1T1TSecond Quarter 2015 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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July 28, 2015

Executive Summary

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Herman Kishner Trust
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707 Wilshire Boulevard, 45th Floor
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Re: 1T1TSecond Quarter 2015 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 Second Quarter 2015

Cardno ATC performed quarterly monitoring and sampling activities at 18 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 2015)
Frequency of Monitoring:	Groundwater: Select Wells Quarterly (Semi-annual or Annual for 2015)
Purge Water Removed This Quarter:	24.15 gallons
Approximate Depth to Groundwater:	20.64 ft btoc
Groundwater Gradient:	Site Monitoring Network: 0.013 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:	13 of 18 monitoring points
Maximum PCE Concentration (µg/L):	9,600 (MW-14I)
Monitoring Wells Sampled with PCE Concentrations Greater than 5.0 µg/L Previous Quarter:	41 of 59 monitoring points
Maximum PCE Concentration Previous Quarter (µg/L):	11,000 (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).

Based on the 2007 NDEP vapor transport modeling, NDEP has instituted an indoor air sampling program for residents within the plume that are potentially affected by vapor intrusion within their homes. Rounds of testing were performed in 2007/2008, 2012, 2014, and 2015. Indoor air sampling has shown that the largest potential for vapor intrusion concerns are those residents that are within the 100 µg/L boundary of the PCE plume. Residents with home PCE indoor air concentrations exceeding the interim-action level of 32 32 $\mu g/m^3$ were offered sub-slab depressurization systems (SSD) to mitigate the vapor intrusion concerns. To date, there have been 17 SSDs installed within homes.

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 2015 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 2015 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 sampling schedule is expected to continue in 2015.

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-7, MW-9, MW-13, MW-14, MW-18, MW-19, MW-23, MW-25, MW-26, MW-27, 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 reviewed prior field notes to determine a consistent sampling depth in each well within the monitoring network. The depth chosen was based on the PCE results taken over time. The representative depth was placed on each sampling sheet along with a marking on the dedicated hose in each well casing, and will be carried over for each sampling event, irrespective of the depth to water and total depth measurements. Based on the results of the Second Quarter 2015 sampling event, Cardno ATC will continue to utilize the depths used this quarter going forward.

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 at the pre-determined depth that will be consistently used at each particular well. 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 and MW-40 CMT-60, and the analysis of hexavalent chromium using EPA method 218.6 for wells MW-19I 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

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-1.

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 continued saturation from the prior nearby potassium permanganate pilot test, and therefore the analysis could not be performed.

With the exception of the above mentioned comment, no laboratory quality control data were flagged outside of established tolerances. The analytical data on water quality for the second 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 13.04 feet bgs (MW-18) to 27.15 feet bgs (MW-19D2). The average groundwater elevation of monitored wells (excluding MW-40 CMT-35 through CMT-60) was 20.64 feet bgs. There was a 1.05 foot decrease when comparing depth to water of similar monitoring wells that had groundwater measurements for both the First Quarter 2015 and Second Quarter 2015. Based on the second quarter results, the local hydraulic gradient across the site is generally toward the east.

DO readings for across the site ranged from 0.48 to 6.61 milligrams per liter (mg/L). ORP readings from across the site ranged from -169.70 to 629.50 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-19D 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, 2nd Quarter 2015

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: 26.20 MW-19D2: 27.15	0.03838	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: 27.15 MW-19D3: 25.20	0.06227	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: 26.20 MW-19D3: 25.20	0.01913	Up
MW-40 CMT-30 MW-40 CMT-45	MW-40 CMT-30: 1978.49 MW-40 CMT-45: 1978.49	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: 25.61 MW-40 CMT-45: 25.66	0.003333	Down
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: 25.66 MW-40 CMT-60: 25.60	0.004	Up
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: 25.61 MW-40 CMT-60: 25.60	0.0003333	Up

Bold: Direction change from previous quarter measured

2.3 Groundwater Analytical Results

Cardno ATC collected groundwater samples on June 2nd through 4th, 2015 from the existing groundwater monitoring wells (MW-1, MW-5, MW-6, MW-6D1, MW-14I, MW-18, MW-19I, MW-19D1, MW-19D2, MW-19D3, MW-20D2, MW-38, and MW-41 through MW-43.) 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 and MW-40 CMT-60, and the analysis of hexavalent chromium using EPA method 218.6 for wells MW-19I 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	20.45	1971.56	230	<0.50	Decreasing
MW-2	NM	NM	NM	NM	Decreasing
MW-3	NM	NM	NM	NM	Prob. Increasing
MW-5	19.60	1969.09	660	3.0	Increasing
MW-6	20.23	1967.89	3,400	10.0	Increasing
MW-6D1	18.50	1970.22	0.52	<0.50	No Trend
MW-6D2	NM	NM	NM	NM	No Trend
MW-6D3	NM	NM	NM	NM	Increasing
MW-7	NM	NM	NM	NM	Increasing
MW-8	NM	NM	NM	NM	Decreasing
MW-9	NM	NM	NM	NM	Decreasing
MW-10	NM	NM	NM	NM	No Trend
MW-11	NM	NM	NM	NM	NM
MW-12	NM	NM	NM	NM	No Trend
MW-13	NM	NM	NM	NM	Decreasing
MW-14	NM	NM	NM	NM	Decreasing
MW-14I	19.64	1967.90	9,600	25	**Prob. Increasing** (Increasing 1st Quarter 2015)
MW-15	NM	NM	NM	NM	Stable
MW-16	NM	NM	NM	NM	NM
MW-17	NM	NM	NM	NM	Decreasing
MW-18	13.04	1949.86	1,200	2.4	Decreasing
MW-19	NM	NM	NM	NM	Prob. Decreasing
MW-19I	25.86	1952.51	1.9	<0.50	No Trend
MW-19D1	26.20	1953.05	720	4.6	Stable
MW-19D2	27.15	1952.13	73	<0.50	Increasing
MW-19D3	25.50	1953.82	21	<0.50	No Trend
MW-20	NM	NM	NM	NM	Decreasing
MW-20D1	NM	NM	NM	NM	No Trend
MW-20D2	26.47	1952.19	520	2.6	**Increasing** (No Trend 1st Quarter 2015)
MW-20D3	NM	NM	NM	NM	No Trend
MW-21	NM	NM	NM	NM	Decreasing
MW-22	NM	NM	NM	NM	NM
MW-23	NM	NM	NM	NM	Decreasing
MW-24	NM	NM	NM	NM	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-25	NM	NM	NM	NM	Decreasing
MW-26	NM	NM	NM	NM	Decreasing
MW-27	NM	NM	NM	NM	No Trend
MW-28	NM	NM	NM	NM	Decreasing
MW-29	NM	NM	NM	NM	Decreasing
MW-30	NM	NM	NM	NM	Stable
MW-31	NM	NM	NM	NM	Prob. Increasing
MW-32	NM	NM	NM	NM	Decreasing
MW-33	NM	NM	NM	NM	Decreasing
MW-34	NM	NM	NM	NM	Decreasing
MW-35	NM	NM	NM	NM	Decreasing
MW-36	NM	NM	NM	NM	Stable
MW-37	NM	NM	NM	NM	No Trend
MW-38	14.86	1893.52	8.1	<0.50	No Trend
MW-39	NM	NM	NM	NM	Prob. Decreasing
MW-40 CMT-30	25.61	1952.88	18	<0.50	No Trend
MW-40 CMT-35	25.36	1953.13	13	1.6	No Trend
MW-40 CMT-40	NM	NM	NM	NM	Stable
MW-40 CMT-45	25.66	1952.83	36	1.9	Stable
MW-40 CMT-50	NM	NM	NM	NM	Stable
MW-40 CMT-55	NM	NM	NM	NM	Stable
MW-40 CMT-60	25.60	1952.89	140	7.2	**Decreasing** (Stable 4th Quarter 2014)
MW-41	14.57	1894.32	3.6	<0.50	Increasing
MW-42	16.25	1894.06	0.74	<0.50	**Prob. Increasing** (No Trend 1st Quarter 2015)
MW-43	16.35	1941.98	<0.50	<0.50	Stable

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 wells that cover the groundwater conditions at the Maryland Square site. The range of groundwater elevations spanned from 1893.52 feet above mean sea level (amsl) (MW-38) to 1971.56 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 0.30 feet compared with similar wells with First Quarter 2015 data. Groundwater elevations across

the Boulevard Mall property decreased by an average of 0.25 feet. Groundwater elevations decreased across groundwater monitoring wells located on the surrounding streets and golf course area by 0.72 feet when compared with similar wells with First Quarter 2015 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 the project monitoring wells except on MW-43. PCE was detected at concentrations ranging from 0.52 µg/L (MW-6D1) to 9,600 µg/L (MW-14I). PCE concentrations identified by the laboratory in the groundwater samples collected exceeded the maximum contaminant levels (MCL) for PCE in groundwater of 5 µg/L in 13 of 18 wells.

Based on NDEP comments, Cardno ATC conducted additional analysis of the groundwater samples collected from MW-5, MW-6, MW-19, and MW-20. In the Third Quarter 2014 Groundwater Monitoring and Sampling Report Response, NDEP noted that water levels suddenly had varied inconsistently with surrounding wells in MW-5, MW-6, MW-19, and MW-20 within two studied time periods. MW-5, MW-6, MW-19, and MW-20 experienced an increase in water levels while the overall water levels in the mall parking lot increased during the first quarter. Cardno ATC requested additional sampling of MW-5, MW-6, MW-19, and MW-20 for the full suite of volatile organic compounds (VOCs) via EPA Method 8260B to evaluate for chlorinated disinfection by-products. Chloroform ranging from 1.1 µg/L to 6.5 µg/L was found during First Quarter 2015 in the four monitoring wells, however PCE concentrations increased to around their historical averages at each well. Cardno ATC will continue to monitor the water levels in these wells, but requests discontinuation of the full suite VOC analysis.

A potential reason for the inconsistent sampling results of First Quarter 2014 and Third Quarter 2014 may have had to do with the pump depth placement from one quarter to another. 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 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). In order to determine the permanent sampling depth that the pump would be set at, Cardno ATC reviewed the previous three years of pump depths from the field notes, and took the average depth of the pump placement while omitting the depths that produce anomalous PCE concentrations. The permanent pump depth was placed on to the sampling sheets before sampling occurred, so that the depth would remain consistent from quarter to quarter. The hose present in each well was measured and marked to the proper depth, to ensure consistency for future sampling events. This method produced PCE concentrations during Second Quarter 2015 that were consistent with expected values for PCE based on recent historical averages.

Additionally, Cardno ATC incorporated a system of custody seals on the site monitoring wells using zip ties. The zip ties were placed in a fashion so cap is secure but if the cap is removed, the zip tie system will come apart and show if any tampering occurred between monitoring events.

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 2nd Quarter 2015

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
	03/15/15	210	1.3
	06/03/15	720	4.6
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
	03/15/15	44	<0.50
	06/03/15	73	<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
	03/15/15	41	<0.50
	06/03/15	21	<0.50

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-19D1, 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, and switched back to "up" during Second Quarter 2015. Groundwater extraction planned to be performed in this area next year should control vertical and horizontal gradients.

A duplicate sample was collected from MW-1. MW-1 PCE concentrations were measured at 230 µg/L and 220 µg/L, a relative percent difference (RPD) of 4.44%. 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 1.9 µg/L to 25 µg/L in the groundwater samples collected from 8 of the 18 site monitoring wells. The detected concentrations were below the MCL for TCE in groundwater of 5 µg/L, with the exception of MW-6 (10 µg/L), MW-14I (25 µg/L), and MW-40 CMT-60 (7.2 µg/L).

Cis-1,2-dichloroethene (DCE) was detected in monitoring wells at concentrations ranging from 0.95 µg/L to 11 µg/L in 5 of the 18 site monitoring wells. 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 2-3 Summary of Metals Concentrations in Select Wells, 1st Quarter 2013 to 2nd Quarter 2015

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
	03/04/15	930	3.8	<0.50	1.4	1.7
	06/02/15	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*

Well ID	Date	PCE (µg/L)	Arsenic (µg/L)	Manganese (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)
	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*
	03/04/15	0.62	1.0	54,000	160	NA*
	06/02/15	1.9	0.69	25,000	140	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
	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
	03/11/15	680	1.3	<0.50	<1.0	1.5
	06/02/15	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
	03/05/15	14	3.6	28	<1.0	0.88
	06/02/15	18	NS	NS	NS	NS
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
	03/05/15	13	3.3	370	<1.0	0.25
	06/02/15	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

Well ID	Date	PCE (µg/L)	Arsenic (µg/L)	Manganese (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)
	11/17/14	NS	NS	NS	NS	NS
	03/05/15	100	1.9	33	<1.0	0.71
	06/02/15	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
	03/05/15	120	1.9	15	<1.0	0.53
	06/02/15	36	NS	NS	NS	NS
MW-40 CMT-50 (PulseOx Pilot Test, downgradient)	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
	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
	03/05/15	160	2.5	15	<1.0	0.40
	06/02/15	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
	03/05/15	430	1.8	12	21	22
	06/02/15	NS	NS	NS	NS	NS
MW-40 CMT-60 (PulseOx Pilot Test, upgradient)	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
	03/05/15	190	1.3	23	61	56

Well ID	Date	PCE (µg/L)	Arsenic (µg/L)	Manganese (µg/L)	Chromium (µg/L)	Hexavalent Chromium (µg/L)
	06/03/15	140	1.1	69	88	80

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). Monitoring well MW-40 CMT-60 showed a concentration of hexavalent chromium of 80 µg/L. Chromium concentrations ranged from 88 µg/L to 140 µg/L. Monitoring well MW-19I (140 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 none of the monitored wells 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 25,000 µg/L, which is equivalent to the manganese levels observed almost two years ago. Manganese has persisted within MW-19I longer than initially anticipated. Chromium concentrations have remained elevated within MW-19I. This condition will continue to be monitored in the future.

PCE concentrations had appeared 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. Both wells exhibited decreases in PCE concentrations this quarter, which may be due to the change in vertical gradients as discussed in Section 2.2.1. Although manganese continues to persist within and near MW-19I, the monitoring well continues to exhibit a PCE concentration above laboratory reporting limits. This may represent the start of possible rebound in the well that has been noted in many of the other wells that had been affected by the potassium permanganate pilot test. 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-one wells and increasing at seven wells. The Mann-Kendall Test also showed that the plume was probably decreasing at three wells, probably increasing at four wells, stable at eight wells, and showed no trend at thirteen wells (sixteen 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.

Seven wells currently are increasing to the trend test at the site (MW-5, MW-6, MW-7, MW-20D2, 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 seven quarters. The PCE concentrations remain low at MW-41, however Second Quarter 2015 was the first time that MW-42 also showed a probably increasing trend. These two wells along with MW-38 (no trend) represent the current lateral extents of the plume. As stated by NDEP in their First Quarter 2015 response letter, these wells represent “sentinel wells” and if the increasing trend continues it may represent the continuing movement of the plume to the east.

Although concentrations are also low at MW-6D3, ranging from less than the laboratory detection limit to 32 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 downward movement between the two wells. However, only six sampling events (not including non-detects) are used in the Mann-Kendall model currently so the model lacks precision at this time. MW-6D3 was not sampled during the Second Quarter 2015.

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 four most recent monitoring events have experienced increasing concentrations that may be indicative of some rebound at the well however the most recent increase was minor. 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, 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 material remains under the road and is continuing to contribute to the plume. Mann Kendall analysis during First Quarter 2015 also showed MW-14I has an increasing trend for the first time. Monitor well MW-14I has consistently had the highest PCE concentration across the entire site, averaging around 10,000 µg/L. Well MW-14I is also located near MW-5 and MW-6, approximately 100 feet north of MW-6, and on the east side of Maryland Parkway. 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.

Second Quarter 2015 was the first time MW-20D2 showed an increasing trend at the site. MW-20D2 is located to the east of the Boulevard Mall building. Concentrations at MW-20D1 also appear to be rising slightly however more sampling data is needed. This well will continue to be monitored.

3 Summary

Cardno ATC provides the following summary based on the results of the Second Quarter 2015 groundwater sampling event:

- Tetrachloroethene (PCE) was detected at concentrations ranging from 0.52 µg/L to 9,600 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, 2nd Quarter 2015

Non Detect (<0.50 µg/L)	>0.50 µg/L to <5.0 µg/L	5.0 µg/L to 9,600 µg/L
MW-43	MW-6D1	MW-1
	MW-19I	MW-5
	MW-41	MW-6
	MW-42	MW-14I
		MW-19D1
		MW-19D2
		MW-19D3
		MW-20D2
		MW-40 CMT-30
		MW-40 CMT-45
		MW-40 CMT-60
		MW-18
		MW-38

- Trichloroethene (TCE) was detected at concentrations ranging from 1.9 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, 1st Quarter 2015

Non Detect (<0.50 µg/L)	≥0.5 µg/L to <5.0 µg/L	5.0 µg/L to 32 µg/L
MW-1	MW-5	MW-6
MW-6D1	MW-18	MW-14I
MW-19I	MW19D1	MW-40 CMT-60
MW-19D2	MW-20D2	
MW-19D3	MW-40 CMT-45	
MW-38		
MW-40 CMT-30		
MW-41		
MW-42		
MW-43		

- Cis-1,2-dichloroethene (DCE) was detected in monitoring wells at concentrations ranging from 0.95 µg/L to 11 µg/L in 4 of the 18 site monitoring wells. The detected concentrations were below the MCL for DCE in groundwater of 70 µg/L.

- Monitoring well MW-40 CMT-60 showed a concentration of hexavalent chromium (Cr(VI)) of 80 µg/L. No monitoring wells were above the NDEP basic comparison level (BCL) of 100 µg/L in groundwater. The total chromium concentration measured in MW-19I (140 µg/L) exceeded the MCL of 100 µg/L for total chromium in groundwater. MW-19I was not able to be analyzed for hexavalent chromium content due to the color of the groundwater sample.
- Cardno ATC incorporated a system of custody seals on the site monitoring wells using zip ties. The zip ties were placed in a fashion so cap is secure but if the cap is removed, the zip tie system will come apart and show if any tampering occurred between monitoring events, results of these custody seals will be updated in the next quarterly report. The addition of custody seals was requested by NDEP due to uncharacteristically low PCE concentrations during First Quarter 2014. However, testing since that time shows that the low concentrations appear to have been related to variable pump depth placement, not due to outside interference. Zip tie custody seals will continue to be used at the site.

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 that metals testing be reduced to only MW-19I MW-40 CMT-55, and MW-40 CMT-60.

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 1TSecond Quarter 2015 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
Project Manager

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
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	Jun 15	1992.01	20.45	1971.56	10-30	1.60	2.2	117.2	**230**	<0.50	<0.50
MW-7	Sep 02	Jun 15	1990.78	NM	NM	10-30	NM	NM	NM	NS	NS	NS
MW-8	Sep 02	Jun 15	1991.71	NM	NM	10-30	NM	NM	NM	NS	NS	NS
MW-9	Sep 02	Jun 15	1992.25	NM	NM	48.5-50	NM	NM	NM	NS	NS	NS
MW-12	Sep 02	Jun 15	1995.95	NM	NM	13.5-33.5	NM	NM	NM	NS	NS	NS
MW-17	Nov 03	Jun 15	1991.04	NM	NM	15-30	NM	NM	NM	NS	NS	NS
MW-34	Dec 11	Jun 15	1993.88	NM	NM	--	NM	NM	NM	NS	NS	NS
MW-35	Dec 11	Jun 15	1991.37	NM	NM	--	NM	NM	NM	NS	NS	NS
Project Monitoring Wells Located on Boulevard Mall Property												
MW-2	Oct 00	Jun 15	1983.53	NM	NM	10-32	NM	NM	NM	NS	NS	NS
MW-3	Oct 00	Jun 15	1983.81	NM	NM	10-31	NM	NM	NM	NS	NS	NS
MW-5	Oct 00	Jun 15	1988.69	19.60	1969.09	10-32	2.51	2.2	106.0	**660**	3.0	0.95
MW-6	Oct 00	Jun 15	1988.12	20.23	1967.89	10-32	2.64	2.2	92.6	**3,400**	**10**	2.1
MW-6D1	Jan 13	Jun 15	1988.72	18.50	1970.22	50-60	3.87	0.3	127.0	0.52	<0.50	<0.50
MW-6D2	Jan 13	Jun 15	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	Jun 15	1988.72	NM	NM	100-110	NM	NM	NM	NS	NS	NS
MW-10	Sep 02	Jun 15	1983.28	NM	NM	10-30	NM	NM	NM	NS	NS	NS
MW-11	Sep 02	Jun 15	1979.87	NM	NM	13.5-33.5	NM	NM	NM	NS	NS	NS
MW-13	May 03	Jun 15	1983.31	NM	NM	9-29	NM	NM	NM	NS	NS	NS
MW-14	Nov 03	Jun 15	1987.33	NM	NM	15-40	NM	NM	NM	NS	NS	NS
MW-14I	Jul 12	Jun 15	1987.54	19.64	1967.90	40-55	2.44	0.8	83.6	**9,600**	**25**	11
MW-15	Nov 03	Jun 15	1982.74	NM	NM	15-32	NM	NM	NM	NS	NS	NS
MW-16	Nov 03	Jun 15	1980.53	NM	NM	19-32	NM	NM	NM	NS	NS	NS
MW-19	Nov 03	Jun 15	1980.13	NM	NM	19-35	NM	NM	NM	NS	NS	NS
MW-19D1	Jan 13	Jun 15	1979.25	26.20	1953.05	31-51	2.62	1.9	242.3	**720**	4.6	<0.50
MW-19D2	Jan 13	Jun 15	1979.28	27.15	1952.13	60-70	0.48	1.4	381.4	**73**	<0.50	<0.50
MW-19D3	Jan 13	Jun 15	1979.32	25.50	1953.82	92-102	3.33	0.4	269.3	**21**	<0.50	<0.50
MW-19I	Jul 12	Jun 15	1978.37	25.86	1952.51	34-54	2.40	2.1	629.5	1.9	<0.50	<0.50
MW-20	Nov 03	Jun 15	1979.82	NM	NM	19-35	NM	NM	NM	NS	NS	NS
MW-20D1	Jan 13	Jun 15	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	Jun 15	1978.66	26.47	1952.19	55-65	6.61	1.5	126.3	**520**	2.6	1.0
MW-20D3	Jan 13	Jun 15	1978.69	NM	NM	90-100	NM	NM	NM	NS	NS	NS
MW-21	Nov 03	Jun 15	1979.25	NM	NM	19-36	NM	NM	NM	NS	NS	NS
MW-40 CMT-30	Jul 12	Jun 15	1978.49	25.61	1952.88	30-30.6	2.91	2.3	164.0	**18**	<0.50	<0.50
MW-40 CMT-35	Jul 12	Jun 15	1978.49	NM	NM	35-35.6	NM	NM	NM	NS	NS	NS
MW-40 CMT-40	Jul 12	Jun 15	1978.49	NM	NM	40-40.7	NM	NM	NM	NS	NS	NS
MW-40 CMT-45	Jul 12	Jun 15	1978.49	25.66	1952.83	45-45.6	2.86	1.2	-169.7	**36**	1.9	<0.50
MW-40 CMT-50	Jul 12	Jun 15	1978.49	NM	NM	50-50.6	NM	NM	NM	NS	NS	NS
MW-40 CMT-55	Jul 12	Jun 15	1978.49	NM	NM	55-55.6	NM	NM	NM	NS	NS	NS
MW-40 CMT-60	Jul 12	Jun 15	1978.49	25.60	1952.89	60-60.6	3.50	1.9	-112.4	**140**	**7.2**	1.9
Project Monitoring Wells Located on Surrounding Streets and Golf Course												
MW-18	Nov 03	Jun 15	1962.90	13.04	1949.86	5-26	2.11	2.2	443.0	**1,200**	2.4	<0.50
MW-22	Mar 05	Jun 15	1975.19	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-23	Mar 05	Jun 15	1962.45	NM	NM	5-26	NM	NM	NM	NS	NS	NS
MW-24	Mar 05	Jun 15	1960.82	NM	NM	5-26	NM	NM	NM	NS	NS	NS
MW-25	Mar 05	Jun 15	1959.29	NM	NM	5-26	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 Surrounding Streets and Golf Course												
MW-26	Mar 06	Jun 15	1953.45	NM	NM	10-36	NM	NM	NM	NS	NS	NS
MW-27	Mar 06	Jun 15	1944.15	NM	NM	10-36	NM	NM	NM	NS	NS	NS
MW-28	Oct 07	Jun 15	1943.07	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-29	Oct 07	Jun 15	1932.35	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-30	Oct 07	Jun 15	1940.59	NM	NM	20-41	NM	NM	NM	NS	NS	NS
MW-31	Mar 08	Jun 15	1937.66	NM	NM	13.5-33.6	NM	NM	NM	NS	NS	NS
MW-32	Mar 08	Jun 15	1952.90	NM	NM	13.5-33.7	NM	NM	NM	NS	NS	NS
MW-33	Mar 08	Jun 15	1950.98	NM	NM	13.5-33.8	NM	NM	NM	NS	NS	NS
MW-36	Jan 12	Jun 15	1955.30	NM	NM	17-38	NM	NM	NM	NS	NS	NS
MW-37	Jan 12	Jun 15	1929.98	NM	NM	17-38	NM	NM	NM	NS	NS	NS
MW-38	Apr 12	Jun 15	1908.38	14.86	1893.52	15-36	2.04	2.5	50.3	**8.1**	<0.50	<0.50
MW-39	Apr 12	Jun 15	1967.55	NM	NM	15-36	NM	NM	NM	NS	NS	NS
MW-41	Aug 13	Jun 15	1908.89	14.57	1894.32	10-35	0.67	2.4	65.9	3.6	<0.50	<0.50
MW-42	Sep 13	Jun 15	1910.31	16.25	1894.06	10-35	1.32	2.7	70.2	0.74	<0.50	<0.50
MW-43	Sep 13	Jun 15	1958.33	16.35	1941.98	10-35	0.99	2.0	40.2	<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
	Mar 15	1992.01	20.15	1971.86	6.43	3.7	4.8	1.34	25.49	2.4	85	210	<0.50	<0.50	<0.50
	Jun 15	1992.01	20.45	1971.56	7.23	3.7	16.9	1.60	26.93	2.2	117	230	<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
	Mar 15	1983.53	19.17	1964.36	6.44	3.38	19.21	1.75	23.35	2.20	197.00	550	2.3	0.61	<0.50
	Jun 15	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
	Mar 15	1983.81	20.02	1963.79	6.18	4.28	11.14	0.65	25.52	2.78	218.50	13	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1988.69	19.35	1969.34	6.4	3.5	12.2	2.8	24.02	2.2	205	790	3.7	1.2	<0.50
	Jun 15	1988.69	19.60	1969.09	7.2	3.4	11.9	2.5	25.60	2.2	106	660	3	0.95	<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
	Mar 15	1988.12	19.96	1968.16	6.4	3.4	11.6	2.3	25.06	2.2	99	3,300	9.3	2.3	<0.50
	Jun 15	1988.12	20.23	1967.89	7.3	3.4	14.3	2.6	26.80	2.2	93	3,400	10	2.1	<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
	Mar 15	1988.72	15.41	1973.31	6.8	0.6	19.3	3.4	26.20	0.4	102	3.0	<0.50	<0.50	<0.50
	Jun 15	1988.72	18.50	1970.22	7.2	0.3	49.1	3.9	25.02	0.3	127	0.52	<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
	Mar 15	1990.72	15.35	1975.37	6.8	0.6	58.6	3.7	24.31	0.4	113	3.2	<0.50	<0.50	<0.50
	Jun 15	1990.72	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	<0.50	<0.50	<0.50
	Nov 14	1988.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS
	Mar 15	1989.72	15.47	1974.25	6.8	0.5	99.1	3.9	25.30	0.3	107	32	0.50	<0.50	<0.50
	Jun 15	1989.72	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
	Mar 15	1990.78	18.20	1972.58	6.5	3.6	11.5	2.3	26.60	2.4	206	17	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1991.71	20.55	1971.16	6.3	3.4	18.7	1.0	26.64	2.2	201	2.4	<0.50	<0.50	<0.50
	Jun 15	1991.71	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

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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-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
	Mar 15	1992.25	20.62	1971.63	6.73	1.59	13.33	2.37	25.95	1.04	90.80	9.7	<0.50	<0.50	<0.50
	Jun 15	1992.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

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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
	Mar 15	1983.28	21.60	1961.68	6.4	3.6	5.8	0.4	25.38	2.3	-181	<0.50	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1979.87	26.55	1953.32	6.8	3.5	3.7	1.0	23.66	2.3	-96	<0.50	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1995.95	16.69	1979.26	6.52	3.58	101.00	1.76	25.65	2.32	221.40	0.77	<0.50	<0.50	<0.50
	Jun 15	1995.95	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-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
	Mar 15	1983.31	18.40	1964.91	6.34	3.61	12.03	1.12	23.24	2.35	216.80	1,700	4.6	<0.50	<0.50
	Jun 15	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
	Mar 15	1987.33	18.85	1968.48	6.44	3.67	69.60	2.06	25.28	2.39	104.90	1,900	3.6	<0.50	<0.50
	Jun 15	1987.33	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-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
	Mar 15	1987.54	19.41	1968.13	6.7	1.3	6.3	2.7	24.99	0.8	106	11,000	32	20	<0.50
	Jun 15	1987.54	19.64	1967.90	7.5	1.3	8.5	2.4	28.07	0.8	84	9,600	25	11	<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-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
	Mar 15	1982.74	16.70	1966.04	6.43	3.46	21.70	1.79	26.25	2.25	95.40	3.6	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1980.53	27.55	1952.98	6.8	3.2	3.4	0.3	24.24	2.1	2	<0.50	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1991.04	19.80	1971.24	6.4	3.5	4.1	1.0	24.82	2.3	89	65	<0.50	<0.50	<0.50
	Jun 15	1991.04	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-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
	Mar 15	1962.9	12.50	1950.40	6.5	3.5	7.4	2.3	22.37	2.3	243	1,200	2.5	<0.50	<0.50
	Jun 15	1962.9	13.04	1949.86	7.3	3.4	3.2	2.1	26.97	2.2	443	1,200	2.4	<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
	Mar 15	1980.13	26.60	1953.53	6.9	3.3	36.2	3.4	23.35	2.2	NM	930	4.0	<0.50	<0.50
	Jun 15	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
	Mar 15	1978.37	25.52	1952.85	6.9	3.3	10.9	2.9	24.0	2.2	539	0.62	<0.50	<0.50	<0.50
	Jun 15	1978.37	25.86	1952.51	7.2	3.3	17.5	2.4	29.0	2.1	630	1.9	<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-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
	Mar 15	1979.25	25.74	1953.51	6.8	0.9	44.4	3.9	25.94	0.6	159	210	1.3	<0.50	<0.50
	Jun 15	1979.25	26.20	1953.05	7.4	3.0	20.2	2.6	28.78	1.9	242	720	4.6	<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
	Mar 15	1979.28	26.88	1952.40	6.7	2.2	6.0	0.7	25.77	1.5	180	44	<0.50	<0.50	<0.50
	Jun 15	1979.28	27.15	1952.13	7.2	2.2	7.3	0.5	25.77	1.4	381	73	<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
	Mar 15	1979.32	24.12	1955.20	6.7	0.6	14.8	3.9	25.63	0.4	201	41	<0.50	<0.50	<0.50
	Jun 15	1979.32	25.50	1953.82	7.6	0.6	26.5	3.3	28.40	0.4	269	21	<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-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
	Mar 15	1979.82	26.34	1953.48	6.4	3.6	25.0	2.1	23.14	2.4	210	680	2.3	<0.50	<0.50
	Jun 15	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
	Mar 15	1979.81	25.56	1954.25	6.3	2.4	45.5	2.0	25.17	1.6	191	340	0.98	<0.50	<0.50
	Jun 15	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
	Mar 15	1978.66	25.95	1952.71	6.7	2.2	26.7	6.3	26.88	1.5	180	230	1.9	0.96	<0.50
	Jun 15	1978.66	26.47	1952.19	7.5	2.2	15.0	6.6	27.12	1.5	126	520	2.6	1.0	<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
	Mar 15	1978.69	20.10	1958.59	6.8	0.5	11.7	3.2	24.48	0.3	208	<0.50	<0.50	<0.50	<0.50
	Jun 15	1978.69	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-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
	Mar 15	1979.25	25.37	1953.88	6.7	3.5	17.3	0.4	25.03	2.3	46	11	<0.50	<0.50	<0.50
	Jun 15	1979.25	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-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
	Mar 15	1975.19	26.47	1948.72	6.6	3.6	4.9	0.9	21.25	2.4	93	<0.50	<0.50	<0.50	<0.50
	Jun 15	1975.19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS

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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-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
	Mar 15	1962.45	16.50	1945.95	6.7	3.4	5.4	2.0	21.66	2.2	58	740	1.5	<0.50	<0.50
	Jun 15	1962.45	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-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
	Mar 15	1960.82	14.32	1946.50	6.7	3.3	3.6	1.3	22.86	2.1	79	0.58	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1959.29	19.25	1940.04	6.7	3.6	4.5	1.2	22.82	2.4	53	640	0.71	<0.50	<0.50
	Jun 15	1959.29	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-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
	Mar 15	1953.45	17.09	1936.36	6.7	3.8	2.7	1.8	21.61	2.4	67	680	<0.50	<0.50	<0.50
	Jun 15	1953.45	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-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
	Mar 15	1944.15	13.33	1930.82	6.7	3.7	6.4	1.3	21.76	2.4	39	450	1.3	<0.50	<0.50
	Jun 15	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
	Mar 15	1943.07	12.36	1930.71	6.7	3.8	6.3	0.7	22.63	2.5	80	0.69	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1932.35	13.85	1918.50	6.8	4.0	1.6	2.7	18.75	2.6	85	<0.50	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1940.59	15.90	1924.69	6.6	2.9	4.3	2.4	19.18	1.9	50	93	0.76	<0.50	<0.50
	Jun 15	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
	Mar 15	1937.66	15.34	1922.32	6.7	4.0	5.6	2.7	21.20	2.6	57	73	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1952.90	18.32	1934.58	6.7	3.5	5.4	1.8	22.15	2.3	53	730	2	<0.50	<0.50
	Jun 15	1952.90	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-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
	Mar 15	1950.98	17.06	1933.92	6.6	4.1	8.9	0.7	21.50	2.7	68	<0.50	<0.50	<0.50	<0.50
	Jun 15	1950.98	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-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
	Mar 15	1993.88	19.09	1974.79	6.5	3.8	6.6	1.6	24.17	2.4	91	370	0.91	<0.50	<0.50
	Jun 15	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
	Mar 15	1991.37	19.82	1971.55	6.5	3.7	23	2.4	25.22	2.3	87	180	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1955.30	19.09	1936.21	6.7	3.6	7.3	1.4	23.23	2.4	60	150	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1929.98	19.25	1910.73	6.7	3.6	3.6	3.0	20.22	2.5	64	35	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1908.38	14.75	1893.63	6.7	4.0	4.3	2.9	20.24	2.6	59	6.0	<0.50	<0.50	<0.50
	Jun 15	1908.38	14.86	1893.52	7.1	3.9	4.5	2.0	22.85	2.5	50	8.1	<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
	Mar 15	1967.55	24.67	1942.88	6.7	3.7	96.2	1.3	23.51	2.4	60	160	<0.50	<0.50	<0.50
	Jun 15	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
	Mar 15	1978.49	25.19	1953.30	8.0	3.6	4.1	4.2	18.74	2.3	287	14	<0.50	<0.50	<0.50
	Jun 15	1978.49	25.61	1952.88	8.5	3.5	6.1	2.9	32.98	2.3	164	18	<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
	Mar 15	1978.49	25.36	1953.13	7.9	2.8	4.5	5.0	17.67	1.8	207	13	1.6	<0.50	<0.50
	Jun 15	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
	Mar 15	1978.49	25.32	1953.17	7.3	3.0	92.3	3.5	21.84	1.9	340	100	1.5	<0.50	<0.50
	Jun 15	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
	Mar 15	1978.49	25.12	1953.37	6.4	0.8	12.2	4.2	23.38	0.5	361	120	3.2	<0.50	<0.50
	Jun 15	1978.49	25.66	1952.83	8.2	1.8	25.4	2.9	33.49	1.2	-170	36	1.9	<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
	Mar 15	1979.49	25.11	1954.38	6.7	0.5	5.0	3.2	23.78	0.3	315	160	6.8	<0.50	<0.50
	Jun 15	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
	Mar 15	1978.49	25.11	1953.38	7.3	0.6	5.3	2.8	23.03	0.4	379	430	6.7	1.0	<0.50
	Jun 15	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-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
	Mar 15	1978.49	25.17	1953.32	6.7	2.9	5.9	3.1	23.42	1.9	253	190	8.9	1.8	<0.50
	Jun 15	1978.49	25.60	1952.89	7.9	3.0	7.2	3.5	34.58	1.9	-112	140	7.2	1.9	<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
	Mar 15	1908.89	14.85	1894.04	6.7	3.7	33.1	1.6	21.17	2.4	38	3.5	<0.50	<0.50	<0.50
	Jun 15	1908.89	14.57	1894.32	7.0	3.6	34.5	0.7	23.92	2.4	66	3.6	<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
	Mar 15	1910.31	16.12	1894.19	6.7	4.1	6.5	2.3	20.16	2.7	23	0.62	<0.50	<0.50	<0.50
	Jun 15	1910.31	16.25	1894.06	6.8	4.1	11.1	1.32	22.00	2.7	70	0.74	<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
	Mar 15	1958.33	15.60	1942.73	6.7	3.2	20.3	1.4	21.61	2.1	85	<0.50	<0.50	<0.50	<0.50
	Jun 15	1958.33	16.35	1941.98	7.0	3.2	31.3	1.0	24.29	2.0	40	<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
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
RUBY S. THOMAS ELEMENTARY SCHOOL
COMMANCHE DRIVE
ALGONQUIN DR.
GOLF COURSE
PUEBLO WAY
SOUTH EASTERN AVENUE
EMERSON AVENUE
PACIFIC STREET
MARIOPA WAY
SPENCER STREET
SPENCER STREET
CHEROKEE LN.
SENECA LN.
GERONIMO WAY
TIOGA WAY
OTTAWA DRIVE
OTTAWA DRIVE
E. TWAIN AVENUE
E. TWAIN AVENUE
ORR PARK
WILLIAM E. ORR MIDDLE SCHOOL
E. KATIE AVENUE
FLAMINGO WASH

MW-35 180
MW-14 1,900
MW-17 65
MW-7 17
MW-15 3.6
MW-6 3,400
MW-12 0.77
MW-13 1,700
MW-34 370
MW-21 11
MW-1 230
MW-14I 9,600
MW-20 680
MW-9 9.7
MW-19 930
MW-19I 1.9
MW-8 2.4
MW-3 13
MW-5 660
MW-16 <0.50
MW-2 550
MW-11 <0.50
MW-10 <0.50
MW-40 CMT

DEPTH	PCE
30	18
35	13
40	100
45	36
50	160
55	430
60	140

WELL	PCE
MW-20D1	340
MW-20D2	520
MW-20D3	<0.50

WELL	PCE
MW-6D1	0.52
MW-6D2	3.2
MW-6D3	32

MW-43 <0.50
MW-33 <0.50
MW-22 <0.50
MW-39 160
MW-18 1,200
MW-36 150
MW-32 730
MW-23 740
MW-25 640
MW-26 680
MW-27 450
MW-24 0.58
MW-28 0.69
MW-29 <0.50
MW-30 93
MW-31 73
MW-37 35
MW-41 3.6
MW-38 8.1
MW-42 0.74
PW-1
PW-2

WELL	PCE
MW-19D1	720
MW-19D2	73
MW-19D3	21

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

540 PCE, µg/L MARCH 2015 DATA
540 PCE, µg/L JUNE 2015 DATA
NS NOT SAMPLED

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

0 500 1000
SCALE, FT

PCE ISOCONCENTRATION MAP
JUNE 2 - JUNE 4, 2015
MARYLAND SQUARE SHOPPING CENTER
3661 S. MARYLAND PARKWAY
LAS VEGAS, NV

PROJECT NUMBER: Z085000030		DATE: 07/25/15	FIGURE 3
APPROVED BY: AS		DRAWN BY: TCC	

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

MW-35 NM
MW-14 NM
MW-20D NM
MW-40 CMT 1952.88
MW-7 NM
MW-15 NM
MW-14I 1967.90
MW-22 NM
MW-17 NM
MW-21 NM
MW-12 NM
MW-20 NM
MW-34 NM
MW-13 NM
MW-1 1971.56
MW-6 1968.16
MW-18 1949.86
MW-19 NM
MW-2 NM
MW-9 NM
MW-19D 1953.05
MW-19I 1952.51
MW-8 NM
MW-3 NM
MW-16 NM
MW-24 NM
MW-5 1969.09
MW-11 NM
MW-10 NM
MW-6D 1969.32
MW-39 NM
MW-23 NM
MW-25 NM
MW-26 NM
MW-27 NM
MW-33 NM
MW-36 NM
MW-32 NM
MW-30 NM
MW-31 NM
MW-37 NM
MW-28 NM
MW-29 NM
MW-41 1894.32
MW-38 1893.52
MW-42 1894.06
PW–1
PW–2

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

NM NOT MEASURED OR NO SURVEY DATA

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

0 500 1000

SCALE, FT

GROUNDWATER POTENTIOMETRIC MAP
JUNE 2 - JUNE 4, 2015
MARYLAND SQUARE SHOPPING CENTER
3661 S. MARYLAND PARKWAY
LAS VEGAS, NV

PROJECT NUMBER: Z085000030		DATE: 07/24/15	FIGURE 2
APPROVED BY: AS		DRAWN BY: TCC	

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

Maryland Square PCE Site

APPENDIX A

FIELD SHEETS

Cardno
Shaping the Future

Cardno ATC
Shaping the Future

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: JG MEASURING DEVICE: WLI

WEATHER CONDITIONS:

WELL ID	DATE	TIME	DEPTH TO GROUNDWATER (feet bTOC)	TOTAL DEPTH (feet bTOC)	COMMENTS
MW-1	6/4/15	1006	~~(illegible)~~ 20.45	~~20.45~~ 25.94	
MW-5	6/4/15	1052	19.60	28.81	
MW-6	6/4/15	1136	20.23	28.60	
MW-6D1	6/4/15	910	18.50	59.70	
MW-14I	6/4/15	1222	19.64	54.55	
MW-18	6/2/15	~~1304~~ 1254	13.04	20.38	
MW-19I	6/2	1200	25.86	54.25	
MW-19D1	6/3/15	944	26.20	49.21	
MW-19D2	6/3/15	822	27.15	70.24	
MW-19D3	6/3/15	858	25.50	—	
MW-20D2	6/4/15	919	26.47	65.70	
MW-38	06/02/15	933	14.86	34.55	
MW-40 CMT-30	6/3/15	1043	~~26~~ 25.61	29.82	
MW-40 CMT-45	6/3/15	1114	25.66	44.98	
MW-40 CMT-60	6/2/15	1155	25.60	59.87	
MW-41	06/02/15	853	14.57	35.27	H20 in vault
MW-42	06/02/15	810	16.25	34.97	
MW-43	06/02/15	1047	16.35	35.20	

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-1
Sample ID: MW-1
Date: 6/4/15

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:	25.94	feet	1Q15: 25.92	3" = 0.37 gal/lin ft.
Depth to Water:	20.45	feet	1Q15: 20.15	4" = 0.67 gal/lin ft.
Constructed Screen Interval	10	feet to	30 feet	
Approximate Pump Depth		Feet bgs	23 Feet btoc	

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.
.30	1018	27.06	3.644	2.350	1.97	7.21	138.1	clear, DTW 20.54, tub 22.8
.6	1023	27.02	3.609	2.380	1.59	7.19	131.2	clear, DTW 20.55 tub 30.2
.90	1029	27.01	3.623	2.382	1.40	7.18	124.2	clear, DTW 20.54 tub 29.4
1.20	1033	26.93	3.650	2.196	1.60	7.23	119.2	clear, DTW 20.61 tub 16.93

Total Water Volume Purged: 1.20 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: DUP

Well Security:

Locking cap?	X yes	no	Replaced? yes	X no	0.2 PID
Bolts secured?	X yes	no	Replaced? yes	X no	— Vacuum
Surface Seal?	X yes	no	Replaced? yes	X no	1040 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-5
Sample ID: MW-5
Date: 6/4/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 28.81 feet 1Q15: 28.89
Depth to Water: 19.60 feet 1Q15: 19.35
Constructed Screen Interval 10 feet to 32 feet
Approximate Pump Depth ____ Feet bgs 24 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.
.5	1103	25.91	1.817	1.180	3.99	7.22	126.5	clear, DTW 19.65, tub. 30.1
.75	1108	25.79	3.290	2.202	2.50	7.19	116.0	clear, DTW 19.66 tub. 27.6
1.0	1113	25.51	1.829	1.190	2.96	7.23	110.2	clear, DTW 19.64 tub 19.32
1.25	1118	25.60	3.402	2.211	2.51	7.21	106.0	clear, DTW 19.63 tub 11.97

Total Water Volume Purged: 1.25 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

29.9 PID
____ Vacuum
1125 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-6
Sample ID: MW-6
Date: 6/4/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 28.60 feet 1Q15: 28.55
Depth to Water: 20.23 feet 1Q15: 19.96
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	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	1150	28.10	3.226	2.099	2.71	7.41	89.4	clear, DTW 20.22, turb 98.2
.75	1155	26.70	3.261	2.119	2.02	7.12	92.9	clear, DTW 20.25, turb 75.3
1.0	1200	26.91	3.211	2.151	2.28	7.30	92.0	DTW 20.25, turb 20.4
1.25	1205	26.80	3.198	2.175	2.64	7.30	92.6	DTW 20.28, turb 14.31

Total Water Volume Purged: 1.25 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments: Field Blank 1215

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 0.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no ____ Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 1210 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-6D1
Sample ID: MW-6D1
Date: 6/4/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 59.70 feet 1Q15: 59.75
Depth to Water: 18.50 feet 1Q15: 15.41
Constructed Screen Interval 50 feet to 60 feet
Approximate Pump Depth ____ Feet bgs 55 Feet btoc

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

Comments: Previous inconsistent dtw readings

Purged (gal.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	~~830~~ 845	25.06	0.633	0.411	4.16	7.19	152.2	DTW 19.18, turb 242, clear, no odor
1.0	~~840~~ 850	24.94	0.645	0.419	3.45	7.05	152.6	DTW 19.79, turb 237, clear
1.5	~~845~~ 855	24.97	0.641	.417	3.24	7.00	155.1	DTW 19.90, turb 119
2.0	~~900~~ 900	25.02	0.347	0.225	3.17	7.17	122.0	DTW 20.12 49.1

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

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 0.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no ____ Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 905 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-14I
Sample ID: MW-14I
Date: 6/4/15

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

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 54.55 feet 1Q15: 54.65
Depth to Water: 19.64 feet 1Q15: 19.41
Constructed Screen Interval 40 feet to 55 feet
Approximate Pump Depth ____ Feet bgs 47.5 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.
.4	1233	28.01	1.288	0.837	2.45	7.62	89.5	clear DTW 19.72, turb. 7.21
.8	1238	28.84	1.285	0.835	2.52	7.58	83.2	DTW 19.69, turb 6.55
1.2	1243	28.98	1.286	0.836	2.40	7.54	82.5	DTW 19.70 turb 4.21
1.6	1248	28.07	1.300	.845	2.44	7.54	85.6	DTW 19.75 4.77 turb. ~~8.5~~ 8.5

Total Water Volume Purged: 1.6 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

139 PID
— Vacuum
1250 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-18
Sample ID: MW-18
Date: 6/2/15

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

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 20.38 feet 1Q15: 20.38
Depth to Water: 13.04 feet 1Q15:12.50
Constructed Screen Interval 5 feet to 26 feet
Approximate Pump Depth Feet bgs 17 Feet btoc

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

Comments: Well bottom is above screen interval

Purged (gal.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
~~.5~~ .75	1305	27.08	~~1.865~~ 1.529	2.230	2.801	7.27	445.6	clear DTW 13.09 turb. 56.2
~~1.0~~ 1.50	1310	27.28	3.428	2.230	2.44	7.30	441.0	DTW 13.01 turb. 59.3
~~1.5~~ 2.25	1315	26.94	3.432	2.231	2.11	7.25	440.2	DTW 13.01, turb. 3.60
~~2.0~~ 2.75	1320	26.97	3.439	2.231	2.11	7.26	443.0	DTW 13.10 turb. 3.27

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

Well Security:
Locking cap? X yes ___ no Replaced? ___ yes X no 3.7 PID
Bolts secured? X yes ___ no Replaced? ___ yes X no — Vacuum
Surface Seal? X yes ___ no Replaced? ___ yes X no 1325 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-19I
Sample ID: MW-19I
Date: 6/2

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

Casing Type: PVC
Casing Diameter: 4 inch
Depth to Well Bottom: 54.25 feet 1Q15: 54.24
Depth to Water: 25.86 feet 1Q15: 25.52
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	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	1205	29.27	3.290	2.138	2.70	7.37	601.9	color - ~~clear~~ turbid DTW - 25.95 tub. 20.9
1.0	1210	28.75	3.286	2.135	2.57	7.19	621.7	purple DTW 25.96, tub. 18.12
1.5	1215	29.72	3.285	2.134	2.40	7.19	629.0	DTW 25.99 tub. 15.66
2.0	1220	28.97	3.287	2.134	2.40	7.20	629.5	DTW 25.92 tub. 17.46

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

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 0.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no — Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 1225 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: TG

Well ID: MW-19D1
Sample ID: MW-19D1
Date: 6/2/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 49.21 feet 1Q15: 49.68
Depth to Water: 26.20 feet 1Q15: 25.74
Constructed Screen Interval 31 feet to 51 feet
Approximate Pump Depth Feet bgs 41 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.
.25	958	30.61	2.707	1.759	2.63	7.47	255.7	DTW 26.17, turb. 159
.5	1003	30.49	2.813	1.828	2.70	7.44	255.0	DTW 26.19, turb. 71.2
.75	1008	30.07	2.880	1.872	2.55	7.43	248.2	DTW 26.20, turb. 52.0
1.0	1013	28.78	2.954	1.920	2.62	7.40	242.3	DTW 26.24, turb 20.2

Total Water Volume Purged: 1.0 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? X yes ___ no Replaced? ___ yes X no 0.0 PID
Bolts secured? X yes ___ no Replaced? ___ yes X no — Vacuum
Surface Seal? X yes ___ no Replaced? ___ yes X no 1015 Sample Collection Time

DTW	MW-19D3	19D2
	26.05	25.40
	26.38	26.37
	26.60	26.36
	26.05	26.35

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-19D2
Sample ID: MW-19D2
Date: 6/3/15

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 feet 1Q15: 70.25
Depth to Water: 27.15 feet 1Q15: 26.88
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	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	833	29.97	2.185	1.420	1.06	7.29	266.3	DTW 28.42, turb. 12.45, clear
1.0	838	25.94	2.153	1.400	0.69	7.21	378.3	DTW 29.74, turb. 12.56
1.5	843	25.79	2.145	1.395	0.46	7.19	378.6	DTW 30.62 turb. 8.26
2.0	848	25.77	2.155	1.402	0.44	7.20	381.4	31.55, turb. 7.33

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

Well Security:
Locking cap? X yes ___ no Replaced? ___ yes X no 0.0 PID
Bolts secured? X yes ___ no Replaced? ___ yes X no — Vacuum
Surface Seal? X yes ___ no Replaced? ___ yes X no 850 Sample Collection Time

MW 1903 1901
26.02 26.20
25.05 26.18
25.74 26.18
25.65 26.18

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-19D3
Sample ID: MW-19D3
Date: 6/2/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: — feet
Depth to Water: 25.50 feet 1Q15:24.12
Constructed Screen Interval 92 feet to 102 feet
Approximate Pump Depth ____ Feet bgs 97 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.
.25	920	29.02	0.576	0.374	3.56	7.79	241.2	DTW 25.70, turb. 54.5
.5	925	27.67	0.574	0.373	3.19	7.63	268.4	DTW 26.19, turb. 42.1
.75	930	27.81	0.573	0.373	3.20	7.58	272.1	DTW 27.12, turb. 50.1
1.0	935	28.40	0.572	0.372	3.23	7.60	269.3	DTW 27.25, turb. 26.5

Total Water Volume Purged: 1.0 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? X yes ___ no — Replaced? ___ yes X no — 0.0 PID
Bolts secured? X yes ___ no — Replaced? ___ yes X no — — Vacuum
Surface Seal? X yes ___ no — Replaced? ___ yes X no — 940 Sample Collection Time

DTW	MW-19D2	MW-19D1
	27.76	26.17
	27.40	26.20
	27.04	26.19
	26.82	26.19

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-20D2
Sample ID: MW-20D2
Date: 6/4/15

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:	65.70	feet	1Q15: 65.78	3" = 0.37 gal/lin ft.
Depth to Water:	26.47	feet	1Q15: 25.95	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	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	930	26.96	2.798	1.382	0.32	7.48	125.1	clear, DTW 26.69, TWD 36.5
.75	935	27.05	2.615	1.714	7.74	7.48	126.9	clear, DTW 27.20, tubb 30.0
1.0	940	26.91	2.317	1.550	7.14	7.49	127.3	clear, DTW 27.40 tubb 19.31
1.25	945	27.12	2.230	1.450	6.61	7.49	126.5	clear, DTW 27.40 tubb 15.0

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

Well Security:

Locking cap?	X yes ___ no	Replaced? ___ yes	X no	0.0	PID
Bolts secured?	X yes ___ no	Replaced? ___ yes	X no	___	Vacuum
Surface Seal?	X yes ___ no	Replaced? ___ yes	X no	950	Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-38
Sample ID: MW-38
Date: 06/02/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 34.55 feet 1Q15: 34.56
Depth to Water: 14.86 feet 1Q15: 14.75
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:

Purged (gal.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	945	22.94	3.940	2.559	4.72	7.17	71.6	clear, DTW 14.85, turb. 8.11
1.0	950	22.88	3.924	2.550	2.13	7.11	61.9	clear, DTW 14.86, turb. 10.16
1.5	955	22.92	3.922	2.548	2.05	7.09	56.6	clear, DTW 14.86 turb. 5.61
2.0	1000	22.85	3.918	2.548	2.04	7.08	50.3	clear, DTW 14.85 turb. 4.5

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

Well Security:
Locking cap? X yes ___ no Replaced? ___ yes X no 0.0 PID
Bolts secured? ___ yes X no Replaced? ___ yes X no — Vacuum
Surface Seal? X yes ___ no Replaced? ___ yes X no 1005 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-40 CMT 30
Sample ID: MW-40 CMT 30
Date: 6/3/15

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

Casing Type: PVC
Casing Diameter: ____ inch
Depth to Well Bottom: 29.92 feet 1Q15: 29.80
Depth to Water: 25.61 feet 1Q15 25.19
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.)	Time	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
	1057	33.96	3.549	2.367	3.85	8.65	76.3	turbidity - 10.21, clear
	1102	33.05	3.556	2.303	2.97	8.47	140.2	turb. - 10.76, clear
	1107	32.92	3.544	2.300	2.95	8.35	162.6	turb. - 8.12
	1112	32.99	3.520	2.299	2.91	8.45	164.0	turb. - 6.12, clear

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

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 0.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no ____ Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 1110 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-40 CMT 45
Sample ID: MW-40 CMT 45
Date: 6/9/15

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 1Q15: 45.00
Depth to Water: 25.66 feet 1Q15: 25.12
Constructed Screen Interval 45 feet to 45.6 feet
Approximate Pump Depth ____ Feet bgs 45 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.
	1129	33.61	0.625	0.406	3.41	8.96	-170.9	turb. bly - 95.8
	1133	32.97	0.744	0.484	2.83	8.31	-179.9	turb / 113
	1137	32.79	1.263	0.823	2.74	8.10	-183.1	turb. - 41.0
	1141	33.49	1.831	1.188	2.86	8.19	-169.7	turb. 25.4

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

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 0.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no ____ Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 1145 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-40 CMT 60
Sample ID: MW-40 CMT 60
Date: 6/3/15

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

Casing Type: PVC
Casing Diameter: ____ inch
Depth to Well Bottom: 59.87 feet 1Q15: 59.93
Depth to Water: 25.60 feet 1Q15: 25.17
Constructed Screen Interval 60 feet to 60.6 feet
Approximate Pump Depth ____ Feet bgs 59.5 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.
	1245	33.92	3.019	1.962	5.17	8.45	-246.0	turb. 18.16
	1249	32.82	2.953	1.919	3.43	7.12	-207.0	turb. 10.71
	1253	32.82	2.954	1.920	3.50	7.94	-163.0	turb. 10.20
	1257	34.58	2.964	1.928	3.50	7.94	-112.4	turb. 7.16

Total Water Volume Purged: NA 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

0.0 PID
— Vacuum
1315 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-41
Sample ID: MW-41
Date: 06/02/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 35.27 feet 1Q15: 35.27
Depth to Water: 14.57 feet 1Q15: 14.85
Constructed Screen Interval 10 feet to 35 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	Temp. (°C)	Conductance (mS/cm)	TDS (g/L)	DO (mg/L)	pH (SU)	ORP (mV)	Water Description: Color, Turbidity, Sheen, Etc.
.5	905	24.28	3.653	2.375	0.96	7.16	65.1	clear, DTW 14.55, tub. 81.4
1.0	910	23.01	3.659	2.376	1.29	7.09	66.1	clear, DTW 14.57, tub 53.4
1.5	915	24.00	~~3.593~~	2.271	1.03	7.07	59.9	clear, DTW 14.57, tub 39.7
2.0	920	23.92	3.632	2.362	0.67	7.03	65.9	clear, DTW 14.55, tub. 34.5

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

Well Security:
Locking cap? X yes ___ no Replaced? ___ yes X no 0.0 PID
Bolts secured? X yes ___ no Replaced? ___ yes X no — Vacuum
Surface Seal? X yes ___ no Replaced? ___ yes X no 925 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: JG

Well ID: MW-42
Sample ID: MW-42
Date: 06/02/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 34.97 feet 1Q15: 35.20
Depth to Water: 16.25 feet 1Q15: 16.12
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.
.5	820	22.44	4.107	2.669	1.71	6.99	71.2	clear, turb. 89.2
1.0	825	22.16	1.119	2.675	1.46	6.82	73.7	clear, turb. 32.6
1.5	830	22.17	1.109	2.671	1.34	6.79	73.7	clear, turb. 13.08
2.0	835	22.0	4.119	2.677	1.32	6.78	70.2	clear, turb. 11.1

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

Well Security:
Locking cap? X yes ____ no Replaced? ____ yes X no 0.0 PID
Bolts secured? X yes ____ no Replaced? ____ yes X no ____ Vacuum
Surface Seal? X yes ____ no Replaced? ____ yes X no 840 Sample Collection Time

GROUNDWATER COLLECTION LOG

CARDNO
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: EG

Well ID: MW-43
Sample ID: MW-43
Date: 06/02/15

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

Casing Type: PVC
Casing Diameter: 2 inch
Depth to Well Bottom: 35.20 feet 1Q15: 34.90
Depth to Water: 16.35 feet 1Q15: 15.60
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.
.40	1100	25.70	3.137	2.054	3.85	7.13	96.5	DTW - 16.40 turb. 219
.80	1105	24.68	3.195	2.065	1.10	7.07	74.3	DTW. 16.41, turb: 128
1.20	1110	24.43	3.179	2.069	1.05	7.04	55.5	DTW 16.47 turb. 55.7
1.60	1115	24.29	3.190	2.026	0.99	7.04	40.2	DTW 16.50 turb 31.3

Total Water Volume Purged: 1.60 Gallons = N/A Well Volumes
Purged Dry (Y/N): N
Comments:

Well Security:
Locking cap? X yes ___ no Replaced? ___ yes X no 0.1 PID
Bolts secured? X yes ___ no Replaced? ___ yes X no — Vacuum
Surface Seal? X yes ___ no Replaced? ___ yes X no 1120 Sample Collection Time

Maryland Square PCE Site

APPENDIX B

LABORATORY ANALYTICAL REPORTS

Cardno
Shaping the Future

June 15, 2015

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.: N015905

RE: Maryland Square, Z085000030

Attention: Andrew Stuart

Enclosed are the results for sample(s) received on June 04, 2015 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 Litucas for

Glen Gesmundo
QA Manager

CLIENT: Cardno ATC
Project: Maryland Square, Z085000030
Lab Order: N015905

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 N015905-010 (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.

ASSET Laboratories

Date: *15-Jun-15*

CLIENT: Cardno ATC
Project: Maryland Square, Z085000030
Lab Order: N015905
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N015905-001A	MW-1	Groundwater	6/4/2015 10:40:00 AM	6/4/2015	6/15/2015
N015905-002A	MW-5	Groundwater	6/4/2015 11:25:00 AM	6/4/2015	6/15/2015
N015905-003A	MW-6	Groundwater	6/4/2015 12:10:00 PM	6/4/2015	6/15/2015
N015905-004A	MW-18	Groundwater	6/2/2015 1:25:00 PM	6/4/2015	6/15/2015
N015905-005A	MW-38	Groundwater	6/2/2015 10:05:00 AM	6/4/2015	6/15/2015
N015905-006A	MW-41	Groundwater	6/2/2015 9:25:00 AM	6/4/2015	6/15/2015
N015905-007A	MW-42	Groundwater	6/2/2015 8:40:00 AM	6/4/2015	6/15/2015
N015905-008A	MW-43	Groundwater	6/2/2015 11:20:00 AM	6/4/2015	6/15/2015
N015905-009A	MW-14I	Groundwater	6/4/2015 12:50:00 PM	6/4/2015	6/15/2015
N015905-010A	MW-19I	Groundwater	6/2/2015 12:25:00 PM	6/4/2015	6/15/2015
N015905-010B	MW-19I	Groundwater	6/2/2015 12:25:00 PM	6/4/2015	6/15/2015
N015905-010C	MW-19I	Groundwater	6/2/2015 12:25:00 PM	6/4/2015	6/15/2015
N015905-011A	MW-6D1	Groundwater	6/4/2015 9:05:00 AM	6/4/2015	6/15/2015
N015905-012A	MW-19D1	Groundwater	6/3/2015 10:15:00 AM	6/4/2015	6/15/2015
N015905-013A	MW-19D2	Groundwater	6/3/2015 8:50:00 AM	6/4/2015	6/15/2015
N015905-014A	MW-19D3	Groundwater	6/3/2015 9:40:00 AM	6/4/2015	6/15/2015
N015905-015A	MW-20D2	Groundwater	6/4/2015 9:50:00 AM	6/4/2015	6/15/2015
N015905-016A	MW-40 CMT30	Groundwater	6/3/2015 11:10:00 AM	6/4/2015	6/15/2015
N015905-017A	MW-40 CMT45	Groundwater	6/3/2015 11:45:00 AM	6/4/2015	6/15/2015
N015905-018A	MW-40 CMT60	Groundwater	6/3/2015 1:15:00 PM	6/4/2015	6/15/2015
N015905-018B	MW-40 CMT60	Groundwater	6/3/2015 1:15:00 PM	6/4/2015	6/15/2015
N015905-018C	MW-40 CMT60	Groundwater	6/3/2015 1:15:00 PM	6/4/2015	6/15/2015
N015905-019A	Field Blank	Groundwater	6/4/2015 12:15:00 PM	6/4/2015	6/15/2015
N015905-020A	Trip Blank 060415	Groundwater	6/4/2015 6:45:00 AM	6/4/2015	6/15/2015
N015905-021A	MW-1 DUP	Groundwater	6/4/2015 10:40:00 AM	6/4/2015	6/15/2015
N015905-022A	Equipment Rinse 060415	Groundwater	6/4/2015 1:25:00 PM	6/4/2015	6/15/2015

CLIENT: Cardno ATC
Lab Order: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-001

Client Sample ID: MW-1
Collection Date: 6/4/2015 10:40:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 02:41 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 02:41 AM
Tetrachloroethene	230	1.6	5.0		µg/L	10	6/10/2015 07:53 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 02:41 AM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/9/2015 02:41 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 02:41 AM
Surr: 1,2-Dichloroethane-d4	90.4	0	78-125		%REC	10	6/10/2015 07:53 PM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/9/2015 02:41 AM
Surr: 4-Bromofluorobenzene	99.7	0	80-120		%REC	10	6/10/2015 07:53 PM
Surr: 4-Bromofluorobenzene	98.0	0	80-120		%REC	1	6/9/2015 02:41 AM
Surr: Dibromofluoromethane	93.4	0	80-122		%REC	10	6/10/2015 07:53 PM
Surr: Dibromofluoromethane	99.2	0	80-122		%REC	1	6/9/2015 02:41 AM
Surr: Toluene-d8	98.9	0	80-120		%REC	10	6/10/2015 07:53 PM
Surr: Toluene-d8	99.2	0	80-120		%REC	1	6/9/2015 02:41 AM

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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-002

Client Sample ID: MW-5
Collection Date: 6/4/2015 11:25:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 03:56 AM
cis-1,2-Dichloroethene	0.95	0.051	0.50		µg/L	1	6/9/2015 03:56 AM
Tetrachloroethene	660	3.3	10		µg/L	20	6/10/2015 08:17 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 03:56 AM
Trichloroethene	3.0	0.12	0.50		µg/L	1	6/9/2015 03:56 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 03:56 AM
Surr: 1,2-Dichloroethane-d4	88.3	0	78-125		%REC	20	6/10/2015 08:17 PM
Surr: 1,2-Dichloroethane-d4	99.3	0	78-125		%REC	1	6/9/2015 03:56 AM
Surr: 4-Bromofluorobenzene	98.8	0	80-120		%REC	20	6/10/2015 08:17 PM
Surr: 4-Bromofluorobenzene	96.5	0	80-120		%REC	1	6/9/2015 03:56 AM
Surr: Dibromofluoromethane	90.7	0	80-122		%REC	20	6/10/2015 08:17 PM
Surr: Dibromofluoromethane	96.6	0	80-122		%REC	1	6/9/2015 03:56 AM
Surr: Toluene-d8	99.9	0	80-120		%REC	20	6/10/2015 08:17 PM
Surr: Toluene-d8	98.6	0	80-120		%REC	1	6/9/2015 03:56 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-003

Client Sample ID: MW-6
Collection Date: 6/4/2015 12:10:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150609A** QC Batch: **P15VW091** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 08:59 PM
cis-1,2-Dichloroethene	2.1	0.051	0.50		µg/L	1	6/9/2015 08:59 PM
Tetrachloroethene	3400	16	50		µg/L	100	6/10/2015 08:42 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 08:59 PM
Trichloroethene	10	0.12	0.50		µg/L	1	6/9/2015 08:59 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 08:59 PM
Surr: 1,2-Dichloroethane-d4	88.3	0	78-125		%REC	100	6/10/2015 08:42 PM
Surr: 1,2-Dichloroethane-d4	96.2	0	78-125		%REC	1	6/9/2015 08:59 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	100	6/10/2015 08:42 PM
Surr: 4-Bromofluorobenzene	95.0	0	80-120		%REC	1	6/9/2015 08:59 PM
Surr: Dibromofluoromethane	91.2	0	80-122		%REC	100	6/10/2015 08:42 PM
Surr: Dibromofluoromethane	96.2	0	80-122		%REC	1	6/9/2015 08:59 PM
Surr: Toluene-d8	98.5	0	80-120		%REC	100	6/10/2015 08:42 PM
Surr: Toluene-d8	97.3	0	80-120		%REC	1	6/9/2015 08:59 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-004

Client Sample ID: MW-18
Collection Date: 6/2/2015 1:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_150608A**	QC Batch: **P15VW090**				PrepDate		Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 04:21 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 04:21 AM
Tetrachloroethene	1200	8.2	25		µg/L	50	6/10/2015 09:06 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 04:21 AM
Trichloroethene	2.4	0.12	0.50		µg/L	1	6/9/2015 04:21 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 04:21 AM
Surr: 1,2-Dichloroethane-d4	88.0	0	78-125		%REC	50	6/10/2015 09:06 PM
Surr: 1,2-Dichloroethane-d4	98.3	0	78-125		%REC	1	6/9/2015 04:21 AM
Surr: 4-Bromofluorobenzene	97.4	0	80-120		%REC	50	6/10/2015 09:06 PM
Surr: 4-Bromofluorobenzene	95.9	0	80-120		%REC	1	6/9/2015 04:21 AM
Surr: Dibromofluoromethane	90.9	0	80-122		%REC	50	6/10/2015 09:06 PM
Surr: Dibromofluoromethane	97.0	0	80-122		%REC	1	6/9/2015 04:21 AM
Surr: Toluene-d8	98.9	0	80-120		%REC	50	6/10/2015 09:06 PM
Surr: Toluene-d8	98.1	0	80-120		%REC	1	6/9/2015 04:21 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-005

Client Sample ID: MW-38
Collection Date: 6/2/2015 10:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_150608A**	QC Batch: **P15VW090**				PrepDate		Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 11:47 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 11:47 PM
Tetrachloroethene	8.1	0.16	0.50		µg/L	1	6/8/2015 11:47 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 11:47 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 11:47 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 11:47 PM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/8/2015 11:47 PM
Surr: 4-Bromofluorobenzene	96.2	0	80-120		%REC	1	6/8/2015 11:47 PM
Surr: Dibromofluoromethane	101	0	80-122		%REC	1	6/8/2015 11:47 PM
Surr: Toluene-d8	99.4	0	80-120		%REC	1	6/8/2015 11:47 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-006

Client Sample ID: MW-41
Collection Date: 6/2/2015 9:25:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 10:58 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 10:58 PM
Tetrachloroethene	3.6	0.16	0.50		µg/L	1	6/8/2015 10:58 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 10:58 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 10:58 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 10:58 PM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/8/2015 10:58 PM
Surr: 4-Bromofluorobenzene	98.4	0	80-120		%REC	1	6/8/2015 10:58 PM
Surr: Dibromofluoromethane	100	0	80-122		%REC	1	6/8/2015 10:58 PM
Surr: Toluene-d8	100	0	80-120		%REC	1	6/8/2015 10:58 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-007

Client Sample ID: MW-42
Collection Date: 6/2/2015 8:40:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 10:33 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 10:33 PM
Tetrachloroethene	0.74	0.16	0.50		µg/L	1	6/8/2015 10:33 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 10:33 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 10:33 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 10:33 PM
Surr: 1,2-Dichloroethane-d4	103	0	78-125		%REC	1	6/8/2015 10:33 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	6/8/2015 10:33 PM
Surr: Dibromofluoromethane	101	0	80-122		%REC	1	6/8/2015 10:33 PM
Surr: Toluene-d8	100	0	80-120		%REC	1	6/8/2015 10:33 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-008

Client Sample ID: MW-43
Collection Date: 6/2/2015 11:20:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 09:43 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 09:43 PM
Tetrachloroethene	ND	0.16	0.50		µg/L	1	6/8/2015 09:43 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 09:43 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 09:43 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 09:43 PM
Surr: 1,2-Dichloroethane-d4	104	0	78-125		%REC	1	6/8/2015 09:43 PM
Surr: 4-Bromofluorobenzene	99.1	0	80-120		%REC	1	6/8/2015 09:43 PM
Surr: Dibromofluoromethane	103	0	80-122		%REC	1	6/8/2015 09:43 PM
Surr: Toluene-d8	101	0	80-120		%REC	1	6/8/2015 09:43 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-009

Client Sample ID: MW-14I
Collection Date: 6/4/2015 12:50:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150609A** QC Batch: **P15VW091** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.44	2.5		µg/L	5	6/9/2015 09:24 PM
cis-1,2-Dichloroethene	11	0.26	2.5		µg/L	5	6/9/2015 09:24 PM
Tetrachloroethene	9600	33	100		µg/L	200	6/10/2015 09:31 PM
trans-1,2-Dichloroethene	ND	0.35	2.5		µg/L	5	6/9/2015 09:24 PM
Trichloroethene	25	0.62	2.5		µg/L	5	6/9/2015 09:24 PM
Vinyl chloride	ND	0.48	2.5		µg/L	5	6/9/2015 09:24 PM
Surr: 1,2-Dichloroethane-d4	86.8	0	78-125		%REC	200	6/10/2015 09:31 PM
Surr: 1,2-Dichloroethane-d4	96.1	0	78-125		%REC	5	6/9/2015 09:24 PM
Surr: 4-Bromofluorobenzene	97.6	0	80-120		%REC	200	6/10/2015 09:31 PM
Surr: 4-Bromofluorobenzene	94.6	0	80-120		%REC	5	6/9/2015 09:24 PM
Surr: Dibromofluoromethane	87.8	0	80-122		%REC	200	6/10/2015 09:31 PM
Surr: Dibromofluoromethane	96.2	0	80-122		%REC	5	6/9/2015 09:24 PM
Surr: Toluene-d8	98.3	0	80-120		%REC	200	6/10/2015 09:31 PM
Surr: Toluene-d8	99.0	0	80-120		%REC	5	6/9/2015 09:24 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-010

Client Sample ID: MW-19I
Collection Date: 6/2/2015 12:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 10:08 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 10:08 PM
Tetrachloroethene	1.9	0.16	0.50		µg/L	1	6/8/2015 10:08 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 10:08 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 10:08 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 10:08 PM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/8/2015 10:08 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	6/8/2015 10:08 PM
Surr: Dibromofluoromethane	102	0	80-122		%REC	1	6/8/2015 10:08 PM
Surr: Toluene-d8	93.8	0	80-120		%REC	1	6/8/2015 10:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_150610A**	QC Batch: **50632**			PrepDate	**6/9/2015**		Analyst: **CEI**
Arsenic	0.69	0.016	0.10		µg/L	1	6/10/2015 04:13 PM
Chromium	140	0.086	1.0		µg/L	1	6/10/2015 04:13 PM
Manganese	25000	5.7	120		µg/L	250	6/11/2015 11:56 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-011

Client Sample ID: MW-6D1
Collection Date: 6/4/2015 9:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**			
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 11:22 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 11:22 PM
Tetrachloroethene	0.52	0.16	0.50		µg/L	1	6/8/2015 11:22 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 11:22 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 11:22 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 11:22 PM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/8/2015 11:22 PM
Surr: 4-Bromofluorobenzene	98.4	0	80-120		%REC	1	6/8/2015 11:22 PM
Surr: Dibromofluoromethane	101	0	80-122		%REC	1	6/8/2015 11:22 PM
Surr: Toluene-d8	101	0	80-120		%REC	1	6/8/2015 11:22 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-012

Client Sample ID: MW-19D1
Collection Date: 6/3/2015 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_150608A**	QC Batch: **P15VW090**				PrepDate		Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 02:16 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 02:16 AM
Tetrachloroethene	720	3.3	10		µg/L	20	6/10/2015 09:56 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 02:16 AM
Trichloroethene	4.6	0.12	0.50		µg/L	1	6/9/2015 02:16 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 02:16 AM
Surr: 1,2-Dichloroethane-d4	87.4	0	78-125		%REC	20	6/10/2015 09:56 PM
Surr: 1,2-Dichloroethane-d4	97.8	0	78-125		%REC	1	6/9/2015 02:16 AM
Surr: 4-Bromofluorobenzene	99.5	0	80-120		%REC	20	6/10/2015 09:56 PM
Surr: 4-Bromofluorobenzene	97.8	0	80-120		%REC	1	6/9/2015 02:16 AM
Surr: Dibromofluoromethane	90.4	0	80-122		%REC	20	6/10/2015 09:56 PM
Surr: Dibromofluoromethane	98.6	0	80-122		%REC	1	6/9/2015 02:16 AM
Surr: Toluene-d8	97.9	0	80-120		%REC	20	6/10/2015 09:56 PM
Surr: Toluene-d8	99.2	0	80-120		%REC	1	6/9/2015 02:16 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-013

Client Sample ID: MW-19D2
Collection Date: 6/3/2015 8:50:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 01:01 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 01:01 AM
Tetrachloroethene	73	0.16	0.50		µg/L	1	6/9/2015 01:01 AM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 01:01 AM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/9/2015 01:01 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 01:01 AM
Surr: 1,2-Dichloroethane-d4	102	0	78-125		%REC	1	6/9/2015 01:01 AM
Surr: 4-Bromofluorobenzene	97.4	0	80-120		%REC	1	6/9/2015 01:01 AM
Surr: Dibromofluoromethane	99.6	0	80-122		%REC	1	6/9/2015 01:01 AM
Surr: Toluene-d8	99.5	0	80-120		%REC	1	6/9/2015 01:01 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-014

Client Sample ID: MW-19D3
Collection Date: 6/3/2015 9:40:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 12:37 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 12:37 AM
Tetrachloroethene	21	0.16	0.50		µg/L	1	6/9/2015 12:37 AM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 12:37 AM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/9/2015 12:37 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 12:37 AM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/9/2015 12:37 AM
Surr: 4-Bromofluorobenzene	97.8	0	80-120		%REC	1	6/9/2015 12:37 AM
Surr: Dibromofluoromethane	99.3	0	80-122		%REC	1	6/9/2015 12:37 AM
Surr: Toluene-d8	99.5	0	80-120		%REC	1	6/9/2015 12:37 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-015

Client Sample ID: MW-20D2
Collection Date: 6/4/2015 9:50:00 AM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 03:31 AM
cis-1,2-Dichloroethene	1.0	0.051	0.50		µg/L	1	6/9/2015 03:31 AM
Tetrachloroethene	520	3.3	10		µg/L	20	6/10/2015 10:21 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 03:31 AM
Trichloroethene	2.6	0.12	0.50		µg/L	1	6/9/2015 03:31 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 03:31 AM
Surr: 1,2-Dichloroethane-d4	87.3	0	78-125		%REC	20	6/10/2015 10:21 PM
Surr: 1,2-Dichloroethane-d4	98.0	0	78-125		%REC	1	6/9/2015 03:31 AM
Surr: 4-Bromofluorobenzene	98.2	0	80-120		%REC	20	6/10/2015 10:21 PM
Surr: 4-Bromofluorobenzene	98.3	0	80-120		%REC	1	6/9/2015 03:31 AM
Surr: Dibromofluoromethane	87.7	0	80-122		%REC	20	6/10/2015 10:21 PM
Surr: Dibromofluoromethane	97.1	0	80-122		%REC	1	6/9/2015 03:31 AM
Surr: Toluene-d8	97.6	0	80-120		%REC	20	6/10/2015 10:21 PM
Surr: Toluene-d8	101	0	80-120		%REC	1	6/9/2015 03:31 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-016

Client Sample ID: MW-40 CMT30
Collection Date: 6/3/2015 11:10:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**			
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 12:12 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 12:12 AM
Tetrachloroethene	18	0.16	0.50		µg/L	1	6/9/2015 12:12 AM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 12:12 AM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/9/2015 12:12 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 12:12 AM
Surr: 1,2-Dichloroethane-d4	99.3	0	78-125		%REC	1	6/9/2015 12:12 AM
Surr: 4-Bromofluorobenzene	97.2	0	80-120		%REC	1	6/9/2015 12:12 AM
Surr: Dibromofluoromethane	97.4	0	80-122		%REC	1	6/9/2015 12:12 AM
Surr: Toluene-d8	99.2	0	80-120		%REC	1	6/9/2015 12:12 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-017

Client Sample ID: MW-40 CMT45
Collection Date: 6/3/2015 11:45:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**			
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 01:26 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 01:26 AM
Tetrachloroethene	36	0.16	0.50		µg/L	1	6/9/2015 01:26 AM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 01:26 AM
Trichloroethene	1.9	0.12	0.50		µg/L	1	6/9/2015 01:26 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 01:26 AM
Surr: 1,2-Dichloroethane-d4	101	0	78-125		%REC	1	6/9/2015 01:26 AM
Surr: 4-Bromofluorobenzene	97.8	0	80-120		%REC	1	6/9/2015 01:26 AM
Surr: Dibromofluoromethane	102	0	80-122		%REC	1	6/9/2015 01:26 AM
Surr: Toluene-d8	99.9	0	80-120		%REC	1	6/9/2015 01:26 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-018

Client Sample ID: MW-40 CMT60
Collection Date: 6/3/2015 1:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 01:51 AM
cis-1,2-Dichloroethene	1.9	0.051	0.50		µg/L	1	6/9/2015 01:51 AM
Tetrachloroethene	140	0.82	2.5		µg/L	5	6/10/2015 10:46 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 01:51 AM
Trichloroethene	7.2	0.12	0.50		µg/L	1	6/9/2015 01:51 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 01:51 AM
Surr: 1,2-Dichloroethane-d4	88.9	0	78-125		%REC	5	6/10/2015 10:46 PM
Surr: 1,2-Dichloroethane-d4	97.4	0	78-125		%REC	1	6/9/2015 01:51 AM
Surr: 4-Bromofluorobenzene	97.0	0	80-120		%REC	1	6/9/2015 01:51 AM
Surr: 4-Bromofluorobenzene	98.3	0	80-120		%REC	5	6/10/2015 10:46 PM
Surr: Dibromofluoromethane	97.0	0	80-122		%REC	1	6/9/2015 01:51 AM
Surr: Dibromofluoromethane	89.5	0	80-122		%REC	5	6/10/2015 10:46 PM
Surr: Toluene-d8	98.7	0	80-120		%REC	5	6/10/2015 10:46 PM
Surr: Toluene-d8	99.2	0	80-120		%REC	1	6/9/2015 01:51 AM
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_150606A**	QC Batch: **R100716**			PrepDate			Analyst: **RB**
Hexavalent Chromium	80	0.15	2.0		µg/L	10	6/6/2015 10:40 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_150610A**	QC Batch: **50632**			PrepDate	**6/9/2015**		Analyst: **CEI**
Arsenic	1.1	0.016	0.10		µg/L	1	6/10/2015 04:18 PM
Chromium	88	0.086	1.0		µg/L	1	6/10/2015 04:18 PM
Manganese	69	0.023	0.50		µg/L	1	6/10/2015 04:18 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-019

Client Sample ID: Field Blank
Collection Date: 6/4/2015 12:15:00 PM
Matrix: GROUNDWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **MS5_150608A** QC Batch: **P15VW090** PrepDate Analyst: **QBM**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 08:30 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 08:30 PM
Tetrachloroethene	ND	0.16	0.50		µg/L	1	6/8/2015 08:30 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 08:30 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 08:30 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 08:30 PM
Surr: 1,2-Dichloroethane-d4	104	0	78-125		%REC	1	6/8/2015 08:30 PM
Surr: 4-Bromofluorobenzene	101	0	80-120		%REC	1	6/8/2015 08:30 PM
Surr: Dibromofluoromethane	104	0	80-122		%REC	1	6/8/2015 08:30 PM
Surr: Toluene-d8	103	0	80-120		%REC	1	6/8/2015 08:30 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-020

Client Sample ID: Trip Blank 060415
Collection Date: 6/4/2015 6:45:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**			
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 08:54 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 08:54 PM
Tetrachloroethene	ND	0.16	0.50		µg/L	1	6/8/2015 08:54 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 08:54 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 08:54 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 08:54 PM
Surr: 1,2-Dichloroethane-d4	102	0	78-125		%REC	1	6/8/2015 08:54 PM
Surr: 4-Bromofluorobenzene	98.4	0	80-120		%REC	1	6/8/2015 08:54 PM
Surr: Dibromofluoromethane	102	0	80-122		%REC	1	6/8/2015 08:54 PM
Surr: Toluene-d8	100	0	80-120		%REC	1	6/8/2015 08:54 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-021

Client Sample ID: MW-1 DUP
Collection Date: 6/4/2015 10:40:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**			
RunID: **MS5_150608A**	QC Batch: **P15VW090**			PrepDate			Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/9/2015 03:06 AM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/9/2015 03:06 AM
Tetrachloroethene	220	1.6	5.0		µg/L	10	6/10/2015 11:10 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/9/2015 03:06 AM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/9/2015 03:06 AM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/9/2015 03:06 AM
Surr: 1,2-Dichloroethane-d4	86.9	0	78-125		%REC	10	6/10/2015 11:10 PM
Surr: 1,2-Dichloroethane-d4	100	0	78-125		%REC	1	6/9/2015 03:06 AM
Surr: 4-Bromofluorobenzene	98.2	0	80-120		%REC	10	6/10/2015 11:10 PM
Surr: 4-Bromofluorobenzene	97.2	0	80-120		%REC	1	6/9/2015 03:06 AM
Surr: Dibromofluoromethane	88.2	0	80-122		%REC	10	6/10/2015 11:10 PM
Surr: Dibromofluoromethane	99.7	0	80-122		%REC	1	6/9/2015 03:06 AM
Surr: Toluene-d8	96.7	0	80-120		%REC	10	6/10/2015 11:10 PM
Surr: Toluene-d8	99.3	0	80-120		%REC	1	6/9/2015 03:06 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: N015905
Project: Maryland Square, Z085000030
Lab ID: N015905-022

Client Sample ID: Equipment Rinse 060415
Collection Date: 6/4/2015 1:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS			**EPA 8260B**				
RunID: **MS5_150608A**	QC Batch: **P15VW090**				PrepDate		Analyst: **QBM**
1,1-Dichloroethene	ND	0.087	0.50		µg/L	1	6/8/2015 09:19 PM
cis-1,2-Dichloroethene	ND	0.051	0.50		µg/L	1	6/8/2015 09:19 PM
Tetrachloroethene	ND	0.16	0.50		µg/L	1	6/8/2015 09:19 PM
trans-1,2-Dichloroethene	ND	0.070	0.50		µg/L	1	6/8/2015 09:19 PM
Trichloroethene	ND	0.12	0.50		µg/L	1	6/8/2015 09:19 PM
Vinyl chloride	ND	0.095	0.50		µg/L	1	6/8/2015 09:19 PM
Surr: 1,2-Dichloroethane-d4	104	0	78-125		%REC	1	6/8/2015 09:19 PM
Surr: 4-Bromofluorobenzene	99.9	0	80-120		%REC	1	6/8/2015 09:19 PM
Surr: Dibromofluoromethane	102	0	80-122		%REC	1	6/8/2015 09:19 PM
Surr: Toluene-d8	101	0	80-120		%REC	1	6/8/2015 09:19 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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_W

Sample ID **MB-R100716**	SampType: **MBLK**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **100716**
Client ID: **PBW**	Batch ID: **R100716**	TestNo: **EPA 218.6**		Analysis Date: **6/6/2015**	SeqNo: **2018740**

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-R100716**	SampType: **LCS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **100716**
Client ID: **LCSW**	Batch ID: **R100716**	TestNo: **EPA 218.6**		Analysis Date: **6/6/2015**	SeqNo: **2018741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.003	0.20	5.000	0	100	90	110				

Sample ID **N015915-005ADUP**	SampType: **DUP**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **100716**
Client ID: **ZZZZZZ**	Batch ID: **R100716**	TestNo: **EPA 218.6**		Analysis Date: **6/6/2015**	SeqNo: **2018743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	589.080	10						590.5	0.242	20	

Sample ID **N015915-005AMS**	SampType: **MS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **100716**
Client ID: **ZZZZZZ**	Batch ID: **R100716**	TestNo: **EPA 218.6**		Analysis Date: **6/6/2015**	SeqNo: **2018744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	834.820	10	250.0	590.5	97.7	90	110				

Sample ID **N015915-005AMSD**	SampType: **MSD**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **100716**
Client ID: **ZZZZZZ**	Batch ID: **R100716**	TestNo: **EPA 218.6**		Analysis Date: **6/6/2015**	SeqNo: **2018745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	836.780	10	250.0	590.5	98.5	90	110	834.8	0.235	20	

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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	MB-50632	SampType:	MBLK	TestCode:	6020_DIS	Units:	µg/L	Prep Date:	6/9/2015	RunNo:	100743
Client ID:	PBW	Batch ID:	50632	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/10/2015	SeqNo:	2020495

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Chromium	ND	1.0									
Manganese	ND	0.50									

Sample ID	LCS-50632	SampType:	LCS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:	6/9/2015	RunNo:	100743
Client ID:	LCSW	Batch ID:	50632	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/10/2015	SeqNo:	2020496

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.553	0.10	10.00	0	95.5	85	115				
Chromium	9.548	1.0	10.00	0	95.5	85	115				
Manganese	101.561	0.50	100.0	0	102	85	115				

Sample ID	N015885-001B-MS	SampType:	MS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:	6/9/2015	RunNo:	100743
Client ID:	ZZZZZZ	Batch ID:	50632	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/10/2015	SeqNo:	2020500

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.979	0.10	10.00	1.392	116	75	125				
Chromium	12.325	1.0	10.00	1.274	111	75	125				
Manganese	129.922	0.50	100.0	14.34	116	75	125				

Sample ID	N015885-001B-MSD	SampType:	MSD	TestCode:	6020_DIS	Units:	µg/L	Prep Date:	6/9/2015	RunNo:	100743
Client ID:	ZZZZZZ	Batch ID:	50632	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/10/2015	SeqNo:	2020501

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	13.235	0.10	10.00	1.392	118	75	125	12.98	1.95	20	
Chromium	12.295	1.0	10.00	1.274	110	75	125	12.32	0.245	20	
Manganese	129.558	0.50	100.0	14.34	115	75	125	129.9	0.281	20	

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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID **P150608LCS**	SampType: **LCS**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:	RunNo: **100714**
Client ID: **LCSW**	Batch ID: **P15VW090**	TestNo: **EPA 8260B**		Analysis Date: **6/8/2015**	SeqNo: **2018633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19.990	0.50	20.00	0	100	71	127				
cis-1,2-Dichloroethene	19.720	0.50	20.00	0	98.6	80	120				
Tetrachloroethene	20.060	0.50	20.00	0	100	80	120				
trans-1,2-Dichloroethene	19.930	0.50	20.00	0	99.7	78	126				
Trichloroethene	20.240	0.50	20.00	0	101	80	120				
Vinyl chloride	20.300	0.50	20.00	0	102	70	135				
Surr: 1,2-Dichloroethane-d4	24.970		25.00		99.9	78	125				
Surr: 4-Bromofluorobenzene	26.040		25.00		104	80	120				
Surr: Dibromofluoromethane	25.130		25.00		101	80	122				
Surr: Toluene-d8	25.710		25.00		103	80	120				

Sample ID **P150608LCSD**	SampType: **LCSD**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:	RunNo: **100714**
Client ID: **LCSS02**	Batch ID: **P15VW090**	TestNo: **EPA 8260B**		Analysis Date: **6/8/2015**	SeqNo: **2018634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19.820	0.50	20.00	0	99.1	71	127	19.99	0.854	20	
cis-1,2-Dichloroethene	20.020	0.50	20.00	0	100	80	120	19.72	1.51	20	
Tetrachloroethene	20.370	0.50	20.00	0	102	80	120	20.06	1.53	20	
trans-1,2-Dichloroethene	20.000	0.50	20.00	0	100	78	126	19.93	0.351	20	
Trichloroethene	20.390	0.50	20.00	0	102	80	120	20.24	0.738	20	
Vinyl chloride	20.140	0.50	20.00	0	101	70	135	20.30	0.791	20	
Surr: 1,2-Dichloroethane-d4	25.050		25.00		100	78	125		0		
Surr: 4-Bromofluorobenzene	25.600		25.00		102	80	120		0		
Surr: Dibromofluoromethane	25.230		25.00		101	80	122		0		
Surr: Toluene-d8	25.460		25.00		102	80	120		0		

Sample ID **P150608MB3**	SampType: **MBLK**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:	RunNo: **100714**
Client ID: **PBW**	Batch ID: **P15VW090**	TestNo: **EPA 8260B**		Analysis Date: **6/8/2015**	SeqNo: **2018635**

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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID **P150608MB3**	SampType: **MBLK**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:	RunNo: **100714**
Client ID: **PBW**	Batch ID: **P15VW090**	TestNo: **EPA 8260B**		Analysis Date: **6/8/2015**	SeqNo: **2018635**

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	25.810		25.00		103	78	125				
Surr: 4-Bromofluorobenzene	25.060		25.00		100	80	120				
Surr: Dibromofluoromethane	25.630		25.00		103	80	122				
Surr: Toluene-d8	25.210		25.00		101	80	120				

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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID **P150609LCS** SampType: **LCS** TestCode: **8260WATER** Units: **µg/L** Prep Date: RunNo: **100719**
Client ID: **LCSW** Batch ID: **P15VW091** TestNo: **EPA 8260B** Analysis Date: **6/9/2015** SeqNo: **2018798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18.120	0.50	20.00	0	90.6	71	127				
cis-1,2-Dichloroethene	17.740	0.50	20.00	0	88.7	80	120				
Tetrachloroethene	21.590	0.50	20.00	0	108	80	120				
trans-1,2-Dichloroethene	18.300	0.50	20.00	0	91.5	78	126				
Trichloroethene	20.560	0.50	20.00	0	103	80	120				
Vinyl chloride	18.930	0.50	20.00	0	94.6	70	135				
Surr: 1,2-Dichloroethane-d4	22.510		25.00		90.0	78	125				
Surr: 4-Bromofluorobenzene	25.180		25.00		101	80	120				
Surr: Dibromofluoromethane	22.470		25.00		89.9	80	122				
Surr: Toluene-d8	24.820		25.00		99.3	80	120				

Sample ID **N015908-001AMS** SampType: **MS** TestCode: **8260WATER** Units: **µg/L** Prep Date: RunNo: **100719**
Client ID: **ZZZZZZ** Batch ID: **P15VW091** TestNo: **EPA 8260B** Analysis Date: **6/9/2015** SeqNo: **2018799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18.470	0.50	20.00	0	92.4	62	135				
cis-1,2-Dichloroethene	17.650	0.50	20.00	0	88.2	73	125				
Tetrachloroethene	21.920	0.50	20.00	0.9500	105	71	123				
trans-1,2-Dichloroethene	18.130	0.50	20.00	0	90.7	64	132				
Trichloroethene	21.090	0.50	20.00	0	105	79	121				
Vinyl chloride	18.810	0.50	20.00	0	94.1	64	134				
Surr: 1,2-Dichloroethane-d4	22.560		25.00		90.2	78	125				
Surr: 4-Bromofluorobenzene	24.850		25.00		99.4	80	120				
Surr: Dibromofluoromethane	22.690		25.00		90.8	80	122				
Surr: Toluene-d8	24.630		25.00		98.5	80	120				

Sample ID **N015908-001AMSD** SampType: **MSD** TestCode: **8260WATER** Units: **µg/L** Prep Date: RunNo: **100719**
Client ID: **ZZZZZZ** Batch ID: **P15VW091** TestNo: **EPA 8260B** Analysis Date: **6/9/2015** SeqNo: **2018800**

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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID **N015908-001AMSD** SampType: **MSD** TestCode: **8260WATER** Units: **µg/L** Prep Date: RunNo: **100719**
Client ID: **ZZZZZZ** Batch ID: **P15VW091** TestNo: **EPA 8260B** Analysis Date: **6/9/2015** SeqNo: **2018800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18.470	0.50	20.00	0	92.4	62	135	18.47	0	20	
cis-1,2-Dichloroethene	18.200	0.50	20.00	0	91.0	73	125	17.65	3.07	20	
Tetrachloroethene	22.520	0.50	20.00	0.9500	108	71	123	21.92	2.70	20	
trans-1,2-Dichloroethene	18.670	0.50	20.00	0	93.4	64	132	18.13	2.93	20	
Trichloroethene	21.450	0.50	20.00	0	107	79	121	21.09	1.69	20	
Vinyl chloride	19.220	0.50	20.00	0	96.1	64	134	18.81	2.16	20	
Surr: 1,2-Dichloroethane-d4	23.100		25.00		92.4	78	125		0		
Surr: 4-Bromofluorobenzene	25.590		25.00		102	80	120		0		
Surr: Dibromofluoromethane	23.110		25.00		92.4	80	122		0		
Surr: Toluene-d8	25.260		25.00		101	80	120		0		

Sample ID **P150609MB3** SampType: **MBLK** TestCode: **8260WATER** Units: **µg/L** Prep Date: RunNo: **100719**
Client ID: **PBW** Batch ID: **P15VW091** TestNo: **EPA 8260B** Analysis Date: **6/9/2015** SeqNo: **2018801**

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	23.670		25.00		94.7	78	125				
Surr: 4-Bromofluorobenzene	23.750		25.00		95.0	80	120				
Surr: Dibromofluoromethane	23.900		25.00		95.6	80	122				
Surr: Toluene-d8	24.780		25.00		99.1	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: N015905
Project: Maryland Square, Z085000030

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID **P150610LCS2**	SampType: **LCS**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:		RunNo: **100734**					
Client ID: **LCSW**	Batch ID: **P15VW093**	TestNo: **EPA 8260B**		Analysis Date: **6/10/2015**		SeqNo: **2020212**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	20.950	0.50	20.00	0	105	80	120				
Surr: 1,2-Dichloroethane-d4	22.940		25.00		91.8	78	125				
Surr: 4-Bromofluorobenzene	26.160		25.00		105	80	120				
Surr: Dibromofluoromethane	23.090		25.00		92.4	80	122				
Surr: Toluene-d8	25.630		25.00		103	80	120				

Sample ID **P150610LCSD2**	SampType: **LCSD**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:		RunNo: **100734**					
Client ID: **LCSS02**	Batch ID: **P15VW093**	TestNo: **EPA 8260B**		Analysis Date: **6/10/2015**		SeqNo: **2020213**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	20.750	0.50	20.00	0	104	80	120	20.95	0.959	20	
Surr: 1,2-Dichloroethane-d4	22.640		25.00		90.6	78	125		0		
Surr: 4-Bromofluorobenzene	25.810		25.00		103	80	120		0		
Surr: Dibromofluoromethane	23.020		25.00		92.1	80	122		0		
Surr: Toluene-d8	25.390		25.00		102	80	120		0		

Sample ID **P150610MB6**	SampType: **MBLK**	TestCode: **8260WATER**	Units: **µg/L**	Prep Date:		RunNo: **100734**					
Client ID: **PBW**	Batch ID: **P15VW093**	TestNo: **EPA 8260B**		Analysis Date: **6/10/2015**		SeqNo: **2020214**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	ND	0.50									
Surr: 1,2-Dichloroethane-d4	22.560		25.00		90.2	78	125				
Surr: 4-Bromofluorobenzene	25.270		25.00		101	80	120				
Surr: Dibromofluoromethane	23.190		25.00		92.8	80	122				
Surr: Toluene-d8	24.890		25.00		99.6	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

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:
1. CHILLED 4.1°C (e#1) Y ☐ N ☐
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
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) [signature]

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
[signature]	6/4/15	1500	[signature]	6/4/15	1537
[signature]	6/4/15	1547	[signature]	6/4/15	1547

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Dwight Kitakawa 6/4/15
Print Name Date
[signature]
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)

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

Lab No.	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	#	Type	PRESERVATION	REMARKS
N015905-1	MW-1	6/4/15	1040				X					X		E	3	V	H	
-2	MW-5	6/4/15	1125				X					X		E	3	V	H	
-3	MW-6	6/4/15	1210				X					X		E	3	V	H	
-4	MW-18	6/2/15	1325				X					X		E	3	V	H	
-5	MW-38	6/2/15	1005				X					X		E	3	V	H	
-6	MW-41	6/2/15	925				X					X		E	3	V	H	
-7	MW-42	6/2/15	840				X					X		E	3	V	H	
-8	MW-43	6/2/15	1120				X					X		E	3	V	H	
-9	MW-14I	6/4/15	1250				X					X		E	3	V	H	
-10	MW-19I	6/2/15	1225				X	X	X			X		E	5	V/P	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 Page ___ of ___

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

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

Sample Condition Upon Receipt
1. CHILLED 9.1°C 1644 Y☑ N☐ 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
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:
	6/4/15	1500	Dwight Kirkwood	6/4/15	1587
Dwight Kirkwood	6/4/15	1547	Dwight Kirkwood	6/4/15	1547
	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Dwight Kirkwood 6/4/15
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
	N015905-11	MW-6D1	6/4/15	905				X				X			E	3	V	H	
	-12	MW-19D1	6/3/15	1015				X				X			E	3	V	H	
	-13	MW-19D2	6/3/15	850				X				X			E	3	V	H	
	-14	MW-19D3	6/3/15	940				X				X			E	3	V	H	
	-15	MW-20D2	6/4/15	950				X				X			E	3	V	H	
	-16	MW-40 CMT30	6/3/15	1110				X				X			E	3	V	H	
	-17	MW-40 CMT45	6/3/15	1145				X				X			E	3	V	H	
	-18	MW-40 CMT60	6/3/15	1315				X	X	X		X			E	5	VP	H	
	-19	Field Blank	6/4/15	1215				X				X			E	3	V	H	
	-20	Trip Blank 060415	6/4/15	645				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

Page ___ of ___

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
1. CHILLED 4.1°C IR#2 Y ☑ N ☐ 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
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: 6/4/15	Time: 1500	Received by: (Signature and Printed Name)	Date: 6/4/15	Time: 1587
Relinquished by: (Signature and Printed Name)	Date: 6/4/15	Time: 1597	Received by: (Signature and Printed Name)	Date: 6/4/15	Time: 1597
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Dwight Kirkland 6/4/15
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

QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	8260B	8015M	8015B	PCE/TCE/DCE/VC 8260	6020	218.6	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	N0159905-21	MW-1 DUP	6/4/15	1040				X					X		E	3	V	H	
	1 -22	Equipment Rinse 060415	6/4/15	1325				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:	6/4/2015	Workorder:	N015905
Rep sample Temp (Deg C):	4.1	IR Gun ID:	2

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

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: MW-40 CMT60: 1 of 3 VOA has headspace greater than 5mm.
Trip Blank 060415: 1 of 3 VOA has headspace less than 5mm.

Checklist Completed By: JPG For: 6/5/2015 Reviewed By: 06/09/14

Maryland Square PCE Site

APPENDIX C

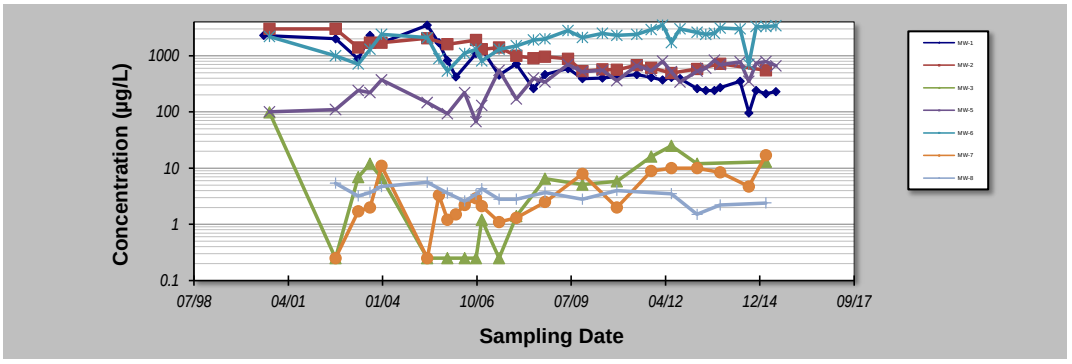
MANN-KENDALL TREND TEST FOR PLUME STABILITY

Cardno
Shaping the Future

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Jul-15	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	Mar 15	210	550	13	790	3,300	17	2.4
35	Jun 15	230			660	3,400		
36								
37								
38								
39								
40								
Coefficient of Variation:		1.01	0.61	1.99	0.55	0.43	0.96	0.31
Mann-Kendall Statistic (S):		-395	-184	41	276	287	106	-65
Confidence Factor:		>99.9%	>99.9%	91.8%	>99.9%	>99.9%	99.9%	99.3%
Concentration Trend:		Decreasing	Decreasing	Prob. Increasing	Increasing	Increasing	Increasing	Decreasing



Notes:

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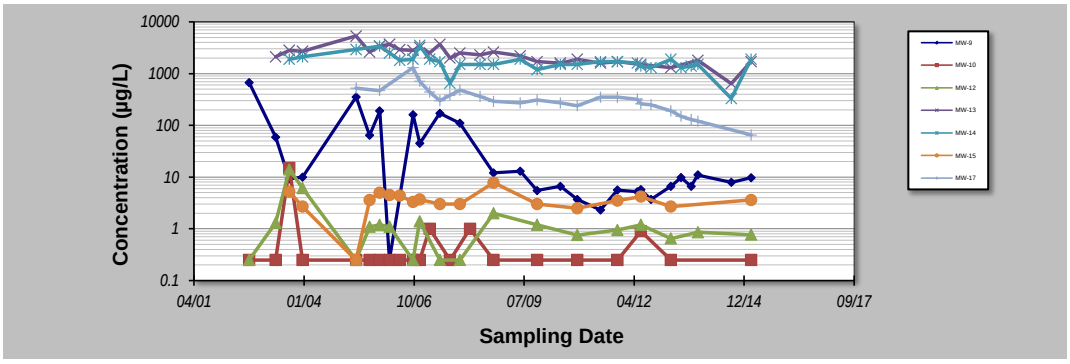
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

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

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

Sampling Point ID:	MW-9	MW-10	MW-12	MW-13	MW-14	MW-15	MW-17
Sampling Event	Sampling Date	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	Mar 15	9.7	0.25	0.77	1,700	1,900	3.6	65
36	Jun 15							
37								
38								
39								
40								
Coefficient of Variation:		2.04	3.00	1.75	0.39	0.38	0.41	0.69
Mann-Kendall Statistic (S):		-126	-1	-26	-215	-171	-22	-208
Confidence Factor:		99.4%	50.0%	78.9%	>99.9%	99.9%	78.4%	>99.9%
Concentration Trend:		Decreasing	No Trend	No Trend	Decreasing	Decreasing	Stable	Decreasing



Notes:

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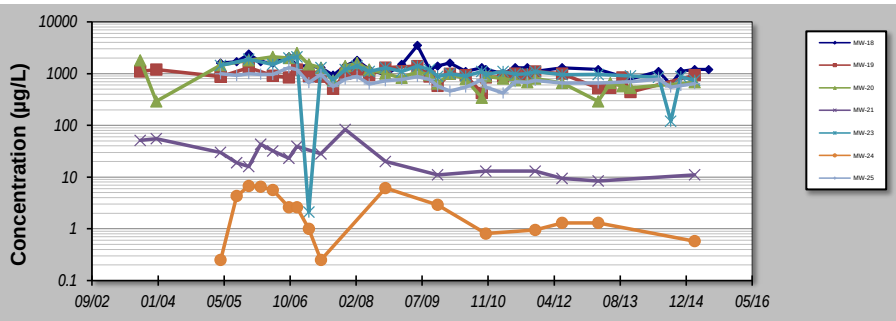
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 15-Jul-15
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	Mar 15	1,200	930	680	11.0	740	0.58	640
38	Jun 15	1,200						
39								
40								
Coefficient of Variation:		0.37	0.28	0.53	0.71	0.40	0.86	0.27
Mann-Kendall Statistic (S):		-262	-80	-293	-85	-253	-39	-246
Confidence Factor:		>99.9%	92.0%	>99.9%	100.0%	>99.9%	95.7%	>99.9%
Concentration Trend:		Decreasing	Prob. Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing



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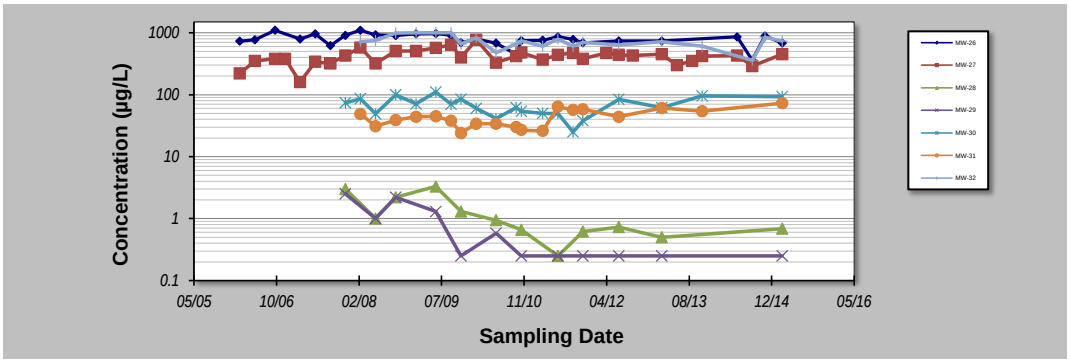
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

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

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

Sampling Point ID:	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32
Sampling Event	Sampling Date	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	Mar 15	680	450	0.69	0.25	93	73	730
35	Jun 15							
36								
37								
38								
39								
40								
Coefficient of Variation:		0.21	0.27	0.80	1.05	0.34	0.33	0.23
Mann-Kendall Statistic (S):		-106	17	-38	-39	-32	43	-60
Confidence Factor:		98.1%	60.2%	99.6%	99.7%	84.1%	92.8%	96.3%
Concentration Trend:		Decreasing	No Trend	Decreasing	Decreasing	Stable	Prob. Increasing	Decreasing



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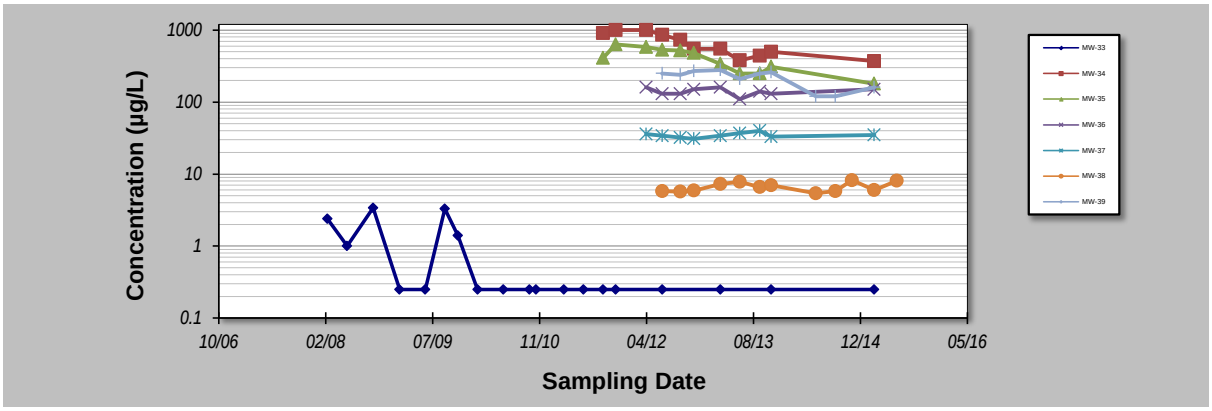
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Jul-15	Job ID:	Z085000030
Facility Name:	Maryland Square PCE Site	Constituent:	PCE
Conducted By:	Cardno ATC	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	Mar 15	0.25	370	180	150	35	6.0	160
28	Jun 15						8.1	
29								
30								
Coefficient of Variation:		1.34	0.37	0.37	0.12	0.08	0.15	0.28
Mann-Kendall Statistic (S):		-62	-43	-40	-3	5	19	-17
Confidence Factor:		98.5%	>99.9%	100.0%	58.0%	65.7%	88.9%	92.2%
Concentration Trend:		Decreasing	Decreasing	Decreasing	Stable	No Trend	No Trend	Prob. Decreasing



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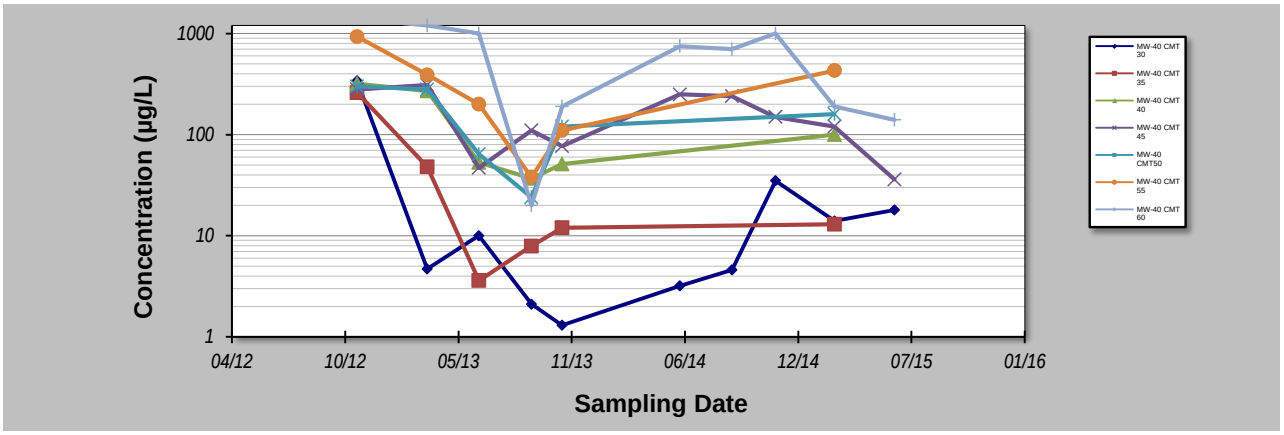
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Jul-15	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	Mar 15	14	13	100	120	160	430	190
10	Jun 15	18			36			140
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.42	1.05	0.90	0.62	0.71	0.73	0.75
Mann-Kendall Statistic (S):		5	2	-7	-15	-5	0	-21
Confidence Factor:		63.6%	59.2%	86.4%	89.2%	76.5%	40.8%	96.4%
Concentration Trend:		No Trend	No Trend	Stable	Stable	Stable	Stable	Decreasing



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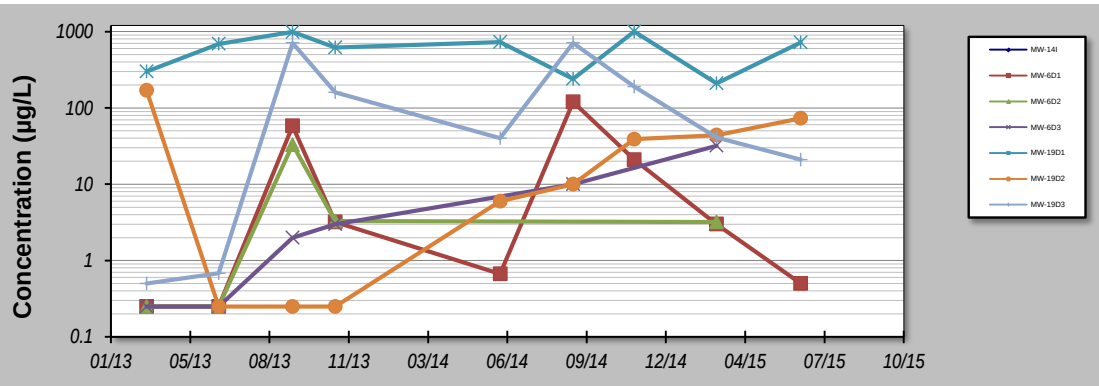
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Jul-15	Job ID:	Z085000030
Facility Name:	Maryland Square PCE Site	Constituent:	PCE
Conducted By:	Cardno ATC	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	Mar 15	11,000	3.0	3.2	32	210	44	41
9	Jun 15	9,600	0.5			720	73	21
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.30	1.66	1.76	1.56	0.49	1.26	1.40
Mann-Kendall Statistic (S):		15	-2	3	14	0	25	5
Confidence Factor:		92.5%	54.8%	67.5%	99.6%	46.0%	100.0%	65.7%
Concentration Trend:		Prob. Increasing	No Trend	No Trend	Increasing	Stable	Increasing	No Trend



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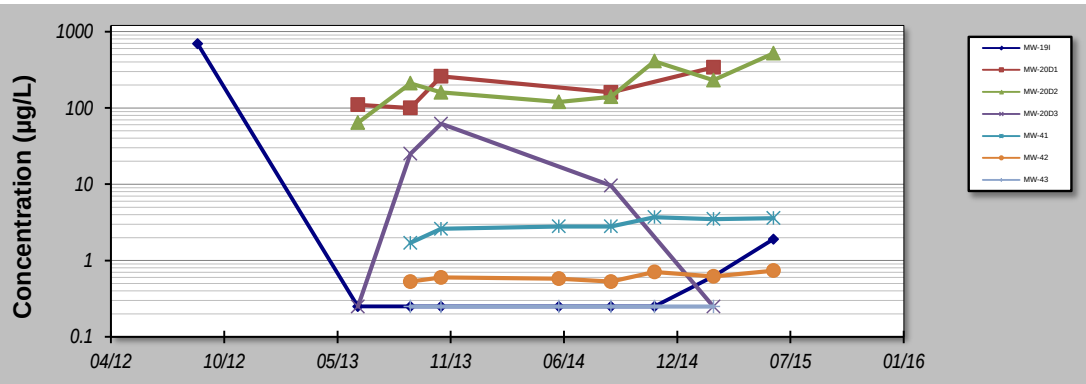
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Jul-15	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	Mar 15	0.62	340	230	0.25	3.5	0.62	0.25
9	Jun 15	1.9		520		3.6	0.74	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.98	0.53	0.67	1.33	0.24	0.13	0.00
Mann-Kendall Statistic (S):		5	6	16	-1	16	12	0
Confidence Factor:		65.7%	88.3%	96.9%	50.0%	99.0%	94.9%	39.3%
Concentration Trend:		No Trend	No Trend	Increasing	No Trend	Increasing	Prob. Increasing	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.
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.