50	<0.50
	Sep 13	1978.49	26.71	1951.78	7.1	2.4	NM	3.0	33.82	1.3	55	7.9	0.93	<0.50	<0.50
	Nov 13	1978.49	26.20	1952.29	6.5	2.4	4.3	1.7	23.26	1.6	88	12	2.4	<0.50	<0.50
	Mar 14	1978.49	26.47	1952.02	7.6	2.6	58.7	3.6	23.75	1.7	128	2.6	<0.50	<0.50	<0.50
	Jun 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-40 CMT-40	Nov 12	NM	25.34	NM	8.1	3.1	NM	2.0	20.43	2.0	-132	320	1.7	<0.50	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	270	1.6	<0.50	<0.50
	Jun 13	NM	26.18	NM	7.5	3.2	NM	3.5	37.72	2.1	135	53	0.73	<0.50	<0.50
	Sep 13	1978.49	26.69	1951.80	7.7	2.0	NM	4.0	37.45	1.3	-39	37	0.73	<0.50	<0.50
	Nov 13	1978.49	26.19	1952.30	6.4	2.3	238.0	3.5	26.72	1.5	38	51	0.64	<0.50	<0.50
	Mar 14	1978.49	26.50	1951.99	7.6	2.7	33.8	3.2	23.34	1.8	46	27	<0.50	<0.50	<0.50
	Jun 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-40 CMT-45	Nov 12	NM	25.28	NM	8.0	3.3	NM	2.1	20.47	2.1	-159	280	1.9	<0.50	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	310	1.6	<0.50	<0.50
	Jun 13	NM	26.14	NM	7.7	3.1	NM	4.2	29.10	2.0	203	47	<0.50	<0.50	<0.50
	Sep 13	1978.49	26.66	1951.83	7.2	2.2	NM	2.9	38.22	1.2	-90	110	1.3	<0.50	<0.50
	Nov 13	1978.49	26.16	1952.33	6.3	2.6	5.0	3.0	26.60	1.6	82	77	1.1	<0.50	<0.50
	Mar 14	1978.49	26.55	1951.94	7.6	2.7	67.9	4.7	26.76	1.8	57	24	<0.50	<0.50	<0.50
	Jun 14	1978.49	26.41	1952.08	7.0	3.0	7.1	4.7	36.07	2.0	-66	250	1.3	<0.50	<0.50
	Sep 14	1978.49	26.50	1951.99	7.3	2.0	25.4	3.3	33.31	1.3	-51	240	3.0	<0.50	<0.50
	Nov 14	1978.49	25.69	1952.80	7.5	3.1	5.2	6.6	20.28	2.0	-14	150	0.9	<0.50	<0.50
MW-40 CMT-50	Nov 12	NM	25.28	NM	8.2	3.4	NM	2.0	19.27	2.2	-175	300	2.5	<0.50	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	280	2.4	<0.50	<0.50
	Jun 13	NM	26.14	NM	7.7	3.2	NM	5.7	29.51	2.1	165	64	<0.50	<0.50	<0.50
	Sep 13	1978.49	26.63	1951.86	7.2	3.4	NM	5.8	29.36	2.3	243	24	<0.50	<0.50	<0.50
	Nov 13	1978.49	26.15	1952.34	6.5	2.5	12.9	1.5	25.67	1.6	29	120	1.8	<0.50	<0.50
	Mar 14	1978.49	26.49	1952.00	7.5	2.6	81.0	3.3	20.48	1.7	41	72	0.89	<0.50	<0.50
	Jun 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1979.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-40 CMT-55	Nov 12	NM	25.33	NM	8.0	2.9	NM	3.6	20.60	1.9	-55	930	4.0	1.7	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	390	4.1	1.7	<0.50
	Jun 13	NM	26.12	NM	7.5	3.1	NM	4.3	28.93	2.0	178	200	0.57	<0.50	<0.50
	Sep 13	1978.49	26.61	1951.88	7.7	3.2	NM	4.5	31.25	2.4	168	38	1.0	<0.50	<0.50
	Nov 13	1978.49	26.15	1952.34	6.2	2.3	17.2	3.1	26.89	1.4	38	110	0.86	<0.50	<0.50
	Mar 14	1978.49	26.56	1951.93	7.4	2.5	90.3	3.9	31.25	1.6	-69	130	3.1	<0.50	<0.50
	Jun 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Sep 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Nov 14	1978.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
MW-40 CMT-60	Nov 12	NM	25.38	NM	8.0	3.2	NM	2.6	18.85	2.1	-128	1,400	11	6.3	<0.50
	Mar 13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1,200	9.5	6.0	<0.50
	Jun 13	NM	26.16	NM	7.5	3.3	NM	4.9	29.49	2.1	220	1,000	5.9	3.6	<0.50
	Sep 13	1978.49	26.62	1951.87	7.6	3.4	NM	5.0	29.80	2.2	236	20	0.56	<0.50	<0.50
	Nov 13	1978.49	26.16	1952.33	5.9	1.0	619.0	1.7	22.22	0.7	-78	190	3.6	2.5	<0.50
	Mar 14	1978.49	26.54	1951.95	7.4	2.6	65.3	5.5	31.53	1.7	-84	360	6.5	2.2	<0.50
	Jun 14	1978.49	26.56	1951.93	7.1	3.0	5.7	5.4	35.94	1.9	-49	750	8.0	2.9	<0.50
	Sep 14	1978.49	26.52	1951.97	7.2	2.9	35.2	3.4	32.51	1.9	-114	700	10.0	2.8	<0.50
	Nov 14	1978.49	25.70	1952.79	7.2	3.0	2.3	18.4	22.40	2.0	28	1,000	6.8	2.6	<0.50

Table A-2: Historical Groundwater Gauging and Analytical Data
Maryland Square Shopping Center

Well ID	Date	Top of Casing Elevation (feet msl)	Depth to Groundwater Level (feet)	Groundwater Elevation (feet msl)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (ºC)	TDS (g/L)	ORP (mV)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-41	Sep 13	1908.89	14.81	1894.08	6.9	3.7	NM	2.7	26.56	2.8	135	1.7	<0.50	<0.50	<0.50
	Nov 13	1908.89	15.05	1893.84	6.7	3.9	239.0	1.1	21.40	2.2	360	2.6	<0.50	<0.50	<0.50
	Mar 14	1908.89	14.55	1894.34	7.3	3.3	192.0	2.8	20.93	2.2	64	2.1	<0.50	<0.50	<0.50
	Jun 14	1908.89	15.34	1893.55	6.9	3.6	76.1	1.2	26.24	2.3	85	2.8	<0.50	<0.50	<0.50
	Sep 14	1908.89	15.50	1893.39	7.0	3.6	68.4	2.4	26.18	2.3	54	2.8	<0.50	<0.50	<0.50
	Nov 14	1908.89	15.47	1893.42	6.9	3.7	57.0	1.2	20.80	2.4	25	3.7	<0.50	<0.50	<0.50
MW-42	Sep 13	1910.31	16.16	1894.15	7.1	4.1	NM	3.0	24.55	2.7	66	0.53	<0.50	<0.50	<0.50
	Nov 13	1910.31	16.32	1893.99	7.0	4.3	29.4	2.1	21.41	2.8	326	0.60	<0.50	<0.50	<0.50
	Mar 14	1910.31	16.01	1894.30	7.3	3.7	73.8	1.5	20.05	2.4	41	<0.50	<0.50	<0.50	<0.50
	Jun 14	1910.31	16.51	1893.80	6.7	4.0	13.6	2.1	23.60	2.6	105	0.58	<0.50	<0.50	<0.50
	Sep 14	1910.31	16.45	1893.86	6.8	4.0	21.4	3.2	23.75	2.6	107	0.53	<0.50	<0.50	<0.50
	Nov 14	1910.31	16.57	1893.74	7.0	4.1	6.3	1.7	22.21	2.7	-5	0.71	<0.50	<0.50	<0.50
MW-43	Sep 13	1958.33	17.14	1941.19	7.1	3.5	NM	3.1	26.33	2.2	45	<0.50	<0.50	<0.50	<0.50
	Nov 13	1958.33	16.96	1941.37	7.0	3.6	163.0	2.2	22.87	2.3	138	<0.50	<0.50	<0.50	<0.50
	Mar 14	1958.33	16.11	1942.22	7.2	3.0	109.0	1.6	22.15	1.9	45	<0.50	<0.50	<0.50	<0.50
	Jun 14	1958.33	17.15	1941.18	6.7	3.2	61.3	2.3	25.50	2.1	128	<0.50	<0.50	<0.50	<0.50
	Sep 14	1958.33	17.33	1941.00	6.8	3.1	70.4	2.7	25.53	2.0	170	<0.50	<0.50	<0.50	<0.50
	Nov 14	1958.33	16.63	1941.70	7.0	3.2	23.5	2.9	23.23	2.1	98	<0.50	<0.50	<0.50	<0.50

Notes:

NM = Not Measured
msl = mean sea level
ND = Non Detect
NS = Not Sampled
µg/L = micrograms per liter
°C = degrees Celsius
g/L = gallons per liter
mg/L = milligrams per liter
mS/cm = milli Siemens per centimeter
mV = milllivolts
NTU = Nephelometric Turbudity Units

*: All wells were resurveyed to determine top of casing elevation
Mar 2014: Wells monitored were determined to not be representative of site conditions.

Maryland Square PCE Site

FIGURES

Cardno ATC

Shaping the Future

SITE LOCATION

1 inch = 1,000 feet

Note: Scale and location are approximate

SOURCE: Google Earth

SITE VICINITIY MAP

MARYLAND SQUARE SHOPPING CENTER
3661 S. MARYLAND PARKWAY
LAS VEGAS, NEVADA

PROJECT NUMBER: Z085000030	**DATE:** 12/12	**Figure 1**
APPROVED BY: ADS	**DRAWN BY:** ABK	

Cardno ATC Shaping the Future
2925 East Patrick Lane, Suite M
Las Vegas, Nevada 89120-2457
Ph: (702) 798-5750 *** Fax: (702) 798-5742

115.135° 115.13° 115.125° 115.12° 115.115°

36.125° 36.12°

S. MARYLAND PARKWAY
BOULEVARD MALL
ALGONQUIN DR.
RUBY S. THOMAS ELEMENTARY SCHOOL
COMMANCHE DRIVE
CHEROKEE LN.
SENECA LN.
SPENCER STREET
SPENCER STREET
MARICOPA WAY
OTTAWA DRIVE
GOLF COURSE
COCHISE LANE
GERONIMO WAY
PUEBLO WAY
TIOGA WAY
SOUTH EASTERN AVENUE
PACIFIC STREET
E. TWAIN AVENUE
E. TWAIN AVENUE
OTTAWA DRIVE
E. KATIE AVENUE
ORR PARK
WILLIAM E. ORR MIDDLE SCHOOL
FLAMINGO WASH

MW-35 NM
MW-14 NM
MW-7 NM
MW-15 NM
MW-14I 1968.10
MW-17 NM
MW-12 NM
MW-34 NM
MW-1 1971.59
MW-9 NM
MW-8 NM
MW-5 1969.14
MW-6 1968.03
MW-6D 1970.32
MW-13 NM
MW-2 NM
MW-3 NM
MW-10 NM
MW-20D 1952.38
MW-40 CMT 1952.75
MW-21 NM
MW-20 NM
MW-19 NM
MW-19D 1952.95
MW-19I 1952.35
MW-16 NM
MW-11 NM
MW-22 NM
MW-18 1949.68
MW-43 1941.70
MW-23 1945.26
MW-24 NM
MW-39 NM
MW-25 1938.97
MW-36 NM
MW-32 1933.53
MW-26 1935.14
MW-33 NM
MW-27 NM
MW-28 NM
PW-1
PW-2
MW-30 NM
MW-31 NM
MW-37 NM
MW-29 NM
MW-41 1893.42
MW-38 1893.15
MW-42 1893.74

1970 1965 1960 1955 1950 1945 1940 1935 1930 1925 1920 1915 1910 1905 1900 1895

LEGEND

MW-1 GROUNDWATER MONITOR WELL
PW-1 PUMPING WELL
1962.16 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
1950 GROUNDWATER ELEVATION CONTOUR (5 FT. INTERVALS)
GROUNDWATER FLOW DIRECTION
NM NOT MEASURED OR NO SURVEY DATA

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

0 500 1000
SCALE, FT

GROUNDWATER POTENTIOMETRIC MAP
NOVEMBER 17 - NOVEMBER 20, 2014

MARYLAND SQUARE SHOPPING CENTER
3661 S. MARYLAND PARKWAY
LAS VEGAS, NV

PROJECT NUMBER: Z085000030		DATE: 12/13/14	FIGURE 2
APPROVED BY: AS		DRAWN BY: FL	

Cardno ATC
7115 Amigo Street, Suite 100
Las Vegas, Nevada 89119
Ph: (702) 990-9300 *** Fax: (702) 990-9305

115.135° 115.13° 115.125° 115.12° 115.115°

36.125° 36.12°

S. MARYLAND PARKWAY
BOULEVARD MALL
RUBY S. THOMAS ELEMENTARY SCHOOL
COMMANCHE DRIVE
ALGONQUIN DR.
GOLF COURSE
PUEBLO WAY
SOUTH EASTERN AVENUE
EMERSON AVENUE
PACIFIC STREET
MARICOPA WAY
SPENCER STREET
SENECA LN.
CHEROKEE LN.
OTTAWA DRIVE
GERONIMO WAY
TIOGA WAY
E. TWAIN AVENUE
ORR PARK
WILLIAM E. ORR MIDDLE SCHOOL
E. KATIE AVENUE
FLAMINGO WASH

MW-35 310
MW-14 330
MW-40 CMT

DEPTH	PCE
30	35
35	NS
40	NS
45	150
50	NS
55	NS
60	1,000

WELL	PCE
MW-20D1	NS
MW-20D2	410
MW-20D3	NS

MW-43 <0.50
MW-33 <0.50
PW-2
MW-41 3.7
MW-37 33
MW-36 130
MW-22 <0.50
MW-39 120
MW-31 54
MW-38 8.2
MW-17 120
MW-7 4.7
MW-15 2.7
MW-6 3300
MW-13 640
MW-21 8.4
MW-18 1,100
MW-12 0.86
MW-34 500
MW-32 850
MW-27 290
MW-42 0.71
MW-1 240
MW-14I 11,000
MW-20 NS
MW-23 870
MW-25 590
MW-26 890
PW-1
MW-30 96
MW-9 7.9
MW-19 NS
MW-19I <0.50
MW-8 2.2
MW-24 1.3
MW-3 12
MW-16 <0.50
MW-5 740
MW-2 720
MW-11 <0.50
MW-10 NS
MW-28 0.61
MW-29 <0.50

WELL	PCE
MW-19D1	1,000
MW-19D2	39
MW-19D3	190

WELL	PCE
MW-6D1	21
MW-6D2	NS
MW-6D3	NS

LEGEND

MW-1 GROUNDWATER MONITOR WELL
PW–1 PUMPING WELL
3000 ISOCONTOUR, µg/L
1000 ISOCONTOUR, µg/L
500 ISOCONTOUR, µg/L
100 ISOCONTOUR, µg/L
5 ISOCONTOUR, µg/L
1,000 NOVEMBER 2014 DATA
1,000 SEPTEMBER 2014 DATA

540 PCE, µg/L
NS NOT SAMPLED

1,000 NOVEMBER 2013 DATA
1,000 MARCH 2013 DATA

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

0 500 1000
SCALE, FT

PCE ISOCONCENTRATION MAP
NOVEMBER 17- NOVEMBER 20, 2014
MARYLAND SQUARE SHOPPING CENTER
3661 S. MARYLAND PARKWAY
LAS VEGAS, NV

PROJECT NUMBER: Z085000030		DATE: 12/10/14	FIGURE 3
APPROVED BY: AS		DRAWN BY: FL	

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Maryland Square PCE Site

APPENDIX A
FIELD SHEETS

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GROUNDWATER LEVEL DATA

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9305 (702) 990-9305 fax

PROJECT: Maryland Square LOCATION: 3661 S. Maryland Parkway PROJECT NUMBER: 085.42620.0001

RECORDED BY: _____ MEASURING DEVICE: WLI

WEATHER CONDITIONS:

WELL ID	DATE	TIME	DEPTH TO GROUNDWATER (feet bTOC)	TOTAL DEPTH (feet bTOC)	COMMENTS
MW-1	11/20	815	20.42	25.91	Soft Bottom
MW-5	11/20	1057	19.55	28.96	V. Soft Bottom
MW-6	11/20	1140	20.09	28.69	Soft Bottom
MW-18	11/19	1425	13.22	20.32	
MW-23	11/19	1250	17.19	25.36	Soft bottom
MW-25	11/19	1340	20.32	25.95	
MW-26	11/17	1406	18.31	35.33	
MW-32	11/17	1315	19.37	33.69	
MW-38	11/17	1209	15.23	34.58	Soft. Bottom
MW-41	11/17	1128	15.47	35.26	
MW-42	11/17	1047	16.57	35.03	Soft Bottom
MW-43	11/17	933	16.63	35.12	Soft Bottom
MW-14I	11/20	1235	19.44	54.65	Soft Bottom
MW-19I	11/18	825	26.02	54.07	Soft Bottom
MW-6D1	11/20	937	18.40	59.74	Soft Bottom
MW-19D1	11/18	1052	26.30	49.51	Soft Bottom
MW-19D2	11/18	1053	27.01	70.24	Soft Bottom
MW-19D3	11/18	1001	26.48	99.50	Soft Bottom
MW-20D2	11/16	941	26.28	65.72	Soft Bottom
MW-40 CMT30	11/19	845	25.74	29.77	
MW-40 CMT45	11/19	1000	25.69	44.98	
MW-40 CMT60	11/19	1120	25.70	59.89	
MW-19D2	11/18	1149	26.44	—	Prior to Purging on well (19D2)
MW-19D3	11/18	1257	25.84	—	Prior to purging on well (19D3)
MW-19D1	11/18	1307	26.27	—	prior to purging on 19D3
MW-19D2	11/18	1308	28.15	—	prior to purging on 19D3
MW-19D1	11/18	1910	26.31	—	Post Purge on 19D3.
MW-19D2	11/18	1912	26.43	—	Post Purge on 19D3

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-1
Sample ID: MW-1
Date: 11/20/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 25.91 feet 25.92
Depth to Water: 20.42 feet 20.15
Constructed Screen Interval 10 feet to 30 feet
Approximate Pump Depth ____ Feet bgs 23 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments: ____

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.18	838	20.51	23.09	3.746	2.436	2.21	7.06	47.8	Sl. Turbid, no odor 45.1
.36	853	20.49	24.67	3.762	2.445	1.33	7.04	-46.1	Sl. Turbid, no odor 30.5
.54	858	20.43	24.45	3.760	2.444	2.06	7.04	-36.6	Sl. Turbid, no odor 17.65
.70	903	20.40	23.21	3.789	2.460	2.10	7.06	-43.2	Clear, no odor 7.97
.88	908	20.55	24.41	3.744	2.430	2.18	7.03	-39.5	Clear, no odor 44.8
1.06	913	20.60	24.91	3.749	2.441	1.95	7.04	-47.0	Clear, no odor 16.62
1.24	918	20.54	25.08	3.796	2.444	2.12	7.05	-39.4	Clear, no odor 9.34

Total Water Volume Purged: 1.24 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: Well producing very little water, increase pump fill/discharge 30/30

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 5.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no N/A Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 925 Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-5
Sample ID: MW-5
Date: 11/20

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	28.96 feet	29.01	3" = 0.37 gal/lin ft.
Depth to Water:	19.55 feet	19.08	4" = 0.67 gal/lin ft.
Constructed Screen Interval	10 feet to	32 feet	
Approximate Pump Depth	Feet bgs	24 Feet btoc	

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.31	1104	19.58	25.62	3.594	2.336	7.10	7.06	73.9	Sl. Turbid, No odor 20.4
.62	1109	19.57	25.71	3.604	2.343	4.06	7.05	64.4	Sl. turbid, No odor 10.52
.93	1114	19.58	25.88	3.607	2.344	4.13	7.04	64.2	Clear No odor 8.74
1.24	1119	19.58	25.87	3.608	2.345	4.16	7.04	62.9	Clear No odor 4.52
1.35	1124	19.61	25.89	3.605	2.345	4.19	7.05	58.7	Clear, No odor 4.51

Total Water Volume Purged: 1.35 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: Dup

Well Security:

Locking cap?	X yes	___ no	Replaced? ___ yes	X no	N/A PID
Bolts secured?	X yes	___ no	Replaced? ___ yes	X no	N/A Vacuum
Surface Seal?	X yes	___ no	Replaced? ___ yes	X no	1134 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-6
Sample ID: MW-6
Date: 11/20

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 28.69 feet 28.85
Depth to Water: 20.09 feet 19.27
Constructed Screen Interval 10 feet to 32 feet
Approximate Pump Depth ____ Feet bgs 25 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.26	1156	20.10	24.27	3.320	2.158	4.60	6.83	131.0	Sl. Turbid, No odor 12.98
0.52	1201	20.11	24.64	3.397	2.210	3.34	6.87	94.3	Clear, No odor 9.74
0.78	1206	20.11	24.83	3.460	2.250	3.35	6.86	93.7	Clear, no odor 7.52
1.04	1211	20.11	24.81	3.485	2.269	3.34	6.85	79.7	Clear, no odor 7.09
1.30	1216	20.17	24.83	3.502	2.274	3.34	6.85	79.2	Clear, no odor 4.97

Total Water Volume Purged: 1.30 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? Y yes ____ no — Replaced? ____ yes N no — N/A PID
Bolts secured? Y yes ____ no — Replaced? ____ yes N no — N/A Vacuum
Surface Seal? Y yes ____ no — Replaced? ____ yes N no — 1230 Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-6D1
Sample ID: MW-6D1
Date: 11/20

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	59.74 feet	60.48	3" = 0.37 gal/lin ft.
Depth to Water:	18.40 feet	20.4	4" = 0.67 gal/lin ft.
Constructed Screen Interval	50 feet to	60 feet	
Approximate Pump Depth	Feet bgs	55 Feet btoc	

Comments: Previous inconsistent dtw readings

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.34	1009	19.50	23.01	0.655	0.427	6.88	7.46	23.6	Sl. Turbid, no odor 61.4
.68	1014	19.91	23.30	0.658	0.428	6.66	7.48	29.5	Sl. Turbid, no odor 41.8
1.02	1019	19.83	23.30	0.654	0.425	6.25	7.44	33.3	Sl. Turbid, no odor 24.0
1.36	1024	19.88	23.40	0.651	0.423	6.21	7.42	35.2	Sl. Turbid, no odor 9.25
1.70	1029	20.06	23.50	0.651	0.423	6.07	7.42	39.8	Sl. turbid, no odor 6.71

Total Water Volume Purged: 1.70 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: H2O water kept rising from 19.76 to 18.40, stabilized after approx 15 min

Well Security:					
Locking cap?	X yes ___no	Replaced? ___yes	X no	N/A	PID
Bolts secured?	X yes ___no	Replaced? ___yes	X no	N/A	Vacuum
Surface Seal?	X yes ___no	Replaced? ___yes	X no	1040	Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
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(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-14I
Sample ID: MW-14I
Date: 11/20

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	4 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	54.65 feet	54.67	3" = 0.37 gal/lin ft.
Depth to Water:	19.44 feet	19.44	4" = 0.67 gal/lin ft.
Constructed Screen Interval	40 feet to	55 feet	
Approximate Pump Depth	Feet bgs	47.5 Feet btoc	

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.33	1250	19.54	24.86	1.358	0.883	4.63	6.97	19.9	Clear, No odor, 4.96
.66	1255	19.67	24.75	1.353	0.880	3.96	6.98	15.3	Clear, no odor, 3.98
.99	1300	19.58	24.78	1.352	0.879	3.98	6.98	22.3	Clear, No odor, 3.59
1.32	1305	19.54	24.86	1.351	0.878	3.94	7.00	25.9	Clear, No odor, 2.96
1.65	1310	19.54	24.91	1.348	0.876	3.97	7.03	26.3	Clear, No odor, 3.35

Total Water Volume Purged: 1.65 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:

Locking cap? X yes ___ no	Replaced? ___ yes X no	N/A	PID
Bolts secured? X yes ___ no	Replaced? ___ yes X no	N/A	Vacuum
Surface Seal? X yes ___ no	Replaced? ___ yes X no	1322	Sample Collection Time

GROUNDWATER COLLECTION LOG

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(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-18
Sample ID: MW-18
Date: 11/19

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	4 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	20.32 feet	20.38	3" = 0.37 gal/lin ft.
Depth to Water:	13.22 feet	13.97	4" = 0.67 gal/lin ft.
Constructed Screen Interval	5 feet to	26 feet	
Approximate Pump Depth	Feet bgs	17 Feet btoc	

Comments: Well bottom is above screen interval

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.35	1435	13.25	23.91	3.487	2.269	3.92	7.05	67.4	Clear, No odor, 2.88
0.70	1440	13.29	24.06	3.489	2.268	3.85	7.05	68.9	Clear, No odor, 2.83
1.05	1445	13.28	24.09	3.489	2.268	3.81	7.04	70.5	Clear, No odor, 2.37
1.40	1450	13.28	24.16	3.489	2.268	3.86	7.04	70.7	Clear, No odor, 2.70
1.75	1455	13.29	24.09	3.488	2.268	3.95	7.04	70.9	Clear, No odor 2.87

Total Water Volume Purged: 1.75 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:

Locking cap?	X yes ___no	Replaced? ___yes	X no	5.9 PID
Bolts secured?	X yes ___no	Replaced? ___yes	X no	N/A Vacuum
Surface Seal?	X yes ___no	Replaced? ___yes	X no	1504 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
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(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-19D1
Sample ID: MW-19D1
Date: 11/19/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	49.51 feet	27.06	3" = 0.37 gal/lin ft.
Depth to Water:	26.30 feet	49.65	4" = 0.67 gal/lin ft.
Constructed Screen Interval	31 feet to	51 feet	
Approximate Pump Depth	Feet bgs	41 Feet btoc	

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.1	1117	26.38	23.09	3.211	2.088	6.605	7.07	97.1	Turbid, no odor 109
0.4	1122	26.44	23.35	3.238	2.105	5.00	7.08	75.0	Turbid, no odor 1.72
0.8	1127	26.38	23.17	3.250	2.113	4.89	7.07	70.2	Turbid, no odor 90.3
1.0	1132	26.38	23.24	3.262	2.121	4.73	7.08	68.2	sl. Turbid, no odor 49.8
1.25	1137	26.31	23.11	3.271	2.128	4.83	7.05	67.9	sl. Turbid, no odor 18.64

Total Water Volume Purged: 1.25 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? Y yes ___ no
Bolts secured? Y yes ___ no
Surface Seal? Y yes ___ no

Replaced? ___ yes N no
Replaced? ___ yes N no
Replaced? ___ yes N no

1.6 PID
N/A Vacuum
1141 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-19D2
Sample ID: MW-19D2
Date: 11/18/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 70.24 ~~70.24~~ feet 70.24
Depth to Water: 27.01 feet 27.67
Constructed Screen Interval 60 feet to 70 feet
Approximate Pump Depth _____ Feet bgs 65 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.2	1203	28.10	24.06	2.504	1.628	3.05	7.14	75.7	Clear, No odor 7.87
0.4	1208	29.32	23.81	2.492	1.619	2.53	7.13	69.2	Clear, No odor 10.39
0.9	1213	30.58	23.66	2.461	1.600	2.67	7.15	66.8	Clear, No odor 6.50
1.25	1218	31.07	23.62	2.454	1.595	2.74	7.16	69.6	Clear, No odor 9.34
1.5	1223	31.62	23.63	2.456	1.597	2.80	7.24	76.4	Clear, No odor 3.78

Total Water Volume Purged: 1.5 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? Y yes ____no Replaced? ____yes X no
Bolts secured? Y yes ____no Replaced? ____yes X no
Surface Seal? X yes ____no Replaced? ____yes X no

2.0 PID
N/A Vacuum
1252 Sample Collection Time

Permeameter: 0.0

27.15

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GROUNDWATER COLLECTION LOG

CARDNO ATC
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(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-19D3
Sample ID: MW-19D3
Date: 11/18/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	99.50 feet	99.48	3" = 0.37 gal/lin ft.
Depth to Water:	26.48 feet	29	4" = 0.67 gal/lin ft.
Constructed Screen Interval	92 feet to	102 feet	
Approximate Pump Depth	Feet bgs	97 Feet btoc	

Comments: Inconsistent PCE concentrations

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.10	1342	27.26	23.50	2.817	1.831	8.81	7.19	135.3	Turbid, no odor 36.7
0.20	1347	27.49	23.57	3.035	1.981	7.51	7.16	142.5	Turbid, no odor 68.6
0.30	1352	27.29	23.32	3.111	2.017	6.53	7.17	135.3	Turbid, no odor, 361
0.5	1357	27.20	23.06	3.139	2.041	5.68	7.15	132.6	Turbid, no odor, 175
0.75	1402	27.10	23.09	3.158	2.051	6.42	7.13	134.7	Turbid, no odor, 193
0.85	1406	27.19	23.14	3.164	2.057	6.66	7.12	134.9	Turbid, no odor, 50.6

Total Water Volume Purged: 0.85 Gallons = N/A Well Volumes
Purged Dry (Y/N):
Comments: Turned off discharge/fill after 2nd reading

Well Security:

Locking cap?	X yes ___no	Replaced? ___yes	X no	2.8	PID
Bolts secured?	X yes ___no	Replaced? ___yes	X no	0.0	Vacuum
Surface Seal?	X yes ___no	Replaced? ___yes	X no	1420	Sample Collection Time

Cardno ATC
Shaping the Future

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-19I
Sample ID: MW-19I
Date: 4/16

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 54.07 feet 54.25
Depth to Water: 26.02 feet 26.81
Constructed Screen Interval 34 feet to 54 feet
Approximate Pump Depth ____ Feet bgs 40 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.25	944	26.09	22.35	3.348	2.210	5.40	7.07	639.1	Pink, no odor 7.84
0.50	949	26.09	22.36	3.407	2.215	5.16	7.06	644.5	pink, no odor 8.78
1.00	954	26.10	22.13	3.403	2.214	5.08	7.05	649.7	pink, no odor 10.26
1.33	959	26.12	22.48	3.406	2.213	5.06	7.06	650.9	pink, no odor 13.26
1.75	904	26.12	22.5	3.408	2.212	5.13	7.05	643.3	Pink, no odor 6.29

Total Water Volume Purged: 1.75 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no
Bolts secured? X yes ____ no Replaced? ____ yes ____ no
Surface Seal? X yes ____ no Replaced? ____ yes X no

0.3 PID
N/A Vacuum
910 Sample Collection Time
permanganate: 2.0

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-20D2
Sample ID: MW-20D2
Date: 11/18

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	65.72 feet	65.7	3" = 0.37 gal/lin ft.
Depth to Water:	26.28 feet	27.21	4" = 0.67 gal/lin ft.
Constructed Screen Interval	55 feet to	65 feet	
Approximate Pump Depth	____ Feet bgs	60 Feet btoc	

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.33	1004	27.41	24.24	3.218	2.057	10.46	7.16	415.7	Sl. Turbid, No odor, 3.25
1.00	1013	27.69	24.38	3.206	2.090	11.11	7.18	404.9	Sl. Turbid, No odor, 14.55
1.25	1018	27.62	24.23	3.227	2.099	11.58	7.19	397.1	Sl. Turbid, No odor, 12.29
1.5	1023	27.81	24.43	3.208	2.090	11.85	7.19	176.6	Sl. Turbid, No odor, 10.14
2.0	1028	27.75	24.38	3.209	2.089	12.19	7.19	141.6	Sl. Turbid, No odor 10.29

Total Water Volume Purged: 2.0 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? Y yes ____no Replaced? ____yes N no
Bolts secured? Y yes ____no Replaced? ____yes Y no
Surface Seal? Y yes ____no Replaced? ____yes N no

0.7 PID
N/A Vacuum
1037 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-23
Sample ID: MW-23
Date: 11/19

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 25.36 feet 25.38
Depth to Water: 17.19 feet 17.89
Constructed Screen Interval 5 feet to 26 feet
Approximate Pump Depth ____ Feet bgs 21 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.37	1301	17.21	23.35	3.467	2.254	2.16	7.01	14.6	Clear, No odor, 1.96
0.78	1306	17.22	23.52	3.473	2.258	2.12	7.00	11.7	Clear, no odor, 2.16
1.15	1311	17.23	23.55	3.474	2.258	2.10	7.00	9.7	Clear, no odor 2.42
1.40	1316	17.22	23.65	3.475	2.259	2.10	7.00	10.2	Clear, No odor, 2.62
1.75	1321	17.21	23.65	3.474	2.258	2.13	7.00	11.0	Clear, No odor, 2.42

Total Water Volume Purged: 1.75 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? X yes ____no
Bolts secured? X yes ____no
Surface Seal? X yes ____no

Replaced? ____yes X no
Replaced? ____yes X no
Replaced? ____yes X no

5.9 PID
N/A Vacuum
1325 Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-25
Sample ID: MW-25
Date: 11/19

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 25.95 feet 25.91
Depth to Water: 20.32 feet 20.82
Constructed Screen Interval 5 feet to 26 feet
Approximate Pump Depth ____ Feet bgs 23 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.35	1350	20.37	22.50	3.693	2.401	1.67	6.95	51.5	Clear, No odor, 3.62
0.70	1355	20.40	22.93	3.696	2.402	1.64	6.96	39.1	Clear, No odor, 2.39
1.05	1400	20.39	22.85	3.697	2.403	1.93	6.95	32.7	Clear, No odor 2.72
1.40	1405	20.39	22.86	3.693	2.401	1.64	6.95	25.3	Clear, No odor, 2.65
1.75	1410	20.39	22.93	3.691	2.401	1.62	6.95	23.6	Clear, No odor, 2.44

Total Water Volume Purged: 1.75 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no
Bolts secured? X yes ____ no Replaced? ____ yes X no
Surface Seal? X yes ____ no Replaced? ____ yes X no

2.8 PID
N/A Vacuum
1420 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-26
Sample ID: MW-26
Date: 11/17/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	4 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	35.32 feet	35.32	3" = 0.37 gal/lin ft.
Depth to Water:	18.31 feet	18.6	4" = 0.67 gal/lin ft.
Constructed Screen Interval	10 feet to	36 feet	
Approximate Pump Depth	Feet bgs	27 Feet btoc	

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Turbidity, Sheen,
0.25	1414	18.33	22.71	3.849	2.501	2.55	6.97	-80.7	Clear, No odor, 4.38
0.50	1419	18.31	22.89	3.848	2.501	2.41	6.97	-70.6	Clear, no odor, 3.24
0.75	1424	18.32	22.85	3.845	2.499	2.27	6.97	-62.2	Clear, no odor, 4.68
1.0	1429	18.33	22.78	3.845	2.499	2.21	6.96	-54.9	Clear, no odor, 2.46
1.25	1434	18.33	22.81	3.843	2.498	2.14	6.96	-49.3	Clear, no odor, 2.99
1.5	1439	18.33	22.84	3.843	2.498	2.17	6.97	-44.4	Clear, No odor 2.41

Total Water Volume Purged: 1.5 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? A yes ____no Replaced? ____yes X no
Bolts secured? Y yes ____no Replaced? ____yes ✓ no
Surface Seal? X yes ____no Replaced? ____yes X no

21.9 PID
N/A Vacuum
1445 Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-32
Sample ID: MW-32
Date: 11/17/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 33.64 feet 33.7
Depth to Water: 19.37 feet 20.15
Constructed Screen Interval 13.5 feet to
Approximate Pump Depth Feet bgs 27 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.25	1326	19.40	22.88	3.657	2.377	2.47	7.02	-74.1	Clear, No odor, 7.34
0.50	1331	19.41	23.23	3.651	2.374	2.04	7.00	-125.6	Clear, No odor, 8.09
0.75	1336	19.42	23.16	3.646	2.370	2.06	7.01	-148.5	Clear, No odor, 6.76
1.0	1341	19.41	23.07	3.637	2.365	2.12	7.00	-158.0	Clear, No odor, 5.83
1.25	1346	19.42	23.16	3.633	2.362	2.29	7.00	-163.5	Clear, No odor, 4.43
1.50	1351	19.42	23.12	3.626	2.357	2.37	7.01	-162.6	Clear, No odor, 4.91

Total Water Volume Purged: 1.5 Gallons = N/A Well Volumes
Purged Dry (Y/N):
Comments: PID has hits, but No observed odor

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no
Bolts secured? X yes ____ no Replaced? ____ yes X no
Surface Seal? X yes ____ no Replaced? ____ yes X no

42.8 PID
N/A Vacuum
1355 Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DF

Well ID: MW-38
Sample ID: MW-38
Date: 11/17/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 34.58 feet 34.68
Depth to Water: 15.23 feet 15.12
Constructed Screen Interval 15 feet to 36 feet
Approximate Pump Depth ____ Feet bgs 25 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

DRW

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
0.25	1220	15.23	21.23	4.058	2.637	4.78	6.95	82.4	Clear, no odor, 11.98
0.50	1225	15.22	21.70	4.062	2.640	3.71	6.94	76.6	Clear, no odor, 5.85
0.75	1230	15.23	21.74	4.060	2.640	3.65	6.94	76.1	Clear, no odor, 9.95
1.0	1235	15.23	21.78	4.062	2.641	3.69	6.95	75.5	Clear, no odor, 7.60
1.25	1240	15.23	21.82	4.063	2.641	3.65	6.94	75.3	Clear, no odor,

Total Water Volume Purged: 1.25 Gallons = N/A Well Volumes
Purged Dry (Y/N): ____
Comments: Needs new vault, eyelets broken (Bin Vault)

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no
Bolts secured? ____ yes X no Replaced? ____ yes X no
Surface Seal? X yes ____ no Replaced? ____ yes X no

0.3 PID
N/A Vacuum
1243 Sample Collection Time

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-40 CMT 30
Sample ID: MW-40 CMT 30
Date: 11/19/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: ____ inch
Depth to Well Bottom: 29.77 feet — 29.84
Depth to Water: 25.74 feet — 26.65
Constructed Screen Interval: 30 feet to 30.6 feet
Approximate Pump Depth: ____ Feet bgs — 29.5 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (~~gal.~~ mL)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
190	912	—	15.69	3.394	2.205	10.01	8.00	42.6	Clear, No odor, 39.7
410	917	—	16.29	3.573	2.323	9.07	8.06	31.9	Clear, No odor
600	922	—	17.04	3.575	2.324	8.29	8.06	14.5	Clear, No odor 8.40
800	927	—	17.76	3585	2.329	8.64	8.10	-9.6	Clear, No odor 4.95
1010	932	—	18.57	3.602	2.341	8.64	8.15	-33.5	Clear, No odor 4.08
1250	937	—	19.34	3.623	2.355	8.67	8.13	-48.7	Clear, No odor 2.66

Total Water Volume Purged: ~~1250~~ 1250 mL ~~Gallons~~ = N/A Well Volumes
Purged Dry (Y/N): ____
Comments:

Well Security:
Locking cap? ____ yes X no — Replaced? ____ yes X no
Bolts secured? X yes ____ no — Replaced? ____ yes X no
Surface Seal? X yes ____ no — Replaced? ____ yes X no

0.4 PID
N/R Vacuum
950 Sample Collection Time

permanganate: 0.0

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-40 CMT 45
Sample ID: MW-40 CMT 45
Date: 11/19

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: ____ inch
Depth to Well Bottom: 44.98 feet 44.9
Depth to Water: 25.69 feet 26.5
Constructed Screen Interval 45 feet to 45.6 feet
Approximate Pump Depth ____ Feet bgs 44.98 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
500 mL	1023	—	18.69	3.030	1.969	5.34	7.32	-184.1	Sl. Turbid, No odor, 7.49
1000	1028	—	20.17	3.059	1.990	5.97	7.15	-107.4	Sl. Turbid, No odor 18.25
1900	1033	—	20.61	3.018	1.962	5.99	7.19	-69.1	Clear, No odor 9.39
2470	1038	—	20.56	3.028	1.968	-	7.54	-60.9	clear, No odor 5.50
3170	1043	—	20.28	3.069	1.995	6.59	7.46	-13.5	clear, no odor 5.20

Total Water Volume Purged: 3170 mL ~~Gallons~~ = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? ____ yes X no Replaced? ____ yes ____ no 0.3 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no N/A Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 1050 Sample Collection Time

permanganate: 0.0

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GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-40 CMT 60
Sample ID: MW-40 CMT 60
Date: 11/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	59.89 feet	59.92	3" = 0.37 gal/lin ft.
Depth to Water:	25.70 feet	26.32	4" = 0.67 gal/lin ft.
Constructed Screen Interval	60 feet to	60.6 feet	
Approximate Pump Depth	Feet bgs	59.89 Feet btoc	

Comments:

Purged (gal.)	Time	DTW	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
950	1135	—	21.47	2.996	1.949	15.61	7.20	3.4	Clear, no odor, 2.90
1760	1140	—	21.22	2.997	1.941	15.62	7.26	-5.0	Clear, NO odor, 2.61
2630	1145	—	20.87	2.992	1.940	17.92	7.23	18.9	Clear, NO odor, 2.86
3330	1150	—	22.33	3.007	1.957	18.82	7.21	28.2	Clear, NO odor 2.84
3940	1155	—	22.40	2.985	1.953	18.37	7.23	28.0	Clear, NO odor 2.31

Total Water Volume Purged: 3940 ~~Gallons~~ L =
Purged Dry (Y/N): N
N/A Well Volumes
Comments:

Well Security:
Locking cap? ___ yes X no Replaced? ___ yes X no
Bolts secured? X yes ___ no Replaced? ___ yes X no
Surface Seal? X yes ___ no Replaced? ___ yes X no

0.2 PID
N/A Vacuum
1207 Sample Collection Time

Permanganate 0.0

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-41
Sample ID: MW-41
Date: 11/17/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2	inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	35.26	feet	35.28	3" = 0.37 gal/lin ft.
Depth to Water:	15.47	feet	15.5	4" = 0.67 gal/lin ft.
Constructed Screen Interval	10	feet to	35	feet
Approximate Pump Depth		Feet bgs	25	Feet btoc

Comments:

DTW	Purged (gal.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
15.51	0.25	1135	18.44	3.745	2.431	2.51	6.92	53.2	Clear, NO odor, 79.1
15.51	0.50	1141	20.29	3.740	2.432	1.36	6.92	35.5	Clear, NO odor, 81.0
15.51	0.75	1146	20.61	3.736	2.429	1.20	6.92	24.1	Clear, NO odor, 71.4
15.53	1.0	1151	20.40	3.738	2.430	1.20	6.93	23.1	Clear, NO odor, 34.5
15.49	1.25	1156	20.80	3.741	2.432	1.23	6.93	24.7	Clear, NO odd, 57.0

Total Water Volume Purged: 1.25 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: H2O in Vault

Well Security:

Locking cap?	X yes	____ no	Replaced? ____ yes	X no	0.1 PID
Bolts secured?	X yes	____ no	Replaced? ____ yes	X no	N/A Vacuum
Surface Seal?	X yes	____ no	Replaced? ____ yes	X no	1200 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DS

Well ID: MW-42
Sample ID: MW-42
Date: 11/17/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC

Casing Diameter:	2 inch		2" = 0.16 gal/lin ft.
Depth to Well Bottom:	35.03 feet	35.24	3" = 0.37 gal/lin ft.
Depth to Water:	16.57 feet	16.45	4" = 0.67 gal/lin ft.
Constructed Screen Interval	10 feet to	35 feet	
Approximate Pump Depth	Feet bgs	26 Feet btoc	

Comments:

DTW	Purged (gal.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc. Turbidity
16.56	0.25	1056	21.18	4.122	2.679	2.43	6.98	42.1	Sl. Turbid, no odor, 2.16
16.56	0.50	1101	21.93	4.137	2.691	1.91	6.93	13.7	Sl. Turbid, no odor, 1.05
16.56	0.75	1106	22.02	4.146	2.697	1.82	6.97	5.1	Clear, no odor, 20.0
16.57	1.0	1111	22.01	4.139	2.690	1.76	6.97	3.2	Clear, no odor, 10.01
16.59	1.25	1116	22.21	4.143	2.693	1.73	6.98	-4.9	Clear, no odor, 6.32

Total Water Volume Purged: 1.25 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: H2O in vault

Well Security:	Locking cap? X yes ___no	Replaced? ___yes X no	0.0 PID
	Bolts secured? X yes ___no	Replaced? ___yes X no	N/A Vacuum
	Surface Seal? X yes ___no	Replaced? ___yes X no	1120 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO ATC
7115 AMIGO STREET, SUITE 100
LAS VEGAS, NEVADA 89119
(702) 990-9300 (702) 990-9305 fax

Project Name: Maryland Square
Project Number: Z085000030
Sampler's Name: DK

Well ID: MW-43
Sample ID: MW-43
Date: 11/17/14

Purging Equipment: Low Flow Bladder Pump
Sampling Equipment: Low Flow Bladder Pump

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 35.12 feet 35.24
Depth to Water: 16.63 feet 17.33
Constructed Screen Interval 10 feet to 35 feet
Approximate Pump Depth ____ Feet bgs 26 Feet btoc

2" = 0.16 gal/lin ft.
3" = 0.37 gal/lin ft.
4" = 0.67 gal/lin ft.

Comments:

Purged (gal.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
TW								Turb dirty NTU
16:70 0.25	1007	22.65	3.220	2.088	3.89	6.99	132.5	Turbid, No odor 273
16:73 0.50	1012	22.74	3.218	2.095	3.72	7.01	121.5	Sl. Turbid, No odor 383
16:78 0.75	1017	23.07	3.222	2.098	3.17	7.00	107.6	Sl. Turbid, No odor 164
16:73 1.0	1022	23.15	3.224	2.097	3.02	6.99	102.7	Clear, no odor 36.1
16:73 1.25	1027	23.23	3.223	2.096	2.94	6.98	97.8	Clear, No odor 23.5

Total Water Volume Purged: 1.25 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security: Locking cap? Y yes ____ no Replaced? ____ yes X no 0.1 PID
Bolts secured? Y yes ____ no Replaced? ____ yes X no N/A Vacuum
Surface Seal? Y yes ____ no Replaced? ____ yes X no 1035 Sample Collection Time

Maryland Square PCE Site

APPENDIX B
LABORATORY ANALYTICAL REPORTS

Cardno ATC
Shaping the Future

December 03, 2014

Andrew Stuart
Cardno ATC
7115 Amigo Street Suite 100
Las Vegas, NV 89119

TEL: (702) 990-9300
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N013950

RE: Maryland Square, Z085000030

Attention: Andrew Stuart

Enclosed are the results for sample(s) received on November 21, 2014 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Liburdi for

Glen Gesmundo
QA Manager

CLIENT: Cardno ATC
Project: Maryland Square, Z085000030
Lab Order: N013950

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Sample N013950-007C (MW-19I) was not analyzed for hexavalend chromium due to color of sample that might interfere with the analysis. Hexavalent Chromium analysis involves colorimetric procedure that might produce false positive results when colored samples were analyzed.

Analytical Comments for EPA 8260B:

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed on batch P14VW186 and P14VW188 due to limited sample. LCS/LCSD was used instead to measure precision.

Laboratory Control Sample Duplicate (LCSD) recovery biased low for some analytes on batch P14VW188. Samples from this batch were not reported for these analytes but reported from analysis that met LCSD criteria.

RPD for Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) is outside criteria for trans-1,2-Dichloroethene on batch P14VW186, P14VW188 and P14VW189.

ASSET Laboratories

Date: *03-Dec-14*

CLIENT: Cardno ATC
Project: Maryland Square, Z085000030
Lab Order: N013950
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N013950-001A	MW-1	Groundwater	11/20/2014 9:25:00 AM	11/21/2014	12/3/2014
N013950-002A	MW-5	Groundwater	11/20/2014 11:34:00 AM	11/21/2014	12/3/2014
N013950-003A	MW-6	Groundwater	11/20/2014 12:30:00 PM	11/21/2014	12/3/2014
N013950-004A	MW-6D1	Groundwater	11/20/2014 10:40:00 AM	11/21/2014	12/3/2014
N013950-005A	MW-14I	Groundwater	11/20/2014 1:22:00 PM	11/21/2014	12/3/2014
N013950-006A	MW-18	Groundwater	11/19/2014 3:04:00 PM	11/21/2014	12/3/2014
N013950-007A	MW-19I	Groundwater	11/20/2014 9:10:00 AM	11/21/2014	12/3/2014
N013950-007B	MW-19I	Groundwater	11/20/2014 9:10:00 AM	11/21/2014	12/3/2014
N013950-007C	MW-19I	Groundwater	11/20/2014 9:10:00 AM	11/21/2014	12/3/2014
N013950-008A	MW-19D1	Groundwater	11/18/2014 11:41:00 AM	11/21/2014	12/3/2014
N013950-009A	MW-19D2	Groundwater	11/18/2014 12:52:00 PM	11/21/2014	12/3/2014
N013950-010A	MW-19D3	Groundwater	11/18/2014 2:20:00 PM	11/21/2014	12/3/2014
N013950-011A	MW-20D2	Groundwater	11/18/2014 10:37:00 AM	11/21/2014	12/3/2014
N013950-012A	MW-23	Groundwater	11/19/2014 1:26:00 PM	11/21/2014	12/3/2014
N013950-013A	MW-25	Groundwater	11/19/2014 2:20:00 PM	11/21/2014	12/3/2014
N013950-014A	MW-26	Groundwater	11/17/2014 2:45:00 PM	11/21/2014	12/3/2014
N013950-015A	MW-32	Groundwater	11/17/2014 1:55:00 PM	11/21/2014	12/3/2014
N013950-016A	MW-38	Groundwater	11/17/2014 12:43:00 PM	11/21/2014	12/3/2014
N013950-017A	MW-40 CMT-30	Groundwater	11/19/2014 9:50:00 AM	11/21/2014	12/3/2014
N013950-017B	MW-40 CMT-30	Groundwater	11/19/2014 9:50:00 AM	11/21/2014	12/3/2014
N013950-017C	MW-40 CMT-30	Groundwater	11/19/2014 9:50:00 AM	11/21/2014	12/3/2014
N013950-018A	MW-40 CMT-45	Groundwater	11/19/2014 10:50:00 AM	11/21/2014	12/3/2014
N013950-018B	MW-40 CMT-45	Groundwater	11/19/2014 10:50:00 AM	11/21/2014	12/3/2014
N013950-018C	MW-40 CMT-45	Groundwater	11/19/2014 10:50:00 AM	11/21/2014	12/3/2014
N013950-019A	MW-40 CMT-60	Groundwater	11/19/2014 12:07:00 PM	11/21/2014	12/3/2014
N013950-019B	MW-40 CMT-60	Groundwater	11/19/2014 12:07:00 PM	11/21/2014	12/3/2014
N013950-019C	MW-40 CMT-60	Groundwater	11/19/2014 12:07:00 PM	11/21/2014	12/3/2014
N013950-020A	MW-41	Groundwater	11/17/2014 12:00:00 PM	11/21/2014	12/3/2014
N013950-021A	MW-42	Groundwater	11/17/2014 11:20:00 AM	11/21/2014	12/3/2014

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

CLIENT: Cardno ATC
Project: Maryland Square, Z085000030
Lab Order: N013950
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N013950-022A	MW-43	Groundwater	11/17/2014 10:35:00 AM	11/21/2014	12/3/2014
N013950-023A	Trip Blank	Groundwater	11/20/2014 7:15:00 AM	11/21/2014	12/3/2014
N013950-024A	Field Blank	Groundwater	11/20/2014 10:55:00 AM	11/21/2014	12/3/2014
N013950-025A	Equipment Blank	Groundwater	11/20/2014 12:32:00 PM	11/21/2014	12/3/2014
N013950-026A	MW-5 Dup	Groundwater	11/20/2014 11:34:00 AM	11/21/2014	12/3/2014

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-001

Client Sample ID: MW-1
Collection Date: 11/20/2014 9:25:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 03:11 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 03:11 PM
Tetrachloroethene	240	1.2	5.0		µg/L	10	11/26/2014 02:31 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 03:11 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 03:11 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 03:11 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	10	11/26/2014 02:31 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 03:11 PM
Surr: 4-Bromofluorobenzene	100	0	80-120		%REC	10	11/26/2014 02:31 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	1	11/25/2014 03:11 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	10	11/26/2014 02:31 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	1	11/25/2014 03:11 PM
Surr: Toluene-d8	103	0	80-120		%REC	10	11/26/2014 02:31 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-002

Client Sample ID: MW-5
Collection Date: 11/20/2014 11:34:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 06:07 PM
cis-1,2-Dichloroethene	1.5	0.057	0.50		µg/L	1	11/25/2014 06:07 PM
Tetrachloroethene	740	2.3	10		µg/L	20	11/26/2014 02:56 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 06:07 PM
Trichloroethene	3.9	0.074	0.50		µg/L	1	11/25/2014 06:07 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 06:07 PM
Surr: 1,2-Dichloroethane-d4	111	0	76-124		%REC	20	11/26/2014 02:56 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 06:07 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	20	11/26/2014 02:56 PM
Surr: 4-Bromofluorobenzene	100	0	80-120		%REC	1	11/25/2014 06:07 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	20	11/26/2014 02:56 PM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/25/2014 06:07 PM
Surr: Toluene-d8	106	0	80-120		%REC	20	11/26/2014 02:56 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	11/25/2014 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-003

Client Sample ID: MW-6
Collection Date: 11/20/2014 12:30:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 08:12 PM
cis-1,2-Dichloroethene	3.1	0.057	0.50		µg/L	1	11/25/2014 08:12 PM
Tetrachloroethene	3300	12	50		µg/L	100	11/26/2014 03:21 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 08:12 PM
Trichloroethene	12	0.074	0.50		µg/L	1	11/25/2014 08:12 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 08:12 PM
Surr: 1,2-Dichloroethane-d4	119	0	76-124		%REC	100	11/26/2014 03:21 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 08:12 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	100	11/26/2014 03:21 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	11/25/2014 08:12 PM
Surr: Dibromofluoromethane	115	0	80-124		%REC	100	11/26/2014 03:21 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	1	11/25/2014 08:12 PM
Surr: Toluene-d8	106	0	80-120		%REC	100	11/26/2014 03:21 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-004

Client Sample ID: MW-6D1
Collection Date: 11/20/2014 10:40:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 03:36 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 03:36 PM
Tetrachloroethene	21	0.12	0.50		µg/L	1	11/25/2014 03:36 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 03:36 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 03:36 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 03:36 PM
Surr: 1,2-Dichloroethane-d4	110	0	76-124		%REC	1	11/25/2014 03:36 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	1	11/25/2014 03:36 PM
Surr: Dibromofluoromethane	105	0	80-124		%REC	1	11/25/2014 03:36 PM
Surr: Toluene-d8	102	0	80-120		%REC	1	11/25/2014 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-005

Client Sample ID: MW-14I
Collection Date: 11/20/2014 1:22:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141201A** QC Batch: **P14VW189** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.33	1.0		µg/L	2	12/1/2014 09:21 PM
cis-1,2-Dichloroethene	17	0.11	1.0		µg/L	2	12/1/2014 09:21 PM
Tetrachloroethene	11000	23	100		µg/L	200	11/26/2014 01:16 PM
trans-1,2-Dichloroethene	2.3	0.15	1.0		µg/L	2	12/1/2014 09:21 PM
Trichloroethene	25	0.15	1.0		µg/L	2	12/1/2014 09:21 PM
Vinyl chloride	ND	0.088	1.0		µg/L	2	12/1/2014 09:21 PM
Surr: 1,2-Dichloroethane-d4	99.2	0	76-124		%REC	2	12/1/2014 09:21 PM
Surr: 1,2-Dichloroethane-d4	109	0	76-124		%REC	200	11/26/2014 01:16 PM
Surr: 4-Bromofluorobenzene	100	0	80-120		%REC	2	12/1/2014 09:21 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	200	11/26/2014 01:16 PM
Surr: Dibromofluoromethane	103	0	80-124		%REC	2	12/1/2014 09:21 PM
Surr: Dibromofluoromethane	109	0	80-124		%REC	200	11/26/2014 01:16 PM
Surr: Toluene-d8	102	0	80-120		%REC	2	12/1/2014 09:21 PM
Surr: Toluene-d8	108	0	80-120		%REC	200	11/26/2014 01:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-006

Client Sample ID: MW-18
Collection Date: 11/19/2014 3:04:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 07:47 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 07:47 PM
Tetrachloroethene	1100	5.9	25		µg/L	50	11/26/2014 03:47 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 07:47 PM
Trichloroethene	1.7	0.074	0.50		µg/L	1	11/25/2014 07:47 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 07:47 PM
Surr: 1,2-Dichloroethane-d4	117	0	76-124		%REC	50	11/26/2014 03:47 PM
Surr: 1,2-Dichloroethane-d4	116	0	76-124		%REC	1	11/25/2014 07:47 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	50	11/26/2014 03:47 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	1	11/25/2014 07:47 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	50	11/26/2014 03:47 PM
Surr: Dibromofluoromethane	114	0	80-124		%REC	1	11/25/2014 07:47 PM
Surr: Toluene-d8	104	0	80-120		%REC	50	11/26/2014 03:47 PM
Surr: Toluene-d8	107	0	80-120		%REC	1	11/25/2014 07:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-007

Client Sample ID: MW-19I
Collection Date: 11/20/2014 9:10:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_141125A**	QC Batch: **P14VW185**			PrepDate:			Analyst: **QBM**
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 01:05 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 01:05 PM
Tetrachloroethene	ND	0.12	0.50		µg/L	1	11/25/2014 01:05 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 01:05 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 01:05 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 01:05 PM
Surr: 1,2-Dichloroethane-d4	111	0	76-124		%REC	1	11/25/2014 01:05 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/25/2014 01:05 PM
Surr: Dibromofluoromethane	110	0	80-124		%REC	1	11/25/2014 01:05 PM
Surr: Toluene-d8	92.6	0	80-120		%REC	1	11/25/2014 01:05 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_141201A**	QC Batch: **48061**			PrepDate:	**11/25/2014**		Analyst: **CEI**
Arsenic	ND	0.67	2.5		µg/L	25	12/1/2014 03:35 PM
Chromium	260	0.76	25		µg/L	25	12/1/2014 03:35 PM
Manganese	94000	260	5000		µg/L	10000	12/1/2014 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-008

Client Sample ID: MW-19D1
Collection Date: 11/18/2014 11:41:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 04:51 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 04:51 PM
Tetrachloroethene	1000	2.3	10		µg/L	20	11/26/2014 04:12 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 04:51 PM
Trichloroethene	5.9	0.074	0.50		µg/L	1	11/25/2014 04:51 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 04:51 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	20	11/26/2014 04:12 PM
Surr: 1,2-Dichloroethane-d4	112	0	76-124		%REC	1	11/25/2014 04:51 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	20	11/26/2014 04:12 PM
Surr: 4-Bromofluorobenzene	99.6	0	80-120		%REC	1	11/25/2014 04:51 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	20	11/26/2014 04:12 PM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/25/2014 04:51 PM
Surr: Toluene-d8	105	0	80-120		%REC	20	11/26/2014 04:12 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 04:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-009

Client Sample ID: MW-19D2
Collection Date: 11/18/2014 12:52:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 02:20 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 02:20 PM
Tetrachloroethene	39	0.12	0.50		µg/L	1	11/25/2014 02:20 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 02:20 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 02:20 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 02:20 PM
Surr: 1,2-Dichloroethane-d4	106	0	76-124		%REC	1	11/25/2014 02:20 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/25/2014 02:20 PM
Surr: Dibromofluoromethane	106	0	80-124		%REC	1	11/25/2014 02:20 PM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/25/2014 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-010

Client Sample ID: MW-19D3
Collection Date: 11/18/2014 2:20:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 08:37 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 08:37 PM
Tetrachloroethene	190	1.2	5.0		µg/L	10	11/26/2014 04:37 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 08:37 PM
Trichloroethene	3.2	0.074	0.50		µg/L	1	11/25/2014 08:37 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 08:37 PM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	10	11/26/2014 04:37 PM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	1	11/25/2014 08:37 PM
Surr: 4-Bromofluorobenzene	105	0	80-120		%REC	10	11/26/2014 04:37 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	11/25/2014 08:37 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	10	11/26/2014 04:37 PM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/25/2014 08:37 PM
Surr: Toluene-d8	105	0	80-120		%REC	10	11/26/2014 04:37 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	11/25/2014 08:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-011

Client Sample ID: MW-20D2
Collection Date: 11/18/2014 10:37:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 04:26 PM
cis-1,2-Dichloroethene	0.78	0.057	0.50		µg/L	1	11/25/2014 04:26 PM
Tetrachloroethene	410	1.2	5.0		µg/L	10	11/26/2014 05:05 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 04:26 PM
Trichloroethene	2.2	0.074	0.50		µg/L	1	11/25/2014 04:26 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 04:26 PM
Surr: 1,2-Dichloroethane-d4	117	0	76-124		%REC	10	11/26/2014 05:05 PM
Surr: 1,2-Dichloroethane-d4	116	0	76-124		%REC	1	11/25/2014 04:26 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	10	11/26/2014 05:05 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	11/25/2014 04:26 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	10	11/26/2014 05:05 PM
Surr: Dibromofluoromethane	114	0	80-124		%REC	1	11/25/2014 04:26 PM
Surr: Toluene-d8	106	0	80-120		%REC	10	11/26/2014 05:05 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	11/25/2014 04:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-012

Client Sample ID: MW-23
Collection Date: 11/19/2014 1:26:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 04:01 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 04:01 PM
Tetrachloroethene	870	2.3	10		µg/L	20	11/26/2014 05:33 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 04:01 PM
Trichloroethene	1.7	0.074	0.50		µg/L	1	11/25/2014 04:01 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 04:01 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	20	11/26/2014 05:33 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 04:01 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	20	11/26/2014 05:33 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/25/2014 04:01 PM
Surr: Dibromofluoromethane	109	0	80-124		%REC	20	11/26/2014 05:33 PM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/25/2014 04:01 PM
Surr: Toluene-d8	106	0	80-120		%REC	20	11/26/2014 05:33 PM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/25/2014 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-013

Client Sample ID: MW-25
Collection Date: 11/19/2014 2:20:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 07:22 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 07:22 PM
Tetrachloroethene	590	2.3	10		µg/L	20	11/26/2014 05:59 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 07:22 PM
Trichloroethene	0.91	0.074	0.50		µg/L	1	11/25/2014 07:22 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 07:22 PM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	20	11/26/2014 05:59 PM
Surr: 1,2-Dichloroethane-d4	116	0	76-124		%REC	1	11/25/2014 07:22 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	20	11/26/2014 05:59 PM
Surr: 4-Bromofluorobenzene	104	0	80-120		%REC	1	11/25/2014 07:22 PM
Surr: Dibromofluoromethane	110	0	80-124		%REC	20	11/26/2014 05:59 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	1	11/25/2014 07:22 PM
Surr: Toluene-d8	106	0	80-120		%REC	20	11/26/2014 05:59 PM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/25/2014 07:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-014

Client Sample ID: MW-26
Collection Date: 11/17/2014 2:45:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 06:32 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 06:32 PM
Tetrachloroethene	890	2.3	10		µg/L	20	11/29/2014 11:47 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 06:32 PM
Trichloroethene	0.66	0.074	0.50		µg/L	1	11/25/2014 06:32 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 06:32 PM
Surr: 1,2-Dichloroethane-d4	93.0	0	76-124		%REC	20	11/29/2014 11:47 PM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	1	11/25/2014 06:32 PM
Surr: 4-Bromofluorobenzene	99.9	0	80-120		%REC	20	11/29/2014 11:47 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/25/2014 06:32 PM
Surr: Dibromofluoromethane	96.7	0	80-124		%REC	20	11/29/2014 11:47 PM
Surr: Dibromofluoromethane	110	0	80-124		%REC	1	11/25/2014 06:32 PM
Surr: Toluene-d8	102	0	80-120		%REC	20	11/29/2014 11:47 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 06:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-015

Client Sample ID: MW-32
Collection Date: 11/17/2014 1:55:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 06:57 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 06:57 PM
Tetrachloroethene	850	2.3	10		µg/L	20	11/30/2014 12:12 AM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 06:57 PM
Trichloroethene	2.7	0.074	0.50		µg/L	1	11/25/2014 06:57 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 06:57 PM
Surr: 1,2-Dichloroethane-d4	93.9	0	76-124		%REC	20	11/30/2014 12:12 AM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	1	11/25/2014 06:57 PM
Surr: 4-Bromofluorobenzene	98.8	0	80-120		%REC	20	11/30/2014 12:12 AM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	1	11/25/2014 06:57 PM
Surr: Dibromofluoromethane	99.0	0	80-124		%REC	20	11/30/2014 12:12 AM
Surr: Dibromofluoromethane	113	0	80-124		%REC	1	11/25/2014 06:57 PM
Surr: Toluene-d8	103	0	80-120		%REC	20	11/30/2014 12:12 AM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/25/2014 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-016

Client Sample ID: MW-38
Collection Date: 11/17/2014 12:43:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 01:55 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 01:55 PM
Tetrachloroethene	8.2	0.12	0.50		µg/L	1	11/25/2014 01:55 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 01:55 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 01:55 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 01:55 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 01:55 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	1	11/25/2014 01:55 PM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/25/2014 01:55 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 01:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-017

Client Sample ID: MW-40 CMT-30
Collection Date: 11/19/2014 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_141125A**	QC Batch: **P14VW185**			PrepDate:			Analyst: **QBM**
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 01:30 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 01:30 PM
Tetrachloroethene	35	0.12	0.50		µg/L	1	11/25/2014 01:30 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 01:30 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 01:30 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 01:30 PM
Surr: 1,2-Dichloroethane-d4	112	0	76-124		%REC	1	11/25/2014 01:30 PM
Surr: 4-Bromofluorobenzene	104	0	80-120		%REC	1	11/25/2014 01:30 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	1	11/25/2014 01:30 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	11/25/2014 01:30 PM
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC6_141124A**	QC Batch: **R96949**			PrepDate:			Analyst: **RB**
Hexavalent Chromium	1.4	0.016	0.20		µg/L	1	11/24/2014 12:50 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_141201A**	QC Batch: **48061**			PrepDate:	**11/25/2014**		Analyst: **CEI**
Arsenic	3.7	0.027	0.10		µg/L	1	12/1/2014 03:18 PM
Chromium	1.5	0.030	1.0		µg/L	1	12/1/2014 03:18 PM
Manganese	22	0.026	0.50		µg/L	1	12/1/2014 03:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-018

Client Sample ID: MW-40 CMT-45
Collection Date: 11/19/2014 10:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_141125A**	QC Batch: **P14VW185**			PrepDate:			Analyst: **QBM**
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 05:17 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/25/2014 05:17 PM
Tetrachloroethene	150	0.59	2.5		µg/L	5	11/30/2014 12:37 AM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 05:17 PM
Trichloroethene	0.89	0.074	0.50		µg/L	1	11/25/2014 05:17 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 05:17 PM
Surr: 1,2-Dichloroethane-d4	94.7	0	76-124		%REC	5	11/30/2014 12:37 AM
Surr: 1,2-Dichloroethane-d4	113	0	76-124		%REC	1	11/25/2014 05:17 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	5	11/30/2014 12:37 AM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/25/2014 05:17 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	1	11/25/2014 05:17 PM
Surr: Dibromofluoromethane	99.2	0	80-124		%REC	5	11/30/2014 12:37 AM
Surr: Toluene-d8	102	0	80-120		%REC	5	11/30/2014 12:37 AM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 05:17 PM
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC6_141124A**	QC Batch: **R96949**			PrepDate:			Analyst: **RB**
Hexavalent Chromium	2.0	0.016	0.20		µg/L	1	11/24/2014 01:00 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_141201A**	QC Batch: **48061**			PrepDate:	**11/25/2014**		Analyst: **CEI**
Arsenic	1.5	0.027	0.10		µg/L	1	12/1/2014 03:24 PM
Chromium	1.9	0.030	1.0		µg/L	1	12/1/2014 03:24 PM
Manganese	7.7	0.13	2.5		µg/L	5	12/1/2014 04:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-019

Client Sample ID: MW-40 CMT-60
Collection Date: 11/19/2014 12:07:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_141201A**	QC Batch: **P14VW189**			PrepDate:			Analyst: **QBM**
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	12/1/2014 08:31 PM
cis-1,2-Dichloroethene	2.6	0.057	0.50		µg/L	1	12/1/2014 08:31 PM
Tetrachloroethene	1000	2.3	10		µg/L	20	11/26/2014 01:41 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	12/1/2014 08:31 PM
Trichloroethene	6.8	0.074	0.50		µg/L	1	12/1/2014 08:31 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	12/1/2014 08:31 PM
Surr: 1,2-Dichloroethane-d4	105	0	76-124		%REC	1	12/1/2014 08:31 PM
Surr: 1,2-Dichloroethane-d4	112	0	76-124		%REC	20	11/26/2014 01:41 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	12/1/2014 08:31 PM
Surr: 4-Bromofluorobenzene	98.9	0	80-120		%REC	20	11/26/2014 01:41 PM
Surr: Dibromofluoromethane	105	0	80-124		%REC	1	12/1/2014 08:31 PM
Surr: Dibromofluoromethane	110	0	80-124		%REC	20	11/26/2014 01:41 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	12/1/2014 08:31 PM
Surr: Toluene-d8	105	0	80-120		%REC	20	11/26/2014 01:41 PM
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC6_141124A**	QC Batch: **R96949**			PrepDate:			Analyst: **RB**
Hexavalent Chromium	120	0.32	4.0		µg/L	20	11/24/2014 04:23 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_141201A**	QC Batch: **48061**			PrepDate:	**11/25/2014**		Analyst: **CEI**
Arsenic	1.3	0.027	0.10		µg/L	1	12/1/2014 03:29 PM
Chromium	110	0.030	1.0		µg/L	1	12/1/2014 03:29 PM
Manganese	ND	0.026	0.50		µg/L	1	12/1/2014 03:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-020

Client Sample ID: MW-41
Collection Date: 11/17/2014 12:00:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141126A** QC Batch: **P14VW186** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/26/2014 12:51 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/26/2014 12:51 PM
Tetrachloroethene	3.7	0.12	0.50		µg/L	1	11/26/2014 12:51 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 12:51 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 12:51 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/26/2014 12:51 PM
Surr: 1,2-Dichloroethane-d4	113	0	76-124		%REC	1	11/26/2014 12:51 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	1	11/26/2014 12:51 PM
Surr: Dibromofluoromethane	110	0	80-124		%REC	1	11/26/2014 12:51 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/26/2014 12:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-021

Client Sample ID: MW-42
Collection Date: 11/17/2014 11:20:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141126A** QC Batch: **P14VW186** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/26/2014 12:26 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/26/2014 12:26 PM
Tetrachloroethene	0.71	0.12	0.50		µg/L	1	11/26/2014 12:26 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 12:26 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 12:26 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/26/2014 12:26 PM
Surr: 1,2-Dichloroethane-d4	116	0	76-124		%REC	1	11/26/2014 12:26 PM
Surr: 4-Bromofluorobenzene	104	0	80-120		%REC	1	11/26/2014 12:26 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	1	11/26/2014 12:26 PM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/26/2014 12:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-022

Client Sample ID: MW-43
Collection Date: 11/17/2014 10:35:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141126A** QC Batch: **P14VW186** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/26/2014 12:01 PM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/26/2014 12:01 PM
Tetrachloroethene	ND	0.12	0.50		µg/L	1	11/26/2014 12:01 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 12:01 PM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 12:01 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/26/2014 12:01 PM
Surr: 1,2-Dichloroethane-d4	113	0	76-124		%REC	1	11/26/2014 12:01 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/26/2014 12:01 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	1	11/26/2014 12:01 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/26/2014 12:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-023

Client Sample ID: Trip Blank
Collection Date: 11/20/2014 7:15:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141126A** QC Batch: **P14VW186** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/26/2014 10:46 AM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/26/2014 10:46 AM
Tetrachloroethene	ND	0.12	0.50		µg/L	1	11/26/2014 10:46 AM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 10:46 AM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 10:46 AM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/26/2014 10:46 AM
Surr: 1,2-Dichloroethane-d4	110	0	76-124		%REC	1	11/26/2014 10:46 AM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/26/2014 10:46 AM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/26/2014 10:46 AM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/26/2014 10:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-024

Client Sample ID: Field Blank
Collection Date: 11/20/2014 10:55:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141126A** QC Batch: **P14VW186** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/26/2014 11:11 AM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/26/2014 11:11 AM
Tetrachloroethene	ND	0.12	0.50		µg/L	1	11/26/2014 11:11 AM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 11:11 AM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 11:11 AM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/26/2014 11:11 AM
Surr: 1,2-Dichloroethane-d4	116	0	76-124		%REC	1	11/26/2014 11:11 AM
Surr: 4-Bromofluorobenzene	104	0	80-120		%REC	1	11/26/2014 11:11 AM
Surr: Dibromofluoromethane	114	0	80-124		%REC	1	11/26/2014 11:11 AM
Surr: Toluene-d8	107	0	80-120		%REC	1	11/26/2014 11:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-025

Client Sample ID: Equipment Blank
Collection Date: 11/20/2014 12:32:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141126A** QC Batch: **P14VW186** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/26/2014 11:36 AM
cis-1,2-Dichloroethene	ND	0.057	0.50		µg/L	1	11/26/2014 11:36 AM
Tetrachloroethene	ND	0.12	0.50		µg/L	1	11/26/2014 11:36 AM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 11:36 AM
Trichloroethene	ND	0.074	0.50		µg/L	1	11/26/2014 11:36 AM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/26/2014 11:36 AM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	1	11/26/2014 11:36 AM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	1	11/26/2014 11:36 AM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/26/2014 11:36 AM
Surr: Toluene-d8	106	0	80-120		%REC	1	11/26/2014 11:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-026

Client Sample ID: MW-5 Dup
Collection Date: 11/20/2014 11:34:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141201A** QC Batch: **P14VW189** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	12/1/2014 08:56 PM
cis-1,2-Dichloroethene	1.4	0.057	0.50		µg/L	1	12/1/2014 08:56 PM
Tetrachloroethene	760	2.3	10		µg/L	20	11/26/2014 02:06 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	12/1/2014 08:56 PM
Trichloroethene	3.7	0.074	0.50		µg/L	1	12/1/2014 08:56 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	12/1/2014 08:56 PM
Surr: 1,2-Dichloroethane-d4	100	0	76-124		%REC	1	12/1/2014 08:56 PM
Surr: 1,2-Dichloroethane-d4	115	0	76-124		%REC	20	11/26/2014 02:06 PM
Surr: 4-Bromofluorobenzene	99.5	0	80-120		%REC	1	12/1/2014 08:56 PM
Surr: 4-Bromofluorobenzene	99.4	0	80-120		%REC	20	11/26/2014 02:06 PM
Surr: Dibromofluoromethane	102	0	80-124		%REC	1	12/1/2014 08:56 PM
Surr: Dibromofluoromethane	113	0	80-124		%REC	20	11/26/2014 02:06 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	12/1/2014 08:56 PM
Surr: Toluene-d8	104	0	80-120		%REC	20	11/26/2014 02:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_W

Sample ID: **MB-R96949**	SampType: **MBLK**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **96949**
Client ID: **PBW**	Batch ID: **R96949**	TestNo: **EPA 218.6**		Analysis Date: **11/24/2014**	SeqNo: **1882278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R96949**	SampType: **LCS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **96949**
Client ID: **LCSW**	Batch ID: **R96949**	TestNo: **EPA 218.6**		Analysis Date: **11/24/2014**	SeqNo: **1882280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.844	0.20	5.000	0	96.9	90	110				

Sample ID: **N013950-019C-DUP**	SampType: **DUP**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **96949**
Client ID: **ZZZZZZ**	Batch ID: **R96949**	TestNo: **EPA 218.6**		Analysis Date: **11/24/2014**	SeqNo: **1882302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	116.310	4.0						115.3	0.860	20	

Sample ID: **N013950-019C-MS**	SampType: **MS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **96949**
Client ID: **ZZZZZZ**	Batch ID: **R96949**	TestNo: **EPA 218.6**		Analysis Date: **11/24/2014**	SeqNo: **1882303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	215.304	4.0	100.0	115.3	100	90	110				

Sample ID: **N013950-019C-MSD**	SampType: **MSD**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **96949**
Client ID: **ZZZZZZ**	Batch ID: **R96949**	TestNo: **EPA 218.6**		Analysis Date: **11/24/2014**	SeqNo: **1882304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	220.274	4.0	100.0	115.3	105	90	110	215.3	2.28	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141125LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96941**
Client ID: **LCSW** Batch ID: **P14VW185** TestNo: **EPA 8260B** Analysis Date: **11/25/2014** SeqNo: **1881941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23.310	0.50	20.00	0	117	71	128				
cis-1,2-Dichloroethene	20.580	0.50	20.00	0	103	77	120				
Tetrachloroethene	21.100	0.50	20.00	0	106	80	120				
trans-1,2-Dichloroethene	21.880	0.50	20.00	0	109	75	122				
Trichloroethene	19.920	0.50	20.00	0	99.6	80	120				
Vinyl chloride	23.100	0.50	20.00	0	116	66	131				
Surr: 1,2-Dichloroethane-d4	28.900		25.00		116	76	124				
Surr: 4-Bromofluorobenzene	26.660		25.00		107	80	120				
Surr: Dibromofluoromethane	27.850		25.00		111	80	124				
Surr: Toluene-d8	26.670		25.00		107	80	120				

Sample ID: **P141125MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96941**
Client ID: **PBW** Batch ID: **P14VW185** TestNo: **EPA 8260B** Analysis Date: **11/25/2014** SeqNo: **1881942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
Tetrachloroethene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									
Vinyl chloride	ND	0.50									
Surr: 1,2-Dichloroethane-d4	25.960		25.00		104	76	124				
Surr: 4-Bromofluorobenzene	25.630		25.00		103	80	120				
Surr: Dibromofluoromethane	26.670		25.00		107	80	124				
Surr: Toluene-d8	26.280		25.00		105	80	120				

Sample ID: **N013949-004AMS** SampType: **MS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96941**
Client ID: **ZZZZZZ** Batch ID: **P14VW185** TestNo: **EPA 8260B** Analysis Date: **11/25/2014** SeqNo: **1881945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **N013949-004AMS** SampType: **MS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96941**
Client ID: **ZZZZZZ** Batch ID: **P14VW185** TestNo: **EPA 8260B** Analysis Date: **11/25/2014** SeqNo: **1881945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.130	0.50	20.00	0	80.6	66	134				
cis-1,2-Dichloroethene	21.050	0.50	20.00	0	105	78	121				
Tetrachloroethene	24.100	0.50	20.00	2.410	108	62	128				
trans-1,2-Dichloroethene	21.290	0.50	20.00	0	106	70	128				
Trichloroethene	21.010	0.50	20.00	0	105	80	120				
Vinyl chloride	17.510	0.50	20.00	0	87.6	63	138				
Surr: 1,2-Dichloroethane-d4	27.010		25.00		108	76	124				
Surr: 4-Bromofluorobenzene	27.410		25.00		110	80	120				
Surr: Dibromofluoromethane	26.250		25.00		105	80	124				
Surr: Toluene-d8	26.670		25.00		107	80	120				

Sample ID: **N013949-004AMSD** SampType: **MSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96941**
Client ID: **ZZZZZZ** Batch ID: **P14VW185** TestNo: **EPA 8260B** Analysis Date: **11/25/2014** SeqNo: **1881946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.140	0.50	20.00	0	80.7	66	134	16.13	0.0620	20	
cis-1,2-Dichloroethene	22.050	0.50	20.00	0	110	78	121	21.05	4.64	20	
Tetrachloroethene	24.660	0.50	20.00	2.410	111	62	128	24.10	2.30	20	
trans-1,2-Dichloroethene	23.100	0.50	20.00	0	116	70	128	21.29	8.15	20	
Trichloroethene	21.890	0.50	20.00	0	109	80	120	21.01	4.10	20	
Vinyl chloride	19.220	0.50	20.00	0	96.1	63	138	17.51	9.31	20	
Surr: 1,2-Dichloroethane-d4	26.980		25.00		108	76	124		0		
Surr: 4-Bromofluorobenzene	27.060		25.00		108	80	120		0		
Surr: Dibromofluoromethane	26.110		25.00		104	80	124		0		
Surr: Toluene-d8	26.490		25.00		106	80	120		0		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.410	0.50	20.00	0	82.0	71	128				
cis-1,2-Dichloroethene	20.570	0.50	20.00	0	103	77	120				
Tetrachloroethene	21.650	0.50	20.00	0	108	80	120				
trans-1,2-Dichloroethene	15.470	0.50	20.00	0	77.4	75	122				
Trichloroethene	20.240	0.50	20.00	0	101	80	120				
Vinyl chloride	18.100	0.50	20.00	0	90.5	66	131				
Surr: 1,2-Dichloroethane-d4	26.770		25.00		107	76	124				
Surr: 4-Bromofluorobenzene	26.980		25.00		108	80	120				
Surr: Dibromofluoromethane	26.800		25.00		107	80	124				
Surr: Toluene-d8	26.730		25.00		107	80	120				

Sample ID: **P141126LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSS02** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.130	0.50	20.00	0	80.6	71	128	16.41	1.72	20	
cis-1,2-Dichloroethene	20.110	0.50	20.00	0	101	77	120	20.57	2.26	20	
Tetrachloroethene	21.810	0.50	20.00	0	109	80	120	21.65	0.736	20	
trans-1,2-Dichloroethene	21.910	0.50	20.00	0	110	75	122	15.47	34.5	20	R
Trichloroethene	20.400	0.50	20.00	0	102	80	120	20.24	0.787	20	
Vinyl chloride	17.840	0.50	20.00	0	89.2	66	131	18.10	1.45	20	
Surr: 1,2-Dichloroethane-d4	26.200		25.00		105	76	124		0		
Surr: 4-Bromofluorobenzene	26.940		25.00		108	80	120		0		
Surr: Dibromofluoromethane	26.650		25.00		107	80	124		0		
Surr: Toluene-d8	26.690		25.00		107	80	120		0		

Sample ID: **P141126MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **PBW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **PBW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
Tetrachloroethene	0.350	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									
Vinyl chloride	ND	0.50									
Surr: 1,2-Dichloroethane-d4	26.750		25.00		107	76	124				
Surr: 4-Bromofluorobenzene	25.370		25.00		101	80	120				
Surr: Dibromofluoromethane	27.110		25.00		108	80	124				
Surr: Toluene-d8	25.930		25.00		104	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141129LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96963**
Client ID: **LCSW** Batch ID: **P14VW188** TestNo: **EPA 8260B** Analysis Date: **11/29/2014** SeqNo: **1882934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	14.450	0.50	20.00	0	72.3	71	128				
cis-1,2-Dichloroethene	18.360	0.50	20.00	0	91.8	77	120				
Tetrachloroethene	21.780	0.50	20.00	0	109	80	120				
trans-1,2-Dichloroethene	19.360	0.50	20.00	0	96.8	75	122				
Trichloroethene	21.730	0.50	20.00	0	109	80	120				
Vinyl chloride	13.470	0.50	20.00	0	67.4	66	131				
Surr: 1,2-Dichloroethane-d4	23.210		25.00		92.8	76	124				
Surr: 4-Bromofluorobenzene	26.660		25.00		107	80	120				
Surr: Dibromofluoromethane	23.960		25.00		95.8	80	124				
Surr: Toluene-d8	25.720		25.00		103	80	120				

Sample ID: **P141129LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96963**
Client ID: **LCSS02** Batch ID: **P14VW188** TestNo: **EPA 8260B** Analysis Date: **11/29/2014** SeqNo: **1882935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	14.030	0.50	20.00	0	70.2	71	128	14.45	2.95	20	S
cis-1,2-Dichloroethene	18.220	0.50	20.00	0	91.1	77	120	18.36	0.765	20	
Tetrachloroethene	21.830	0.50	20.00	0	109	80	120	21.78	0.229	20	
trans-1,2-Dichloroethene	13.290	0.50	20.00	0	66.4	75	122	19.36	37.2	20	SR
Trichloroethene	21.830	0.50	20.00	0	109	80	120	21.73	0.459	20	
Vinyl chloride	13.170	0.50	20.00	0	65.8	66	131	13.47	2.25	20	S
Surr: 1,2-Dichloroethane-d4	22.840		25.00		91.4	76	124		0		
Surr: 4-Bromofluorobenzene	26.380		25.00		106	80	120		0		
Surr: Dibromofluoromethane	23.680		25.00		94.7	80	124		0		
Surr: Toluene-d8	25.830		25.00		103	80	120		0		

Sample ID: **P141129MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96963**
Client ID: **PBW** Batch ID: **P14VW188** TestNo: **EPA 8260B** Analysis Date: **11/29/2014** SeqNo: **1882936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141129MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96963**
Client ID: **PBW** Batch ID: **P14VW188** TestNo: **EPA 8260B** Analysis Date: **11/29/2014** SeqNo: **1882936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
Tetrachloroethene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									
Vinyl chloride	ND	0.50									
Surr: 1,2-Dichloroethane-d4	22.740		25.00		91.0	76	124				
Surr: 4-Bromofluorobenzene	24.650		25.00		98.6	80	120				
Surr: Dibromofluoromethane	24.190		25.00		96.8	80	124				
Surr: Toluene-d8	25.080		25.00		100	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141201MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96976**
Client ID: **PBW** Batch ID: **P14VW189** TestNo: **EPA 8260B** Analysis Date: **12/1/2014** SeqNo: **1883476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
Tetrachloroethene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									
Vinyl chloride	ND	0.50									
Surr: 1,2-Dichloroethane-d4	25.110		25.00		100	76	124				
Surr: 4-Bromofluorobenzene	25.100		25.00		100	80	120				
Surr: Dibromofluoromethane	25.340		25.00		101	80	124				
Surr: Toluene-d8	25.580		25.00		102	80	120				

Sample ID: **P141201LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96976**
Client ID: **LCSW** Batch ID: **P14VW189** TestNo: **EPA 8260B** Analysis Date: **12/1/2014** SeqNo: **1884339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18.920	0.50	20.00	0	94.6	71	128				
cis-1,2-Dichloroethene	19.160	0.50	20.00	0	95.8	77	120				
Tetrachloroethene	19.130	0.50	20.00	0	95.7	80	120				
trans-1,2-Dichloroethene	18.140	0.50	20.00	0	90.7	75	122				
Trichloroethene	20.220	0.50	20.00	0	101	80	120				
Vinyl chloride	18.630	0.50	20.00	0	93.2	66	131				
Surr: 1,2-Dichloroethane-d4	24.440		25.00		97.8	76	124				
Surr: 4-Bromofluorobenzene	25.880		25.00		104	80	120				
Surr: Dibromofluoromethane	24.180		25.00		96.7	80	124				
Surr: Toluene-d8	25.630		25.00		103	80	120				

Sample ID: **P141201LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96976**
Client ID: **LCSS02** Batch ID: **P14VW189** TestNo: **EPA 8260B** Analysis Date: **12/1/2014** SeqNo: **1884340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141201LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96976**
Client ID: **LCSS02** Batch ID: **P14VW189** TestNo: **EPA 8260B** Analysis Date: **12/1/2014** SeqNo: **1884340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19.100	0.50	20.00	0	95.5	71	128	18.92	0.947	20	
cis-1,2-Dichloroethene	19.410	0.50	20.00	0	97.0	77	120	19.16	1.30	20	
Tetrachloroethene	18.010	0.50	20.00	0	90.1	80	120	19.13	6.03	20	
trans-1,2-Dichloroethene	23.830	0.50	20.00	0	119	75	122	18.14	27.1	20	R
Trichloroethene	20.140	0.50	20.00	0	101	80	120	20.22	0.396	20	
Vinyl chloride	18.920	0.50	20.00	0	94.6	66	131	18.63	1.54	20	
Surr: 1,2-Dichloroethane-d4	25.020		25.00		100	76	124		0		
Surr: 4-Bromofluorobenzene	27.220		25.00		109	80	120		0		
Surr: Dibromofluoromethane	25.310		25.00		101	80	124		0		
Surr: Toluene-d8	26.020		25.00		104	80	120		0		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CHAIN OF CUSTODY RECORD

ASSET LABORATORIES
11060 Artesia Blvd., Suite C
Cerritos, CA 90703
Tel: (562) 219-7435 • Fax: (562) 219-7436

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ASSET ☒ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 2.4°C
1. CHILLED Y ☒ N ☐ ICE IR#1
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☒ N ☐
4. SEALED Y ☐ N ☒
5. # OF SPLS MATCH COC Y ☒ N ☐
6. PRESERVED Y ☒ N ☐

Client: Cardno ATC
Attention: Andrew Stuart
Address: 7115 Amigo Street, Suite 100
City: Las Vegas State: NV Zip Code: 89119
Tel: 702-990-9300
Fax: 702-990-9305

Project Name: Maryland Square
Project #: Z085000030

Sampler: *I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.* (Printed Name) (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	11/20/14	1447		11/21/14	1026
	11/21/14	1042		11/21/14	1042

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Dwight Kirkland 11/20/14
Print Name Date
Signature

Send Report To:
Attn: Andrew Stuart
Co: Cardno ATC
Addr: 7115 Amigo Street, Suite 100
City: Las Vegas State: NV Zip: 89119

Bill To:
Attn: (same)
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ASSET workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	8260B (Volatiles)	8015M - GRO	8015B - DRO/ORO	PCE/TCE/DCE/VC 8260	6020 (metals)	218.6 Hexavalent Chromium	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	NO13950-01	MW-1	11/20	925				X				X			E	3	V	H	
	-02	MW-5	11/20	1134				X				X			E	3	V	H	
	-03	MW-6	11/20	1230				X				X			E	3	V	H	
	-04	MW-6D1	11/20	1040				X				X			E	3	V	H	
	-05	MW-14I	11/20	1322				X				X			E	3	V	H	
	-06	MW-18	11/19	1504				X				X			E	3	V	H	
	-07	MW-19I	11/20	910				X	X	X		X			E	3	V	H	
	-08	MW-19D1	11/18	1141				X				X			E	3	V	H	
	-09	MW-19D2	11/18	1252				X				X			E	3	V	H	
	-10	MW-19D3	11/18	1420				X				X			E	3	V	H	

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☒ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

ASSET LABORATORIES
11060 Artesia Blvd., Suite C
Cerritos, CA 90703
Tel: (562) 219-7435 • Fax: (562) 219-7436

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ASSET ☑ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 2.4°C
1. CHILLED Y ☐ N ☐ (ICE IRH) 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Cardno ATC
Attention: Andrew Stuart
Address: 7115 Amigo Street, Suite 100
City: Las Vegas State: NV Zip Code: 89119
Tel: 702-990-9300
Fax: 702-990-9305

Project Name: Maryland Square
Project #: Z085000030
Sampler: *I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.* (Printed Name) (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	11/20/14	1447		11/21/14	1026
	11/21/14	1042		11/21/14	1042
	Date:	Time:		Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Dwight Kirkland 11/20/14
Print Name Date
Signature

Send Report To:
Attn: Andrew Stuart
Co: Cardno ATC
Addr: 7115 Amigo Street, Suite 100
City: Las Vegas State: NV Zip: 89119

Bill To:
Attn: (same)
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ASSET workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: 8260B (Volatiles) | 8015M - GRO | 8015B - DRO/ORO | PCE/TCE/DCE/VC 8260 | 6020 (metals) | 218.6 Hexavalent Chromium

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION | QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode____ | OTHER

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	NO13956-01	MW-20D2	11/18	1037	E	3	V	H	
	-12	MW-23	11/19	1326	E	3	V	H	
	-13	MW-25	11/19	1420	E	3	V	H	
	-14	MW-26	11/17	1445	E	3	V	H	
	-15	MW-32	11/17	1355	E	3	V	H	
	-16	MW-38	11/17	1243	E	3	V	H	
	-17	MW-40 CMT-30	11/19	950	E	3	V	H	
	-18	MW-40 CMT-45	11/19	1050	E	3	V	H	
	-19	MW-40 CMT-60	11/19	1207	E	3	V	H	
	-20	MW-41	11/17	1200	E	3	V	H	

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☑ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl $N=HNO_3$ $S=H_2SO_4$ C=4°C $Z=Zn(AC)_2$ O=NaOH $T=Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Page 3 of 3

ASSET LABORATORIES

11060 Artesia Blvd., Suite C
Cerritos, CA 90703
Tel: (562) 219-7435 • Fax: (562) 219-7436

FOR LABORATORY USE ONLY

P.O. #: _____

Logged By: _____ Date: _____

Method of Transport: Client ☐ ASSET ☒ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 2.4°C

1. CHILLED Y ☐ N ☐ (ICE 1447) 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Cardno ATC
Attention: Andrew Stuart

Address: 7115 Amigo Street, Suite 100
City: Las Vegas State: NV Zip Code: 89119

Tel: 702-990-9300
Fax: 702-990-9305

Project Name: Maryland Square
Project #: Z085000030

Sampler: *I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.* (Printed Name) (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	11/20/14	1447		11/21/14 @ 1025	
	11/21/14	1042		11/21/14	1042

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Dwight Ekukawa 11/24/14
Print Name Date
Signature

Send Report To:
Attn: Andrew Stuart
Co: Cardno ATC
Addr: 7115 Amigo Street, Suite 100
City: Las Vegas State: NV Zip: 89119

Bill To:
Attn: (same)
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ASSET workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	8260B (Volatiles)	8015M - GRO	8015B - DRO/ORO	PCE/TCE/DCE/VC 8260	6020 (metals)	218.6 Hexavalent Chromium	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	NO13950-21	MW-42	11/17	1120			X					X			E	3	V	H	
	-22	MW-43	11/17	1095			X					X			E	3	V	H	
	-23	Trip Blank	11/20	715			X					X			E	3	V	H	
	-24	Field Blank	11/20	1055			X					X			E	3	V	H	
	-25	Equipment Blank	11/20	1232			X					X			E	3	V	H	
	-26	MW-5 Dup	11/20	1134			X					X			E	3	V	H	

TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☑ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl $N=HNO_3$ $S=H_2SO_4$ C=4°C $Z=Zn(AC)_2$ O=NaOH $T=Na_2S_2O_3$

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/21/2014	Workorder:	N013950
Rep sample Temp (Deg C):	2.4	IR Gun ID:	1

Temp Blank: ☐ Yes ☑ No

Carrier name: ATL

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments

Checklist Completed B JPG jpg 11/24/14

Reviewed By: jpg 11/26/14

December 18, 2014

Andrew Stuart
Cardno ATC
7115 Amigo Street Suite 100
Las Vegas, NV 89119

TEL: (702) 990-9300
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N013950

RE: Maryland Square, Z085000030

Attention: Andrew Stuart

Enclosed are the results for sample(s) received on November 21, 2014 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-002A

Client Sample ID: MW-5
Collection Date: 11/20/2014 11:34:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND	0.068	0.50		µg/L	1	11/25/2014 06:07 PM
1,1,1-Trichloroethane	ND	0.072	0.50		µg/L	1	11/25/2014 06:07 PM
1,1,2,2-Tetrachloroethane	ND	0.10	0.50		µg/L	1	11/25/2014 06:07 PM
1,1,2-Trichloroethane	ND	0.042	0.50		µg/L	1	11/25/2014 06:07 PM
1,1-Dichloroethane	ND	0.054	0.50		µg/L	1	11/25/2014 06:07 PM
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 06:07 PM
1,1-Dichloropropene	ND	0.073	0.50		µg/L	1	11/25/2014 06:07 PM
1,2,3-Trichlorobenzene	ND	0.077	0.50		µg/L	1	11/25/2014 06:07 PM
1,2,3-Trichloropropane	ND	0.071	0.50		µg/L	1	11/25/2014 06:07 PM
1,2,4-Trichlorobenzene	ND	0.10	0.50		µg/L	1	11/25/2014 06:07 PM
1,2,4-Trimethylbenzene	ND	0.036	0.50		µg/L	1	11/25/2014 06:07 PM
1,2-Dibromo-3-chloropropane	ND	0.23	1.0		µg/L	1	11/25/2014 06:07 PM
1,2-Dibromoethane	ND	0.036	0.50		µg/L	1	11/25/2014 06:07 PM
1,2-Dichlorobenzene	ND	0.048	0.50		µg/L	1	11/25/2014 06:07 PM
1,2-Dichloroethane	ND	0.044	0.50		µg/L	1	11/25/2014 06:07 PM
1,2-Dichloropropane	ND	0.094	0.50		µg/L	1	11/25/2014 06:07 PM
1,3,5-Trimethylbenzene	ND	0.054	0.50		µg/L	1	11/25/2014 06:07 PM
1,3-Dichlorobenzene	ND	0.061	0.50		µg/L	1	11/25/2014 06:07 PM
1,3-Dichloropropane	ND	0.077	0.50		µg/L	1	11/25/2014 06:07 PM
1,4-Dichlorobenzene	ND	0.078	0.50		µg/L	1	11/25/2014 06:07 PM
2,2-Dichloropropane	ND	0.061	0.50		µg/L	1	11/25/2014 06:07 PM
2-Chlorotoluene	ND	0.054	0.50		µg/L	1	11/25/2014 06:07 PM
4-Chlorotoluene	ND	0.039	0.50		µg/L	1	11/25/2014 06:07 PM
4-Isopropyltoluene	ND	0.044	0.50		µg/L	1	11/25/2014 06:07 PM
Benzene	ND	0.048	0.50		µg/L	1	11/25/2014 06:07 PM
Bromobenzene	ND	0.054	0.50		µg/L	1	11/25/2014 06:07 PM
Bromodichloromethane	ND	0.048	0.50		µg/L	1	11/25/2014 06:07 PM
Bromoform	ND	0.061	0.50		µg/L	1	11/25/2014 06:07 PM
Bromomethane	ND	0.073	1.0		µg/L	1	11/25/2014 06:07 PM
Carbon tetrachloride	ND	0.057	0.50		µg/L	1	11/25/2014 06:07 PM
Chlorobenzene	ND	0.028	0.50		µg/L	1	11/25/2014 06:07 PM
Chloroethane	ND	0.099	1.0		µg/L	1	11/25/2014 06:07 PM
Chloroform	6.4	0.048	0.50		µg/L	1	11/25/2014 06:07 PM
Chloromethane	ND	0.043	0.50		µg/L	1	11/25/2014 06:07 PM
cis-1,2-Dichloroethene	1.5	0.057	0.50		µg/L	1	11/25/2014 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-002A

Client Sample ID: MW-5
Collection Date: 11/20/2014 11:34:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.043	0.50		µg/L	1	11/25/2014 06:07 PM
Dibromochloromethane	ND	0.057	0.50		µg/L	1	11/25/2014 06:07 PM
Dibromomethane	ND	0.11	0.50		µg/L	1	11/25/2014 06:07 PM
Dichlorodifluoromethane	ND	0.054	0.50		µg/L	1	11/25/2014 06:07 PM
Ethylbenzene	ND	0.036	0.50		µg/L	1	11/25/2014 06:07 PM
Freon-113	ND	0.15	0.50		µg/L	1	11/25/2014 06:07 PM
Hexachlorobutadiene	ND	0.070	0.50		µg/L	1	11/25/2014 06:07 PM
Isopropylbenzene	ND	0.041	0.50		µg/L	1	11/25/2014 06:07 PM
m,p-Xylene	ND	0.14	1.0		µg/L	1	11/25/2014 06:07 PM
Methylene chloride	ND	0.28	2.0		µg/L	1	11/25/2014 06:07 PM
MTBE	ND	0.098	0.50		µg/L	1	11/25/2014 06:07 PM
n-Butylbenzene	ND	0.076	0.50		µg/L	1	11/25/2014 06:07 PM
n-Propylbenzene	ND	0.049	0.50		µg/L	1	11/25/2014 06:07 PM
Naphthalene	ND	0.062	0.50		µg/L	1	11/25/2014 06:07 PM
o-Xylene	ND	0.042	0.50		µg/L	1	11/25/2014 06:07 PM
sec-Butylbenzene	ND	0.036	0.50		µg/L	1	11/25/2014 06:07 PM
Styrene	ND	0.040	0.50		µg/L	1	11/25/2014 06:07 PM
tert-Butylbenzene	ND	0.040	0.50		µg/L	1	11/25/2014 06:07 PM
Tetrachloroethene	740	2.3	10		µg/L	20	11/26/2014 02:56 PM
Toluene	ND	0.025	0.50		µg/L	1	11/25/2014 06:07 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 06:07 PM
Trichloroethene	3.9	0.074	0.50		µg/L	1	11/25/2014 06:07 PM
Trichlorofluoromethane	ND	0.034	0.50		µg/L	1	11/25/2014 06:07 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 06:07 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 06:07 PM
Surr: 1,2-Dichloroethane-d4	111	0	76-124		%REC	20	11/26/2014 02:56 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	20	11/26/2014 02:56 PM
Surr: 4-Bromofluorobenzene	100	0	80-120		%REC	1	11/25/2014 06:07 PM
Surr: Dibromofluoromethane	112	0	80-124		%REC	1	11/25/2014 06:07 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	20	11/26/2014 02:56 PM
Surr: Toluene-d8	106	0	80-120		%REC	20	11/26/2014 02:56 PM
Surr: Toluene-d8	104	0	80-120		%REC	1	11/25/2014 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	Cardno ATC	**Client Sample ID:**	MW-6
Lab Order:	N013950	**Collection Date:**	11/20/2014 12:30:00 PM
Project:	Maryland Square, Z085000030	**Matrix:**	GROUNDWATER
Lab ID:	N013950-003A		

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND	0.068	0.50		µg/L	1	11/25/2014 08:12 PM
1,1,1-Trichloroethane	ND	0.072	0.50		µg/L	1	11/25/2014 08:12 PM
1,1,2,2-Tetrachloroethane	ND	0.10	0.50		µg/L	1	11/25/2014 08:12 PM
1,1,2-Trichloroethane	ND	0.042	0.50		µg/L	1	11/25/2014 08:12 PM
1,1-Dichloroethane	ND	0.054	0.50		µg/L	1	11/25/2014 08:12 PM
1,1-Dichloroethene	ND	0.16	0.50		µg/L	1	11/25/2014 08:12 PM
1,1-Dichloropropene	ND	0.073	0.50		µg/L	1	11/25/2014 08:12 PM
1,2,3-Trichlorobenzene	ND	0.077	0.50		µg/L	1	11/25/2014 08:12 PM
1,2,3-Trichloropropane	ND	0.071	0.50		µg/L	1	11/25/2014 08:12 PM
1,2,4-Trichlorobenzene	ND	0.10	0.50		µg/L	1	11/25/2014 08:12 PM
1,2,4-Trimethylbenzene	ND	0.036	0.50		µg/L	1	11/25/2014 08:12 PM
1,2-Dibromo-3-chloropropane	ND	0.23	1.0		µg/L	1	11/25/2014 08:12 PM
1,2-Dibromoethane	ND	0.036	0.50		µg/L	1	11/25/2014 08:12 PM
1,2-Dichlorobenzene	ND	0.048	0.50		µg/L	1	11/25/2014 08:12 PM
1,2-Dichloroethane	ND	0.044	0.50		µg/L	1	11/25/2014 08:12 PM
1,2-Dichloropropane	ND	0.094	0.50		µg/L	1	11/25/2014 08:12 PM
1,3,5-Trimethylbenzene	ND	0.054	0.50		µg/L	1	11/25/2014 08:12 PM
1,3-Dichlorobenzene	ND	0.061	0.50		µg/L	1	11/25/2014 08:12 PM
1,3-Dichloropropane	ND	0.077	0.50		µg/L	1	11/25/2014 08:12 PM
1,4-Dichlorobenzene	ND	0.078	0.50		µg/L	1	11/25/2014 08:12 PM
2,2-Dichloropropane	ND	0.061	0.50		µg/L	1	11/25/2014 08:12 PM
2-Chlorotoluene	ND	0.054	0.50		µg/L	1	11/25/2014 08:12 PM
4-Chlorotoluene	ND	0.039	0.50		µg/L	1	11/25/2014 08:12 PM
4-Isopropyltoluene	ND	0.044	0.50		µg/L	1	11/25/2014 08:12 PM
Benzene	ND	0.048	0.50		µg/L	1	11/25/2014 08:12 PM
Bromobenzene	ND	0.054	0.50		µg/L	1	11/25/2014 08:12 PM
Bromodichloromethane	ND	0.048	0.50		µg/L	1	11/25/2014 08:12 PM
Bromoform	ND	0.061	0.50		µg/L	1	11/25/2014 08:12 PM
Bromomethane	ND	0.073	1.0		µg/L	1	11/25/2014 08:12 PM
Carbon tetrachloride	ND	0.057	0.50		µg/L	1	11/25/2014 08:12 PM
Chlorobenzene	ND	0.028	0.50		µg/L	1	11/25/2014 08:12 PM
Chloroethane	ND	0.099	1.0		µg/L	1	11/25/2014 08:12 PM
Chloroform	4.8	0.048	0.50		µg/L	1	11/25/2014 08:12 PM
Chloromethane	ND	0.043	0.50		µg/L	1	11/25/2014 08:12 PM
cis-1,2-Dichloroethene	3.1	0.057	0.50		µg/L	1	11/25/2014 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: Cardno ATC
Lab Order: N013950
Project: Maryland Square, Z085000030
Lab ID: N013950-003A

Client Sample ID: MW-6
Collection Date: 11/20/2014 12:30:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_141125A** QC Batch: **P14VW185** PrepDate: Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.043	0.50		µg/L	1	11/25/2014 08:12 PM
Dibromochloromethane	ND	0.057	0.50		µg/L	1	11/25/2014 08:12 PM
Dibromomethane	ND	0.11	0.50		µg/L	1	11/25/2014 08:12 PM
Dichlorodifluoromethane	ND	0.054	0.50		µg/L	1	11/25/2014 08:12 PM
Ethylbenzene	ND	0.036	0.50		µg/L	1	11/25/2014 08:12 PM
Freon-113	ND	0.15	0.50		µg/L	1	11/25/2014 08:12 PM
Hexachlorobutadiene	ND	0.070	0.50		µg/L	1	11/25/2014 08:12 PM
Isopropylbenzene	ND	0.041	0.50		µg/L	1	11/25/2014 08:12 PM
m,p-Xylene	ND	0.14	1.0		µg/L	1	11/25/2014 08:12 PM
Methylene chloride	ND	0.28	2.0		µg/L	1	11/25/2014 08:12 PM
MTBE	ND	0.098	0.50		µg/L	1	11/25/2014 08:12 PM
n-Butylbenzene	ND	0.076	0.50		µg/L	1	11/25/2014 08:12 PM
n-Propylbenzene	ND	0.049	0.50		µg/L	1	11/25/2014 08:12 PM
Naphthalene	ND	0.062	0.50		µg/L	1	11/25/2014 08:12 PM
o-Xylene	ND	0.042	0.50		µg/L	1	11/25/2014 08:12 PM
sec-Butylbenzene	ND	0.036	0.50		µg/L	1	11/25/2014 08:12 PM
Styrene	ND	0.040	0.50		µg/L	1	11/25/2014 08:12 PM
tert-Butylbenzene	ND	0.040	0.50		µg/L	1	11/25/2014 08:12 PM
Tetrachloroethene	3300	12	50		µg/L	100	11/26/2014 03:21 PM
Toluene	ND	0.025	0.50		µg/L	1	11/25/2014 08:12 PM
trans-1,2-Dichloroethene	ND	0.074	0.50		µg/L	1	11/25/2014 08:12 PM
Trichloroethene	12	0.074	0.50		µg/L	1	11/25/2014 08:12 PM
Trichlorofluoromethane	ND	0.034	0.50		µg/L	1	11/25/2014 08:12 PM
Vinyl chloride	ND	0.044	0.50		µg/L	1	11/25/2014 08:12 PM
Surr: 1,2-Dichloroethane-d4	114	0	76-124		%REC	1	11/25/2014 08:12 PM
Surr: 1,2-Dichloroethane-d4	119	0	76-124		%REC	100	11/26/2014 03:21 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	100	11/26/2014 03:21 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	11/25/2014 08:12 PM
Surr: Dibromofluoromethane	111	0	80-124		%REC	1	11/25/2014 08:12 PM
Surr: Dibromofluoromethane	115	0	80-124		%REC	100	11/26/2014 03:21 PM
Surr: Toluene-d8	106	0	80-120		%REC	100	11/26/2014 03:21 PM
Surr: Toluene-d8	105	0	80-120		%REC	1	11/25/2014 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.600	0.50	20.00	0	108	80	126				
1,1,1-Trichloroethane	21.600	0.50	20.00	0	108	77	120				
1,1,2,2-Tetrachloroethane	17.830	0.50	20.00	0	89.2	77	120				
1,1,2-Trichloroethane	19.350	0.50	20.00	0	96.8	77	122				
1,1-Dichloroethane	23.130	0.50	20.00	0	116	74	123				
1,1-Dichloroethene	16.410	0.50	20.00	0	82.0	71	128				
1,1-Dichloropropene	21.810	0.50	20.00	0	109	80	120				
1,2,3-Trichlorobenzene	18.430	0.50	20.00	0	92.2	80	126				
1,2,3-Trichloropropane	18.340	0.50	20.00	0	91.7	77	120				
1,2,4-Trichlorobenzene	18.620	0.50	20.00	0	93.1	80	128				
1,2,4-Trimethylbenzene	22.370	0.50	20.00	0	112	80	120				
1,2-Dibromo-3-chloropropane	15.740	1.0	20.00	0	78.7	62	133				
1,2-Dibromoethane	19.180	0.50	20.00	0	95.9	80	123				
1,2-Dichlorobenzene	21.220	0.50	20.00	0	106	80	120				
1,2-Dichloroethane	20.710	0.50	20.00	0	104	80	120				
1,2-Dichloropropane	21.000	0.50	20.00	0	105	80	120				
1,3,5-Trimethylbenzene	22.290	0.50	20.00	0	111	80	120				
1,3-Dichlorobenzene	20.900	0.50	20.00	0	104	80	120				
1,3-Dichloropropane	20.070	0.50	20.00	0	100	80	120				
1,4-Dichlorobenzene	19.700	0.50	20.00	0	98.5	80	120				
2,2-Dichloropropane	26.320	0.50	20.00	0	132	66	145				
2-Chlorotoluene	21.580	0.50	20.00	0	108	80	120				
4-Chlorotoluene	21.420	0.50	20.00	0	107	80	120				
4-Isopropyltoluene	22.900	0.50	20.00	0	114	80	120				
Benzene	21.230	0.50	20.00	0	106	80	120				
Bromobenzene	19.140	0.50	20.00	0	95.7	80	120				
Bromodichloromethane	21.100	0.50	20.00	0	106	80	120				
Bromoform	19.180	0.50	20.00	0	95.9	69	144				
Bromomethane	13.180	1.0	20.00	0	65.9	30	156				
Carbon tetrachloride	22.310	0.50	20.00	0	112	72	137				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.620	0.50	20.00	0	103	80	120				
Chloroethane	20.040	1.0	20.00	0	100	61	137				
Chloroform	21.130	0.50	20.00	0	106	77	120				
Chloromethane	23.980	0.50	20.00	0	120	41	150				
cis-1,2-Dichloroethene	20.570	0.50	20.00	0	103	77	120				
cis-1,3-Dichloropropene	21.690	0.50	20.00	0	108	80	120				
Dibromochloromethane	20.290	0.50	20.00	0	101	80	120				
Dibromomethane	20.910	0.50	20.00	0	105	72	125				
Dichlorodifluoromethane	23.040	0.50	20.00	0	115	56	137				
Ethylbenzene	20.780	0.50	20.00	0	104	80	120				
Freon-113	17.110	0.50	20.00	0	85.6	71	132				
Hexachlorobutadiene	22.730	0.50	20.00	0	114	78	127				
Isopropylbenzene	21.510	0.50	20.00	0	108	80	120				
m,p-Xylene	44.510	1.0	40.00	0	111	80	120				
Methylene chloride	16.390	2.0	20.00	0	82.0	67	125				
MTBE	19.090	0.50	20.00	0	95.4	67	122				
n-Butylbenzene	23.490	0.50	20.00	0	117	80	120				
n-Propylbenzene	21.900	0.50	20.00	0	110	80	120				
Naphthalene	15.870	0.50	20.00	0	79.4	74	129				
o-Xylene	22.090	0.50	20.00	0	110	80	120				
sec-Butylbenzene	22.090	0.50	20.00	0	110	80	120				
Styrene	22.550	0.50	20.00	0	113	80	120				
tert-Butylbenzene	21.700	0.50	20.00	0	108	80	120				
Tetrachloroethene	21.650	0.50	20.00	0	108	80	120				
Toluene	21.210	0.50	20.00	0	106	80	120				
trans-1,2-Dichloroethene	15.470	0.50	20.00	0	77.4	75	122				
Trichloroethene	20.240	0.50	20.00	0	101	80	120				
Trichlorofluoromethane	18.100	0.50	20.00	0	90.5	75	132				
Vinyl chloride	18.100	0.50	20.00	0	90.5	66	131				
Surr: 1,2-Dichloroethane-d4	26.770		25.00		107	76	124				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	26.980		25.00		108	80	120				
Surr: Dibromofluoromethane	26.800		25.00		107	80	124				
Surr: Toluene-d8	26.730		25.00		107	80	120				

Sample ID: **P141126LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSS02** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.350	0.50	20.00	0	107	80	126	21.60	1.16	20	
1,1,1-Trichloroethane	21.120	0.50	20.00	0	106	77	120	21.60	2.25	20	
1,1,2,2-Tetrachloroethane	17.600	0.50	20.00	0	88.0	77	120	17.83	1.30	20	
1,1,2-Trichloroethane	18.920	0.50	20.00	0	94.6	77	122	19.35	2.25	20	
1,1-Dichloroethane	22.430	0.50	20.00	0	112	74	123	23.13	3.07	20	
1,1-Dichloroethene	16.130	0.50	20.00	0	80.6	71	128	16.41	1.72	20	
1,1-Dichloropropene	21.440	0.50	20.00	0	107	80	120	21.81	1.71	20	
1,2,3-Trichlorobenzene	18.880	0.50	20.00	0	94.4	80	126	18.43	2.41	20	
1,2,3-Trichloropropane	17.490	0.50	20.00	0	87.5	77	120	18.34	4.74	20	
1,2,4-Trichlorobenzene	19.110	0.50	20.00	0	95.6	80	128	18.62	2.60	20	
1,2,4-Trimethylbenzene	21.960	0.50	20.00	0	110	80	120	22.37	1.85	20	
1,2-Dibromo-3-chloropropane	16.100	1.0	20.00	0	80.5	62	133	15.74	2.26	20	
1,2-Dibromoethane	19.430	0.50	20.00	0	97.2	80	123	19.18	1.30	20	
1,2-Dichlorobenzene	21.340	0.50	20.00	0	107	80	120	21.22	0.564	20	
1,2-Dichloroethane	20.480	0.50	20.00	0	102	80	120	20.71	1.12	20	
1,2-Dichloropropane	20.500	0.50	20.00	0	103	80	120	21.00	2.41	20	
1,3,5-Trimethylbenzene	21.840	0.50	20.00	0	109	80	120	22.29	2.04	20	
1,3-Dichlorobenzene	20.820	0.50	20.00	0	104	80	120	20.90	0.384	20	
1,3-Dichloropropane	19.590	0.50	20.00	0	98.0	80	120	20.07	2.42	20	
1,4-Dichlorobenzene	19.580	0.50	20.00	0	97.9	80	120	19.70	0.611	20	
2,2-Dichloropropane	25.160	0.50	20.00	0	126	66	145	26.32	4.51	20	
2-Chlorotoluene	20.900	0.50	20.00	0	104	80	120	21.58	3.20	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSS02** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	21.220	0.50	20.00	0	106	80	120	21.42	0.938	20	
4-Isopropyltoluene	22.960	0.50	20.00	0	115	80	120	22.90	0.262	20	
Benzene	21.060	0.50	20.00	0	105	80	120	21.23	0.804	20	
Bromobenzene	19.520	0.50	20.00	0	97.6	80	120	19.14	1.97	20	
Bromodichloromethane	21.070	0.50	20.00	0	105	80	120	21.10	0.142	20	
Bromoform	20.050	0.50	20.00	0	100	69	144	19.18	4.44	20	
Bromomethane	12.130	1.0	20.00	0	60.6	30	156	13.18	8.30	20	
Carbon tetrachloride	22.110	0.50	20.00	0	111	72	137	22.31	0.900	20	
Chlorobenzene	19.990	0.50	20.00	0	100	80	120	20.62	3.10	20	
Chloroethane	18.690	1.0	20.00	0	93.5	61	137	20.04	6.97	20	
Chloroform	20.560	0.50	20.00	0	103	77	120	21.13	2.73	20	
Chloromethane	23.070	0.50	20.00	0	115	41	150	23.98	3.87	20	
cis-1,2-Dichloroethene	20.110	0.50	20.00	0	101	77	120	20.57	2.26	20	
cis-1,3-Dichloropropene	21.170	0.50	20.00	0	106	80	120	21.69	2.43	20	
Dibromochloromethane	20.350	0.50	20.00	0	102	80	120	20.29	0.295	20	
Dibromomethane	20.570	0.50	20.00	0	103	72	125	20.91	1.64	20	
Dichlorodifluoromethane	22.720	0.50	20.00	0	114	56	137	23.04	1.40	20	
Ethylbenzene	20.400	0.50	20.00	0	102	80	120	20.78	1.85	20	
Freon-113	16.300	0.50	20.00	0	81.5	71	132	17.11	4.85	20	
Hexachlorobutadiene	23.120	0.50	20.00	0	116	78	127	22.73	1.70	20	
Isopropylbenzene	21.330	0.50	20.00	0	107	80	120	21.51	0.840	20	
m,p-Xylene	43.420	1.0	40.00	0	109	80	120	44.51	2.48	20	
Methylene chloride	16.000	2.0	20.00	0	80.0	67	125	16.39	2.41	20	
MTBE	19.280	0.50	20.00	0	96.4	67	122	19.09	0.990	20	
n-Butylbenzene	22.900	0.50	20.00	0	114	80	120	23.49	2.54	20	
n-Propylbenzene	21.080	0.50	20.00	0	105	80	120	21.90	3.82	20	
Naphthalene	16.340	0.50	20.00	0	81.7	74	129	15.87	2.92	20	
o-Xylene	21.680	0.50	20.00	0	108	80	120	22.09	1.87	20	
sec-Butylbenzene	21.540	0.50	20.00	0	108	80	120	22.09	2.52	20	
Styrene	22.090	0.50	20.00	0	110	80	120	22.55	2.06	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **LCSS02** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	21.660	0.50	20.00	0	108	80	120	21.70	0.185	20	
Tetrachloroethene	21.810	0.50	20.00	0	109	80	120	21.65	0.736	20	
Toluene	20.980	0.50	20.00	0	105	80	120	21.21	1.09	20	
trans-1,2-Dichloroethene	21.910	0.50	20.00	0	110	75	122	15.47	34.5	20	R
Trichloroethene	20.400	0.50	20.00	0	102	80	120	20.24	0.787	20	
Trichlorofluoromethane	17.190	0.50	20.00	0	86.0	75	132	18.10	5.16	20	
Vinyl chloride	17.840	0.50	20.00	0	89.2	66	131	18.10	1.45	20	
Surr: 1,2-Dichloroethane-d4	26.200		25.00		105	76	124		0		
Surr: 4-Bromofluorobenzene	26.940		25.00		108	80	120		0		
Surr: Dibromofluoromethane	26.650		25.00		107	80	124		0		
Surr: Toluene-d8	26.690		25.00		107	80	120		0		

Sample ID: **P141126MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **PBW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.50									
1,1,1-Trichloroethane	ND	0.50									
1,1,2,2-Tetrachloroethane	ND	0.50									
1,1,2-Trichloroethane	ND	0.50									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.50									
1,1-Dichloropropene	ND	0.50									
1,2,3-Trichlorobenzene	ND	0.50									
1,2,3-Trichloropropane	ND	0.50									
1,2,4-Trichlorobenzene	ND	0.50									
1,2,4-Trimethylbenzene	ND	0.50									
1,2-Dibromo-3-chloropropane	ND	1.0									
1,2-Dibromoethane	ND	0.50									
1,2-Dichlorobenzene	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **PBW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	0.50									
1,3,5-Trimethylbenzene	ND	0.50									
1,3-Dichlorobenzene	ND	0.50									
1,3-Dichloropropane	ND	0.50									
1,4-Dichlorobenzene	ND	0.50									
2,2-Dichloropropane	ND	0.50									
2-Chlorotoluene	ND	0.50									
4-Chlorotoluene	ND	0.50									
4-Isopropyltoluene	ND	0.50									
Benzene	ND	0.50									
Bromobenzene	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	0.50									
Chloroethane	ND	1.0									
Chloroform	ND	0.50									
Chloromethane	0.140	0.50									
cis-1,2-Dichloroethene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
Dibromochloromethane	ND	0.50									
Dibromomethane	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
Ethylbenzene	ND	0.50									
Freon-113	ND	0.50									
Hexachlorobutadiene	ND	0.50									
Isopropylbenzene	ND	0.50									
m,p-Xylene	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Cardno ATC
Work Order: N013950
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P141126MB2** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **96959**
Client ID: **PBW** Batch ID: **P14VW186** TestNo: **EPA 8260B** Analysis Date: **11/26/2014** SeqNo: **1882645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	ND	2.0									
MTBE	ND	0.50									
n-Butylbenzene	ND	0.50									
n-Propylbenzene	ND	0.50									
Naphthalene	ND	0.50									
o-Xylene	ND	0.50									
sec-Butylbenzene	ND	0.50									
Styrene	ND	0.50									
tert-Butylbenzene	ND	0.50									
Tetrachloroethene	0.350	0.50									
Toluene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									
Trichlorofluoromethane	ND	0.50									
Vinyl chloride	ND	0.50									
Surr: 1,2-Dichloroethane-d4	26.750		25.00		107	76	124				
Surr: 4-Bromofluorobenzene	25.370		25.00		101	80	120				
Surr: Dibromofluoromethane	27.110		25.00		108	80	124				
Surr: Toluene-d8	25.930		25.00		104	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

Glen Gesmundo

From: Adam Katlein [adam.katlein@cardno.com]
Sent: Thursday, December 18, 2014 11:48 AM
To: marlon@assetlaboratories.com
Subject: Maryland Square Additional VOC Samples
Attachments: N013950 4Q14 Gw Lab.pdf

Hey Marlon,

We just got word from the regulator for the Maryland Square site that she would like to run some additional testing for chlorinated disinfection byproducts on a couple wells. This means she'd like to get a full list of VOCs run off the 8260B method. Would it be possible to get the full list of VOCs for wells MW-5 and MW-6 that were sampled in the attached report? Those were the only wells she requested that we had sampled this quarter.

Thanks

Adam Katlein
SENIOR STAFF SCIENTIST
ENGINEERING & ENVIRONMENTAL SERVICES
CARDNO

Cardno
Shaping the Future

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Address 7115 Amigo Street, Suite 100, Las Vegas, NV 89119
Email adam.katlein@cardno.com Web www.cardno.com

Maryland Square PCE Site

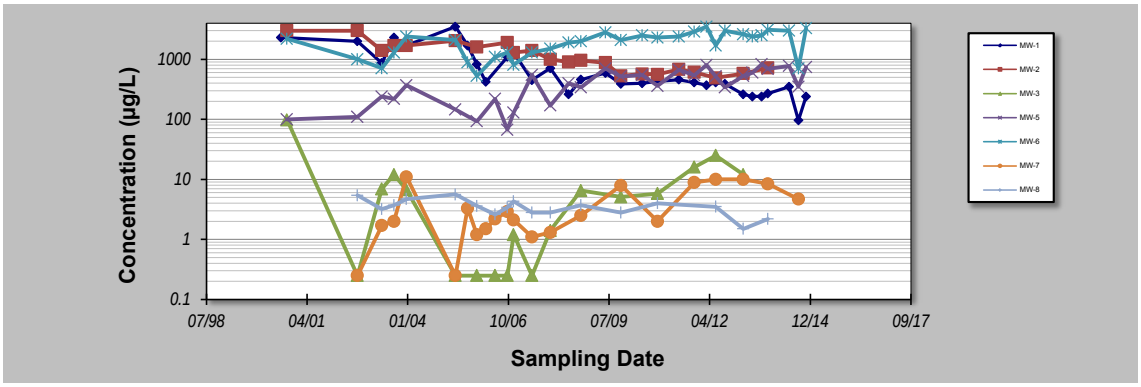
APPENDIX C
MANN-KENDALL TREND TEST FOR PLUME STABILITY

Cardno ATC
Shaping the Future

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Dec-14	Job ID:	Z085000030
Facility Name:	Maryland Square PCE Site	Constituent:	PCE
Conducted By:	Cardno ATC	Concentration Units:	µg/L

Sampling Point ID:	MW-1	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	Aug 00	2,300						
2	Oct 00		3,000	98	100	2,200		
3	Sep 02	2,000	3,000	0.25	110	1,000	0.25	5.4
4	May 03	870	1,400	6.9	240	710	1.7	3.2
5	Sep 03	2,300	1,700	12	220	1,300	2	3.7
6	Jan 04	1,700	1,700	6.7	370	2,400	11	4.7
7	May 05	3,500	2,050	0.25	146	2,090	0.25	5.6
8	Sep 05	1,700				890	3.3	
9	Dec 05	820	1,600	0.25	93	530	1.2	3.6
10	Mar 06	420					1.5	
11	Jun 06			0.25	220	1,100	2.2	2.6
12	Oct 06	1,100	1,900	0.25	67	1,300	2.9	3.4
13	Dec 06	1,300	1,300	1.2	130	810	2.1	4.3
14	Jun 07	450	1,400	0.25	550	1,300	1.1	2.8
15	Dec 07	710	1,000	1.4	170	1,500	1.3	2.8
16	Jun 08	260	900		400	1,900		
17	Oct 08	460	960	6.5	340	2,000	2.5	3.7
18	Jun 09	590	880		700	2,800		
19	Nov 09	390	530	5.1	520	2,100	7.9	2.8
20	Jun 10	400	570		550	2,500		
21	Nov 10	430	560	5.8	360	2,300	2.0	4
22	Jun 11	460	680		670	2,400		
23	Nov 11	410	610	16	540	2,900	8.9	
24	Mar 12	370			800	3,500		
25	Jun 12	410	490	25	520	1,700	10	3.5
26	Sep 12	390			340	3,000		
27	Mar 13	260	580	12	530	2,600	10	1.5
28	Jun 13	240			600	2,400		
29	Sep 13	240			830	2,500		
30	Nov 13	270	720		690	3,100	8.4	2.2
31	Jun 14	350			780	3,000		
32	Sep 14	96			350	700	4.7	
33	Nov 14	240			740	3,300		
34								
35								
Coefficient of Variation:		0.98	0.60	2.07	0.57	0.43	0.89	0.31
Mann-Kendall Statistic (S):		-338	-166	29	235	229	85	-52
Confidence Factor:		>99.9%	>99.9%	85.3%	>99.9%	>99.9%	99.5%	98.3%
Concentration Trend:		Decreasing	Decreasing	No Trend	Increasing	Increasing	Increasing	Decreasing



Notes:

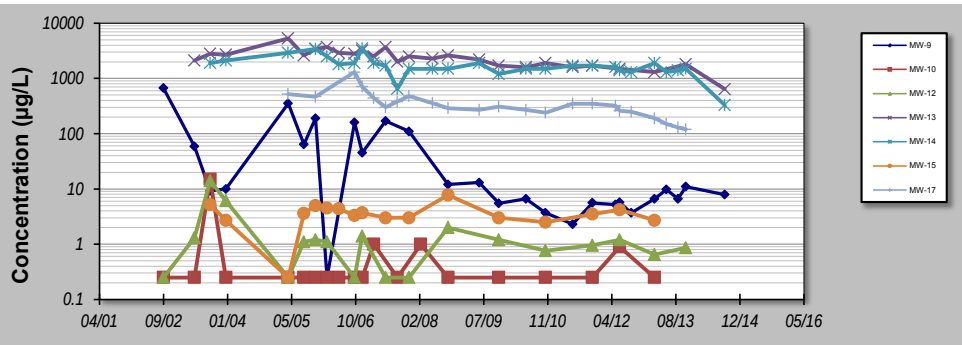
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 15-Dec-14
Facility Name: Maryland Square PCE Site
Conducted By: Cardno ATC

Job ID: Z085000030
Constituent: PCE
Concentration Units: µg/L

Sampling Event	Sampling Date	MW-9	MW-10	MW-12	MW-13	MW-14	MW-15	MW-17
		PCE CONCENTRATION (µg/L)						
1	Sep 02	670	0.25	0.25				
2	May 03	59	0.25	1.3	2100			
3	Sep 03	9	15	14	2,800	1900	5.2	
4	Jan 04	10	0.25	6.1	2,700	2100	2.7	
5	May 05	353	0.25	0.25	5,310	2,920	0.25	520
6	Sep 05	64	0.25	1.1	2,600		3.6	
7	Dec 05	190	0.25	1.2	3,400	3,400	5	470
8	Mar 06	0.25	0.25	1.1	3,700	2,500	4.5	
9	Jun 06		0.25		2,900	1,800	4.4	
10	Oct 06	160	0.25	0.25	2,800	1,900	3.3	1300
11	Dec 06	45	0.25	1.4	3,200	3,500	3.7	710
12	Mar 07		1		2,500	1,900		440
13	Jun 07	170		0.25	3,700	1,700	3	300
14	Sep 07		0.25		2,000	650		380
15	Dec 07	110		0.25	2,500	1,500	3	480
16	Mar 08		1					
17	Jun 08				2,300	1,500		360
18	Oct 08	12	0.25	2	2,600	1,500	7.8	290
19	Jun 09	13			2,200	1,900		270
20	Nov 09	6	0.25	1.2	1,700	1,200	3	310
21	Jun 10	7			1,600	1,500		270
22	Nov 10	4	0.25	0.76	1,900	1,500	2.5	240
23	Jun 11	2			1,600	1,700		350
24	Nov 11	5.6	0.25	0.95	1,700	1,700	3.5	350
25	May 12	5.2				1,600		320
26	Jun 12	5.7	0.9	1.2	1,500	1,400	4.2	260
27	Sep 12	3.7				1,300		250
28	Mar 13	6.6	0.25	0.65	1,300	1,900	2.7	190
29	Jun 13	9.8				1,300		150
30	Sep 13	6.6				1,400		130
31	Nov 13	11.0		0.86	1,800	1,500		120
32	Jun 14							
33	Sep 14	7.9			640	330		
34	Nov 14							
35								
Coefficient of Variation:		2.01	2.95	1.74	0.39	0.39	0.43	0.66
Mann-Kendall Statistic (S):		-125	3	-21	-201	-184	-24	-185
Confidence Factor:		99.6%	52.7%	75.5%	>99.9%	>99.9%	82.6%	>99.9%
Concentration Trend:		Decreasing	No Trend	No Trend	Decreasing	Decreasing	Stable	Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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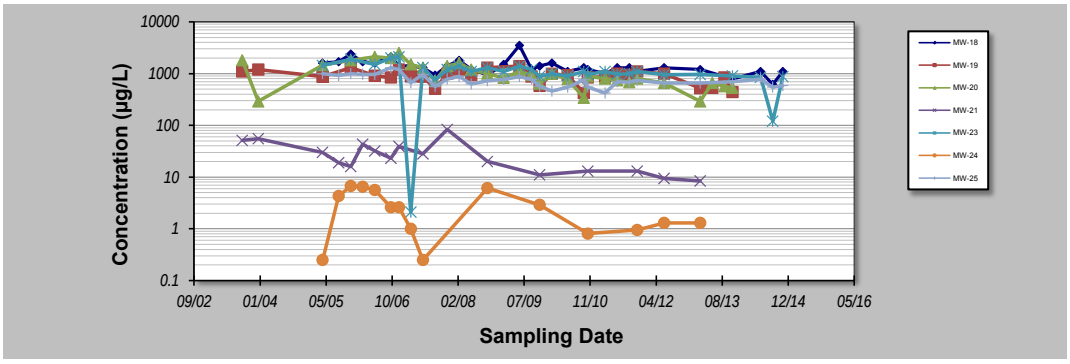
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 15-Dec-14
Facility Name: Maryland Square PCE Site
Conducted By: Cardno ATC

Job ID: Z085000030
Constituent: PCE
Concentration Units: µg/L

Sampling Point ID:	MW-18	MW-19	MW-20	MW-21	MW-23	MW-24	MW-25
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	Sep 03		1,100	1,800	51			
2	Jan 04		1,200	290	55			
3	May 05	1,600	873	1,460	30	1,430	0.25	993
4	Sep 05	1,700			19		4.3	920
5	Dec 05	2,400	1,300	1,800	16	1,900	6.7	1,000
6	Mar 06	1,700			43		6.5	970
7	Jun 06	1,600	910	2,100	32	1,500	5.6	960
8	Oct 06	2,100	840	2,000	23	2,000	2.6	1,300
9	Dec 06	1,400	1,200	2,500	39	2,100	2.6	1,200
10	Mar 07	1,400	890	1,500		2.1	1.0	670
11	Jun 07	1,300	870	1,300	28	1,300	0.25	960
12	Sep 07	930	510	730		750		560
13	Dec 07	1,400	990	1,400	83	1,200		780
14	Mar 08	1,800	1,200	1,600		1,400		890
15	Jun 08	1,200	930	1,200		1,100		630
16	Oct 08	950	1,300	1,000	20	1,300	6.1	730
17	Feb 09	1,500		830		1,100		770
18	Jun 09	3,500	1,400	1,100		1,400		880
19	Sep 09	1,200	880	940		1,200		770
20	Nov 09	1,400	580	640	11	880	2.9	570
21	Feb 10	1,600	990	990		1,000		460
22	Jun 10	1,100	930	780		900		550
23	Oct 10	1,300	420	340		1,100		760
24	Nov 10	1,200	840	890	13	970	0.81	550
25	Mar 11	1,000	880	800		1,100		420
26	Jun 11	1,300	1,000	740		970		700
27	Sep 11	1,300	950	680		1,000		680
28	Nov 11	1,100	1,100	800	13	1,100	0.95	740
29	Jun 12	1,300	1,000	660	9.4	950	1.3	660
30	Mar 13	1,200	520	290	8.4	960	1.3	660
31	Jun 13		530	660				
32	Sep 13		840	570				
33	Nov 13	780	440	530		900		700
34	Jun 14	1,100				850		780
35	Sep 14	620				120		550
36	Nov 14	1,100				870		590
37								
38								
39								
40								
Coefficient of Variation:		0.37	0.29	0.53	0.69	0.40	0.82	0.27
Mann-Kendall Statistic (S):		-242	-83	-279	-73	-227	-28	-232
Confidence Factor:		>99.9%	93.8%	>99.9%	99.9%	>99.9%	90.8%	>99.9%
Concentration Trend:		Decreasing	Prob. Decreasing	Decreasing	Decreasing	Decreasing	Prob. Decreasing	Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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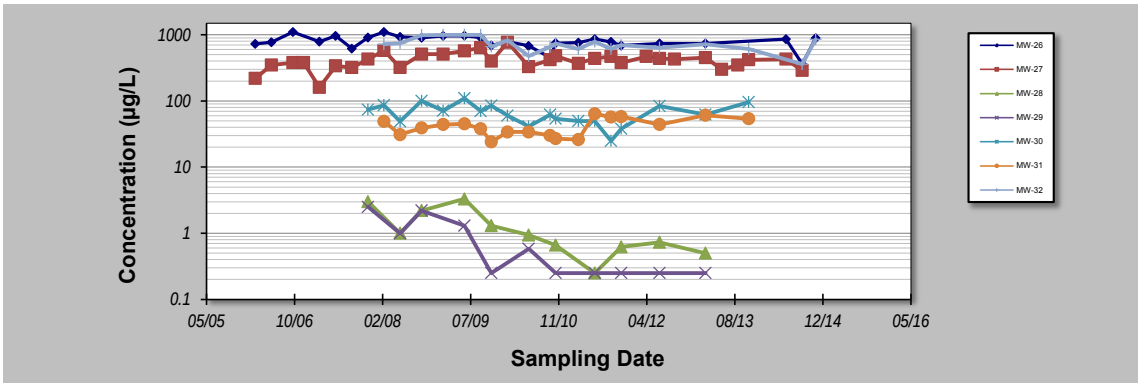
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 15-Dec-14
Facility Name: Maryland Square PCE Site
Conducted By: Cardno ATC

Job ID: Z085000030
Constituent: PCE
Concentration Units: µg/L

Sampling Event	Sampling Date	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32
		PCE CONCENTRATION (µg/L)						
1	Mar 06	730	220					
2	Jun 06	770	350					
3	Oct 06	1,100	380					
4	Dec 06		380					
5	Mar 07	790	160					
6	Jun 07	960	340					
7	Sep 07	620	320					
8	Dec 07	910	430	3.0	2.5	74		
9	Mar 08	1,100	580			86	49	720
10	Jun 08	930	320	1.0	1.0	49	31	750
11	Oct 08	900	510	2.2	2.2	100	39	990
12	Feb 09	960	510			71	44	1,000
13	Jun 09	970	570	3.3	1.3	110	45	1,000
14	Sep 09	910	640			70	38	1,000
15	Nov 09	690	400	1.3	0.25	85	24	660
16	Feb 10	790	770			60	34	830
17	Jun 10	680	330	0.94	0.58	41	34	480
18	Oct 10	450	420	.		62	30	660
19	Nov 10	750	480	0.66	0.25	54	27	740
20	Mar 11	760	370			50	26	610
21	Jun 11	860	440	0.25	0.25	50	64	790
22	Sep 11	780	470			25	57	610
23	Nov 11	690	380	0.62	0.25	38	58	700
24	Mar 12		470					
25	Jun 12	740	440	0.73	0.25	84	44	640
26	Sep 12		430					
27	Mar 13	740	450	0.50	0.25	62	61	720
28	Jun 13		300					
29	Sep 13		350					
30	Nov 13		420			96	54	610
31	Jun 14	860	430					
32	Sep 14	360	290					360
33	Nov 14	890						850
34								
35								
Coefficient of Variation:		0.21	0.27	0.79	1.01	0.34	0.30	0.24
Mann-Kendall Statistic (S):		-86	5	-35	-34	-45	25	-62
Confidence Factor:		96.2%	52.7%	99.7%	99.6%	93.8%	81.6%	97.7%
Concentration Trend:		Decreasing	No Trend	Decreasing	Decreasing	Prob. Decreasing	No Trend	Decreasing



Notes:

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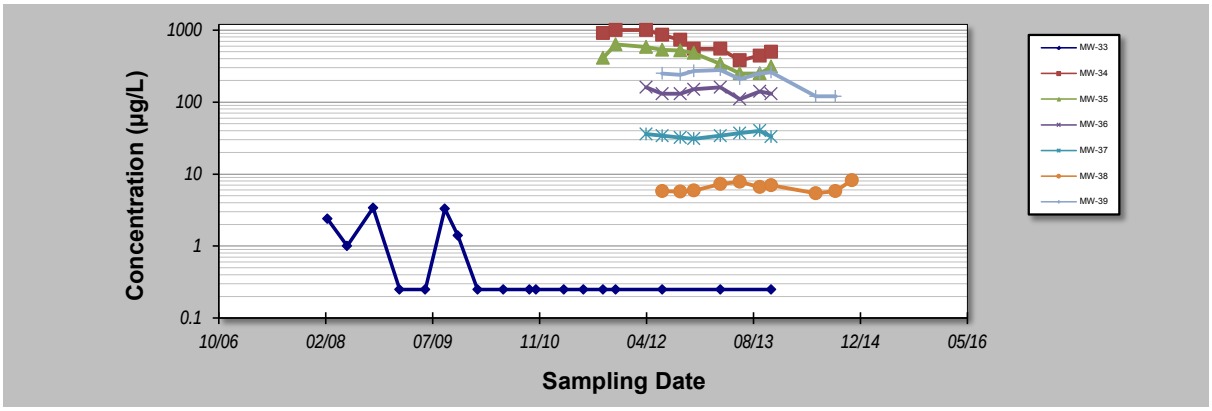
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 15-Dec-14
Facility Name: Maryland Square PCE Site
Conducted By: Cardno ATC

Job ID: Z085000030
Constituent: PCE
Concentration Units: µg/L

Sampling Point ID:	MW-33	MW-34	MW-35	MW-36	MW-37	MW-38	MW-39
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	Mar 08	2.4						
2	Jun 08	1.0						
3	Oct 08	3.4						
4	Feb 09	0.25						
5	Jun 09	0.25						
6	Sep 09	3.3						
7	Nov 09	1.4						
8	Feb 10	0.25						
9	Jun 10	0.25						
10	Oct 10	0.25						
11	Nov 10	0.25						
12	Mar 11	0.25						
13	Jun 11	0.25						
14	Sep 11	0.25	910	410				
15	Nov 11	0.25	1,000	630				
16	Mar 12		1,000	580	160	36		
17	Jun 12	0.25	860	530	130	34	5.8	250
18	Sep 12		730	520	130	32	5.7	240
19	Nov 12		550	480	150	31	5.9	270
20	Mar 13	0.25	550	340	160	34	7.3	280
21	Jun 13		380	250	110	37	7.8	210
22	Sep 13		440	250	140	40	6.6	250
23	Nov-13	0.25	500	310	130	33	7.0	260
24	Jun 14						5.4	120
25	Sep 14						5.8	120
26	Nov 14						8.2	
27								
28								
29								
30								
Coefficient of Variation:		1.32	0.34	0.32	0.12	0.08	0.15	0.28
Mann-Kendall Statistic (S):		-57	-33	-30	-6	3	10	-12
Confidence Factor:		98.4%	99.9%	99.7%	72.6%	59.4%	78.4%	87.0%
Concentration Trend:		Decreasing	Decreasing	Decreasing	Stable	No Trend	No Trend	Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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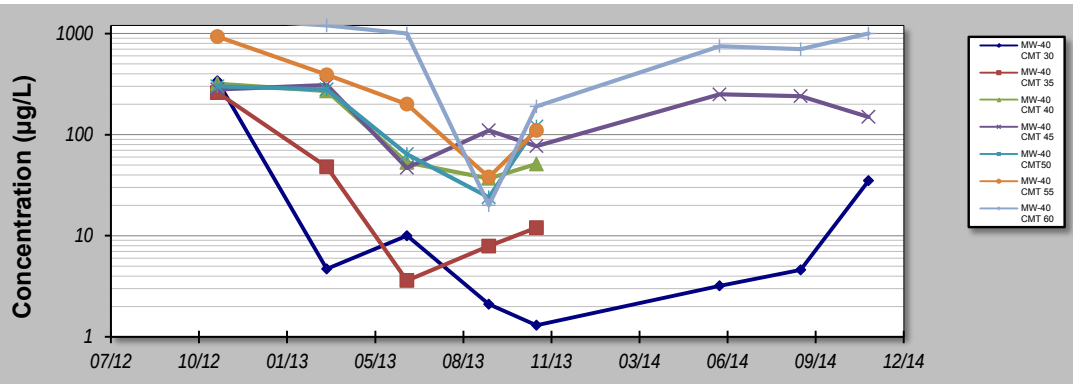
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Dec-14	Job ID:	Z085000030
Facility Name:	Maryland Square PCE Site	Constituent:	PCE
Conducted By:	Cardno ATC	Concentration Units:	µg/L

Sampling Point ID:	MW-40 CMT 30	MW-40 CMT 35	MW-40 CMT 40	MW-40 CMT 45	MW-40 CMT50	MW-40 CMT 55	MW-40 CMT 60
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	Nov 12	340	260	320	280	300	930	1,400
2	Mar 13	4.7	48	270	310	280	390	1,200
3	Jun 13	10	3.6	53	47	64	200	1,000
4	Sep 13	2.1	7.9	37	110	24	38	20
5	Nov-13	1.3	12	51	77	120	110	190
6	Jun 14	3.2			250			750
7	Sep 14	4.6			240			700
8	Nov 14	35			150			1,000
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.35	1.14	0.94	0.54	0.80	0.82	0.61
Mann-Kendall Statistic (S):		-4	0	-8	-4	-6	-4	-9
Confidence Factor:		64.0%	37.5%	95.8%	64.0%	88.3%	83.3%	83.2%
Concentration Trend:		No Trend	No Trend	Decreasing	Stable	Stable	Stable	Stable



Notes:

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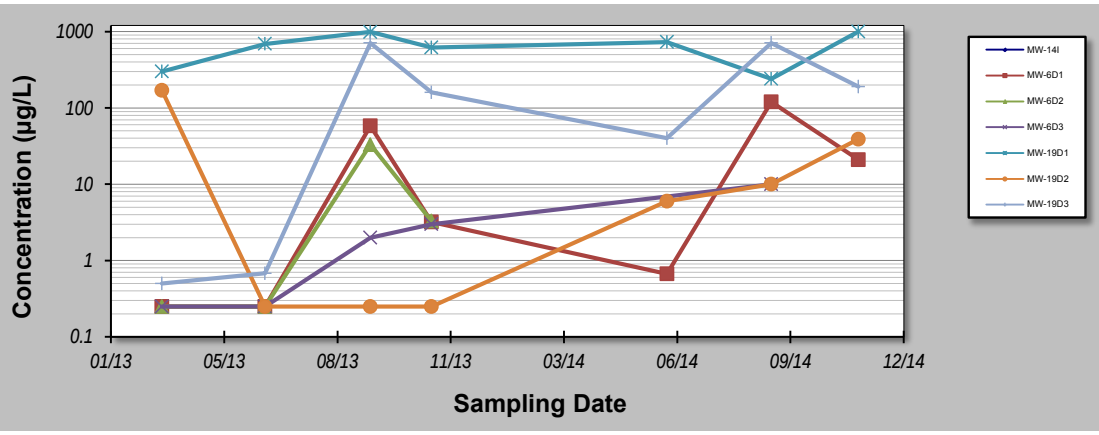
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 15-Dec-14
Facility Name: Maryland Square PCE Site
Conducted By: Cardno ATC

Job ID: Z085000030
Constituent: PCE
Concentration Units: µg/L

Sampling Point ID:	MW-14I	MW-6D1	MW-6D2	MW-6D3	MW-19D1	MW-19D2	MW-19D3
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	Mar 13	7,200	0.25	0.25	0.25	300	170	0.50
2	Jun 13	5,500	0.25	0.25	0.25	690	0.25	0.68
3	Sep 13	3,700	58	33	2.0	990	0.25	710
4	Nov-13	10,000	3.2	3.3	3.0	620	0.25	160
5	Jun 14	9,800	0.67			730	6.0	40
6	Sep 14	9,300	120		10	240	10	710
7	Nov 14	11,000	21			1,000	39	190
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.33	1.41	1.73	1.30	0.46	1.62	1.23
Mann-Kendall Statistic (S):		9	5	3	9	5	12	10
Confidence Factor:		88.1%	76.5%	72.9%	97.5%	71.9%	98.2%	90.7%
Concentration Trend:		No Trend	No Trend	No Trend	Increasing	No Trend	Increasing	Prob. Increasing



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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Dec-14	Job ID:	Z085000030
Facility Name:	Maryland Square PCE Site	Constituent:	PCE
Conducted By:	Cardno ATC	Concentration Units:	µg/L

Sampling Point ID:	MW-19I	MW-20D1	MW-20D2	MW-20D3	MW-41	MW-42	MW-43
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	Sep 12	690						
2	Jun 13	0.25	110	64	0.25			
3	Sep 13	0.25	100	210	25	1.7	0.53	0.25
4	Nov-13	0.25	260	160	62	2.6	0.60	0.25
5	Jun 14	0.25		120		2.8	0.58	0.25
6	Sep 14	0.25	160	140	10	2.8	0.53	0.25
7	Nov 14	0.25		410		3.7	0.71	0.25
8								
9								
10								
11								
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16								
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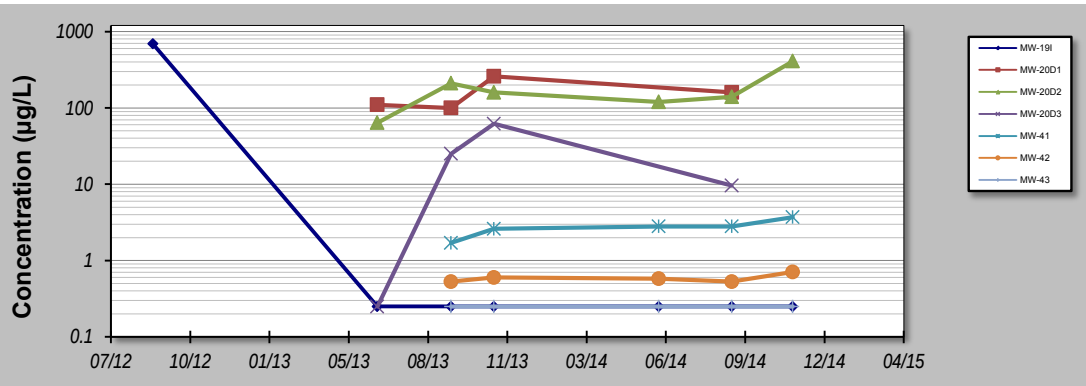
19								
20								
Coefficient of Variation:		2.64	0.46	0.66	1.12	0.26	0.13	0.00
Mann-Kendall Statistic (S):		-6	2	5	2	9	3	0
Confidence Factor:		76.4%	62.5%	76.5%	62.5%	97.5%	67.5%	40.8%
Concentration Trend:		No Trend	No Trend	No Trend	No Trend	Increasing	No Trend	Stable



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