

VOLKSWAGEN

GROUP OF AMERICA

July 2, 2012

Ms. Barbara J. Jakub, PG
Alameda County Health Care Services
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RECEIVED

5:46 pm, Jul 09, 2012

**Alameda County
Environmental Health**

Subject:

Submittal of the Environmental Groundwater Monitoring Report for
Volkswagen Automobile Dealership
2740 Broadway Avenue, Oakland, California Fuel Leak Case No.
RO0000400 and GeoTracker Global ID T0600100227

Dear Ms. Jakub:

Enclosed please find the report from ARCADIS-US (the "ARCADIS Letter") that was prepared on behalf of Volkswagen Group of America (VWGoA) in response to the letter from the Alameda County Health Care Services Agency (ACEH) to CBRE dated, April 6, 2012.

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

We appreciate the opportunity to submit the enclosed report to the ACEH for your consideration, and we look forward to working with you and your team to bring this project to regulatory case closure. If you have any questions or comments, please call me at (248) 754 4339 or Ron Goloubow of ARCADIS at (510) 596-9550.

Sincerely,



S. Eric Carlson
Director, Group Marketing, Real Estate &
Affiliate Operations

Attachment

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Ms. Barbara J. Jakub, PG
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Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject:

Submittal of the Environmental Groundwater Monitoring Report for
Volkswagon Automobile Dealership
2740 Broadway Avenue, Oakland, California
Fuel Leak Case No. RO0000400 and GeoTracker Global ID T0600100227

Dear Ms. Jakub:

ARCADIS U.S., Inc. (ARCADIS) was retained by CBRE – Global Corporate Services (CBRE) on behalf of Volkswagen Group of America (VWoA) to provide environmental consulting services for the Volkswagen Automobile Dealership located at 2740 Broadway Avenue, in Oakland, California (the Site). The environmental services are required at the Site in order to respond to the letter from the Alameda County Health Care Services Agency (ACEH) to CBRE dated April 6, 2012. The ACEH letter requests the following scope of work:

- Re-develop and rehabilitate the historical groundwater monitoring and vapor extraction wells
- Conduct groundwater monitoring in accordance with the February 22, 2002 work plan, plus additional analysis of methy tertiary butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), 1,2-dichloroethane (EDC), ethylene dibromide (EDB), and volatile organic compounds (VOCs)
- Submit a work plan to conduct soil vapor monitoring and reporting

The attached environmental groundwater monitoring report satisfies the first two items in the requested scope of work. Per the instructions within the ACEH letter, this report is being submitted via the ACEH FTP site and the State Water Resources Control Board (SWRCB) GeoTracker website.

Imagine the result

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Environment

Date:
July 2, 2012

Contact:
Ron Goloubow

Phone:
510.596.9550

Email:
ron.goloubow@arcadis-us.com

Our ref:
EM001048.0001.00001

Following your review of the enclosed report, ARCADIS and CBRE would like to arrange for a meeting or conference call to discuss the next phase of this project. We look forward to working with you on this important project. If you have questions regarding this report, please call Ron Goloubow at 510-596-9550 or Jay Shipley at 562-496-3001.

Sincerely,

ARCADIS U.S., Inc.



Jay M. Shipley, PE
Senior Vice President



Ron Goloubow, PG
Principal Geologist

CBRE – Global Corporate Services

**Groundwater Monitoring
Report**

Volkswagon Automobile Dealership
2740 Broadway Avenue
Oakland, California

July 2, 2012

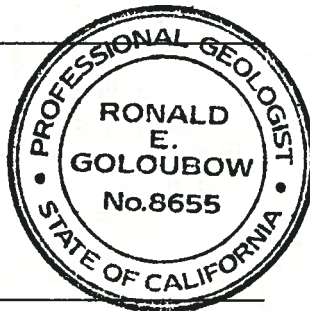


Caitlin Bell

Caitlin Bell, PE
Staff Environmental Engineer

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Principal Geologist
California Professional Geologist (8655)



Expires Nov. 30, 2013

JM Shipley

Jay M. Shipley, PE
Senior Vice President

Groundwater Monitoring Report

Volkswagon Automobile
Dealership
2740 Broadway Avenue
Oakland, California

CBRE – Global Corporate Services

Prepared by:
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Date:
July 2, 2012

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Introduction

ARCADIS U.S., Inc. (ARCADIS) was retained by CBRE – Global Corporate Services (CBRE) on behalf of Volkswagen Group of America (VWoA) to provide environmental consulting services for the Volkswagen Automobile Dealership located at 2740 Broadway Avenue, in Oakland, California (the Site). A Site Location Map and a Site Plan are included as Figures 1 and 2, respectively. The scope of the environmental services provided were groundwater monitoring and reporting at the Site in order to respond to the letter from the Alameda County Health Care Services Agency – Alameda County Environmental Health (ACEH) to CBRE dated April 6, 2012. In part, the letter requested completion of groundwater monitoring and reporting. This report documents the recent groundwater monitoring that took place at the Site and satisfies that request.

Background

Based on a review of available historical reports acquired from the ACEH website, soil and groundwater investigation activities have taken place at this Site since 1988 when four underground storage tanks (USTs) were removed from the Site (Engineering Services 1989) : one 1,000 gallon capacity UST (Tank A) used to store waste oil (formerly located near the garage near 27th Street); one 300 gallon capacity UST (Tank B) used to store waste oil (formerly located along Broadway Avenue); one 550 gallon capacity UST (Tank C); and one 1,500 gallon capacity UST (Tank D) both used to store gasoline (formerly located along 28th Street). Figure 2 illustrates the locations of the former USTs, groundwater monitoring wells, and soil vapor extraction wells, as adapted from historical reports (Environmental Science and Engineering Inc. November 1991 [ESE 1991b] and QST Environmental 1999) and recent Site reconnaissance.

Soil samples collected during the removal of Tank A did not contain total petroleum hydrocarbons as gasoline (TPHg), or benzene, toluene, ethylbenzene, and total xylenes (BTEX) above laboratory reporting limits (ESE 1989). Soil samples collected during the removal of Tank B contained TPHg at 640 milligrams per kilogram (mg/kg) and total oil and grease at 2,400 mg/kg. Soil samples collected during the removal of Tanks C and D and from soil borings drilled near these USTs contained elevated concentrations of detectable levels of TPHg, as well as BTEX. In addition, light non-aqueous phase liquid (LNAPL; or free product) was reported to be observed in the excavation during the removal of these USTs.

Volkswagon Automobile
Dealership
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Based on the soil samples collected and observations made during the removal of the USTs a total of six groundwater monitoring wells (MW-1 and MW-3 through MW-7) were installed to a total depth of between 20 and 30 feet below grade in the sidewalk and 28th Street near the former USTs C and D. Groundwater monitoring well MW-2 was installed near the former waste oil UST located near Broadway Avenue (Tank B). Reportedly, three wells (MW-4, MW-5, and MW-6) were abandoned in 1994 leaving wells MW-1, MW-2, MW-3, and MW-7 in place. Additionally, well MW-2 was indicated as an abandoned well in a map included in an ESE report dated 1991 (ESE 1991a) and does not appear on the recent data summary tables. The highest concentrations of TPHg and BTEX have historically been detected in groundwater samples collected from well MW-3 located approximately 50 feet west of USTs C and D located along 28th Street (Mactec. 2003).

A soil vapor and groundwater extraction system reportedly operated at the Site from February 1996 through March 1998. The extraction system was comprised of four vapor and groundwater extraction wells (SV-1 through SV-3 and MW-3; [Mactec. 2003]). The details regarding the operational history of this extraction system were not provided (i.e., flow rates, mass of contaminants removed).

Reportedly, prior to the current groundwater monitoring event, the most recent monitoring event took place at the Site in 1999 (Mactec 2003). Two requests for case closure were provided to the ACEH, one in March 1999 and one in April 2003 (QST Environmental 1999 and Mactec 2003). Based on the ACEH letter both requests for case closure were denied. The requests for case closure were likely denied because the analytical results for the groundwater samples collected from well MW-3 in 1999 after the soil vapor and groundwater extraction system was shut down increased to concentrations that are comparable to concentrations detected prior to operating the soil vapor and groundwater extraction system.

Well Redevelopment

Since the groundwater monitoring wells have not been sampled since 1999, the groundwater monitoring and soil vapor extraction wells were redeveloped to remove sediment from around the screen and to enhance hydraulic communication with the surrounding formation. Three groundwater monitoring wells MW-1, MW-3, and MW-7 and the three vapor extraction wells VW-1, VW-2, and VW-3 were included.

Redevelopment was conducted by Confluence Environmental, Inc. (Confluence) on June 6, 2012. Prior to redevelopment, down-hole piping associated with the former

vapor extraction wells was removed. Redevelopment included a combination of surging for 10 minutes, followed by pumping. Observations of indicator parameters, including pH, temperature, specific conductance, quantity, and clarity, were recorded after each well volume was purged. For wells that recovered slowly (VW-1 and VW-2), the well was purged dry and then allowed to recover to approximately 80 percent of its static water level before being purged dry again. Each well was developed until a minimum of 6 to 10 well casing volumes were removed, relatively sediment-free water was produced, and indicator parameters stabilized. Copies of the redevelopment logs are provided in Appendix A.

During the removal of the 6 to 10 well casing volumes of groundwater, the indicator parameters stabilized at expected values. However, at most locations, the turbidity measurements remained high, greater than 1,000 nephelometric turbidity units (NTUs). Field observations indicated that the groundwater was relatively sediment-free and the bottom of the well did not contain sediment. Based on these observations, the development was considered successful despite the elevated turbidity measurements.

Confluence observed approximately 0.02 feet of LNAPL in vapor extraction well VW-3. Therefore, this well was not redeveloped in a similar manner to the other wells.

All investigation-derived waste was stored on-Site in four 55-gallon drums with appropriate labels. Currently the waste water is being profiled for off-site disposal.

Well Sampling and Rehabilitation

Confluence conducted groundwater sampling at the Site on June 8, 2012. Prior to commencement of groundwater sampling, each well was inspected and a groundwater elevation measurement was recorded. Some of the monitoring wells and vapor extraction wells were missing locks, bolts, and caps. Confluence replaced several of these items while on-Site.

Depth to water measurements were collected using a water level meter (Table 1). The depth to water level measurement from each well was recorded in the field and the field data are included in Appendix A. ARCADIS did not have any records indicating that well MW-7 was surveyed for location and/or elevation. Thus ARCADIS personnel surveyed the elevation of well MW-7 relative to the other wells at the Site in order to calculate a groundwater elevation for well MW-7 (see Table 1). The groundwater elevations measured at the Site were used to generate a relative groundwater elevation contour map (Figure 3). From this information, groundwater direction was

determined to be towards the west-northwest under a gradient of 0.02 feet per foot between wells MW-1 and MW-7 and MW-1 and VW-1.

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Groundwater purging and sampling was completed using conventional low-flow techniques in accordance with the United States Environmental Protection Agency's (USEPA's) protocol (USEPA 1996). A low-flow peristaltic pump was used to minimize the drawdown during purging. Water quality parameters were monitored during well purging using an in-line monitoring device. Groundwater samples were collected after the water quality parameters had stabilized for at least three successive readings (Table 2). These water quality parameters were recorded in the field and the field data are included in Appendix A.

The exception to this purging and sampling method was vapor extraction well VW-3. In that case, a grab groundwater sample was collected from below the LNAPL present in the well.

Groundwater samples were collected using a low-flow pump into the appropriate laboratory-supplied groundwater sample containers. The sample containers were stored on ice and delivered under chain of custody procedure to Curtis & Tompkins Laboratory (C&T) located in Berkeley, California. Groundwater samples, a duplicate sample, and a trip blank were submitted for the following analysis:

- VOCs using USEPA Method 8260B (this analysis includes BTEX, chlorinated solvents, and fuel oxygenates)
- TPHg, TPH as diesel (TPHd), and TPH as motor oil (TPHmo) using USEPA Method 8015
- Total dissolved solids (TDS) using Standard Method 2540C

All investigation-derived waste, including LNAPL collected from vapor extraction well VW-3, is currently stored on-site in four 55-gallon appropriate labeled drums. The waste water is being profiled for disposal by Instrat, Inc.

Groundwater Monitoring Results

Analytical results for groundwater samples collected at the Site indicate that detectable concentrations of petroleum-related compounds are present in the vicinity of the former gasoline USTs. A summary of the analytical results for groundwater samples collected

at the Site from historical and recent monitoring events is included in Table 3 and Appendix B. TPHg was detected above laboratory reporting limits in wells VW-2 and VW-3 at concentrations ranging from 36,000 to 120,000 micrograms per liter ($\mu\text{g/L}$). TPHd was detected above laboratory reporting limits in wells MW-1, MW-3, VW-2, and VW-3 at concentrations ranging from 56 to 9,300 $\mu\text{g/L}$. TPHmo was only detected above the laboratory reporting limit in vapor extraction well VW-3. BTEX compounds were only detected above laboratory reporting limits in vapor extraction wells VW-2 and VW-3. Other petroleum-related VOCs were also detected at low concentrations in these vapor extraction wells. Low concentrations of chlorinated VOCs (CVOCs), such as trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), and 1,2-dichloroethane (EDC), were detected above laboratory reporting limits at monitoring well MW-7 (see Table 3).

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Per the request of ACEH, in addition to the analytes in the February 2002 work plan (Harding ESE 2002), the following compounds were included in the groundwater analysis: methyl tertiary butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary methyl amyl ether (TAME), EDC, ethylene dibromide (EDB), and VOCs detected as part of USEPA Method 8260. Of these compounds, MTBE was detected in monitoring well MW-1, at an estimated concentration, and EDC was detected in monitoring well MW-7 with the other CVOCs.

Detected concentrations were compared to the Tier I Environmental Screening Levels (ESLs) for shallow soils of less than 3 meters below ground surface and groundwater that is a current or potential source of drinking water (California Regional Water Quality Control Board 2008). These screening levels were chosen as a conservative comparison. Concentrations of TPHg, TPHd, TPHmo, BTEX, and/or naphthalene in wells MW-1, VW-2, and/or VW-3 were detected above the applicable ESL. CVOCs detected in the sample collected from well MW-7 were not at concentrations above the applicable ESL. Table 3 compares the detected groundwater concentrations with the applicable ESL.

Conclusion and Further Actions

The results for the June 2012 groundwater monitoring event suggests that affected groundwater at the Site is localized near the former gasoline USTs (C and D). Fuel and fuel-related compounds were detected above the applicable ESL in groundwater samples collected from wells MW-1, VW-2, and VW-3.

Historical groundwater samples collected from monitoring wells MW-4, MW-5, and MW-6 contained concentrations of petroleum-related compounds above analytical reporting limits. These wells were abandoned in 1994 and could not be sampled during this event. Based on a review of the results for groundwater samples previously collected from these wells (e.g., MW-4 and MW-6), it is possible that the affected groundwater may extend further both to the north and the south of vapor wells VW-2 and VW-3. Therefore, additional investigation may be warranted in this area of the Site to further assess the lateral extent of fuel affected groundwater.

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If future groundwater monitoring is to be conducted, additional well rehabilitation activities will be conducted. This includes replacement of well bolts, locks, and/or covers that were identified in a state of disrepair during this monitoring event.

This recent groundwater monitoring event also revealed the presence of a small amount of LNAPL in vapor extraction well VW-3 (0.02 feet within a 4-inch diameter well). The observed LNAPL likely infiltrated into the highly-permeable sediments in the tank pit surrounding VW-3 in the 13 years since the completion of the last groundwater monitoring event. Based on the small amount of LNAPL observed, it is not likely that this observed LNAPL indicates a mobile plume. Additional groundwater monitoring and/or LNAPL (and groundwater) removal at well VW-3 could provide a better understanding of the potential groundwater impacts that are associated with the presence of the observed LNAPL.

The April 2012 letter from ACEH, requested the preparation of a work plan to evaluate whether there is a complete vapor intrusion pathway present at the Site. Based on the results of the recent groundwater monitoring event, it appears that further evaluation regarding the lateral extent of affected groundwater is warranted prior to assessing the soil vapor quality.

ARCADIS and CRBE would like to arrange for a meeting or conference call with representatives of the ACEH to discuss the next phase of work for this project.

References

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Volkswagon Automobile
Dealership
2740 Broadway Avenue
Oakland, California



Tables

Table 1
Relative Groundwater Elevation Data
 Volkswagon Automobile Dealership
 2740 Broadway Avenue
 Oakland, California

Well Number	Relative Well Casing Elevation ⁽¹⁾⁽²⁾	Well Diameter (inches)	Total Well Depth (feet)	Depth to Product ⁽³⁾ 8-Jun-12	Depth to Water ⁽³⁾ 8-Jun-12	Relative Groundwater Elevation ⁽²⁾ 8-Jun-12
MW-1	29.60	2	19.20	NM	6.03	23.57
MW-3	30.00	2	18.60	NM	8.90	21.10
MW-7	29.84	4	23.50	NM	9.10	20.74
VW-1	30.02	4	18.53	NM	9.01	21.01
VW-2	30.04	4	16.90	NM	8.82	21.22
VW-3	29.45	4	NM	7.70	7.73	21.75

Notes:

(1) Values taken from Mactec. 2003. Sampling and Closure Report, Broadway Volkswagen, 2740 Broadway, Oakland, California. April 21 and field measurements.

(2) In reference to feet above mean sea level. MW-3 was estimated to be 30.00 feet above mean sea level.

(3) In feet below top of casing (approximately at ground surface).

NM = Not measured

Table 2
Groundwater Water Quality Parameters
 Volkswagon Automobile Dealership
 2740 Broadway Avenue
 Oakland, California

Well ID	Sample Date	Temp. (Celsius)	Cond. (mS/cm)	DO (mg/L)	pH	ORP (mV)
MW-1	06/08/12	18.6	786	0.81	6.3	69
MW-3	06/08/12	17.8	531	7.0	6.6	166
MW-7	06/08/12	18.0	725	1.6	6.6	173
VW-1	06/08/12	17.7	346	2.8	6.7	160
VW-2	06/08/12	17.6	735	1.4	6.6	2
VW-3	06/08/12	NA	NA	NA	NA	NA

Notes:

NA = not analyzed

mg/L = milligrams per liter

Temp. = temperature

Cond. = specific conductance

mS/cm =microSiemens per centimeter

DO = dissolved oxygen

ORP = oxidation-reduction potential

mV = millivolts

Table 3
Summary of Groundwater Analytical Results
 Volkswagon Automobile Dealership
 2740 Broadway Avenue, Oakland, CA

Well Number	Sample Date	TPHg µg/L	TPHd µg/L	TPHmo µg/L	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	EDC µg/L	Isopropyl benzene µg/L	Propyl benzene µg/L	1,3,5- Trimethyl benzene µg/L	1,2,4- Trimethyl benzene µg/L	sec-Butyl benzene µg/L	para- Isopropyl Toluene µg/L	n-Butyl benzene µg/L	Naphthane µg/L	TDS µg/L
Tier I ESL µg/L		100	100	100	1	40	30	20	5	5	6	50	na	na	na	na	na	na	na	17	na
MW-1	01/21/89	ND	na	na	53	13	1.4	8.2	---	na	na	na	na	na	na	na	na	na	na	na	na
	05/16/91	130	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/18/91	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/27/91	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	07/13/93	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	06/27/96	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	09/19/96	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	12/13/96	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/07/97	ND	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	08/03/99	ND	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	06/08/12	<50	290 Y	<300	<0.5	<0.5	<0.5	<0.5	0.3 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	410
MW-2*	01/21/89	ND	na	na	ND	ND	ND	ND	---	na	na	na	na	na	na	na	na	na	na	na	na
MW-3	01/21/89	32,000	na	na	9,600	8,200	1,800	6,200	---	na	na	na	na	na	na	na	na	na	na	na	na
	05/16/91	81,000	na	na	7,800	12,000	1,200	4,000	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/18/91	73,000	na	na	9,400	8,600	750	3,300	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/27/91	37,000	na	na	7,100	4,900	970	3,500	---	na	na	na	na	na	na	na	na	na	na	na	na
	07/13/93	41,000	na	na	8,100	6,200	8,100	4,400	---	na	na	na	na	na	na	na	na	na	na	na	na
	06/27/96	370	na	na	120	75	6.2	47	---	na	na	na	na	na	na	na	na	na	na	na	na
	09/19/96	15,000	na	na	6,000	2,700	450	2,180	---	na	na	na	na	na	na	na	na	na	na	na	na
	12/13/96	ND	na	na	30	10	2	7.4	---	na	na	na	na	na	na	na	na	na	na	na	na
Dup	12/13/96	ND	na	na	21	7	1	4.9	---	na	na	na	na	na	na	na	na	na	na	na	na
Dup	10/07/97	ND	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	10/07/97	ND	na	na	21	7	1	4.9	5.7	na	na	na	na	na	na	na	na	na	na	na	na
	08/03/99	21,000	na	na	5,500	2,300	470	990	---	na	na	na	na	na	na	na	na	na	na	na	na
	06/08/12	<50	56	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	310
MW-4*	01/21/89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05/16/91	13,000	---	---	160	690	250	1,100	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/18/91	ND	---	---	11	11	ND	15	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/27/91	180	---	---	6.4	2.8	1.2	6.2	---	---	---	---	---	---	---	---	---	---	---	---	---
	07/13/93	320	---	---	36	4.4	1.8	5.3	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-5*	01/21/89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05/16/91	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/18/91	16,000	---	---	3,500	530	670	1,100	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/27/91	87	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---
	07/13/93	90	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 3
Summary of Groundwater Analytical Results
 Volkswagon Automobile Dealership
 2740 Broadway Avenue, Oakland, CA

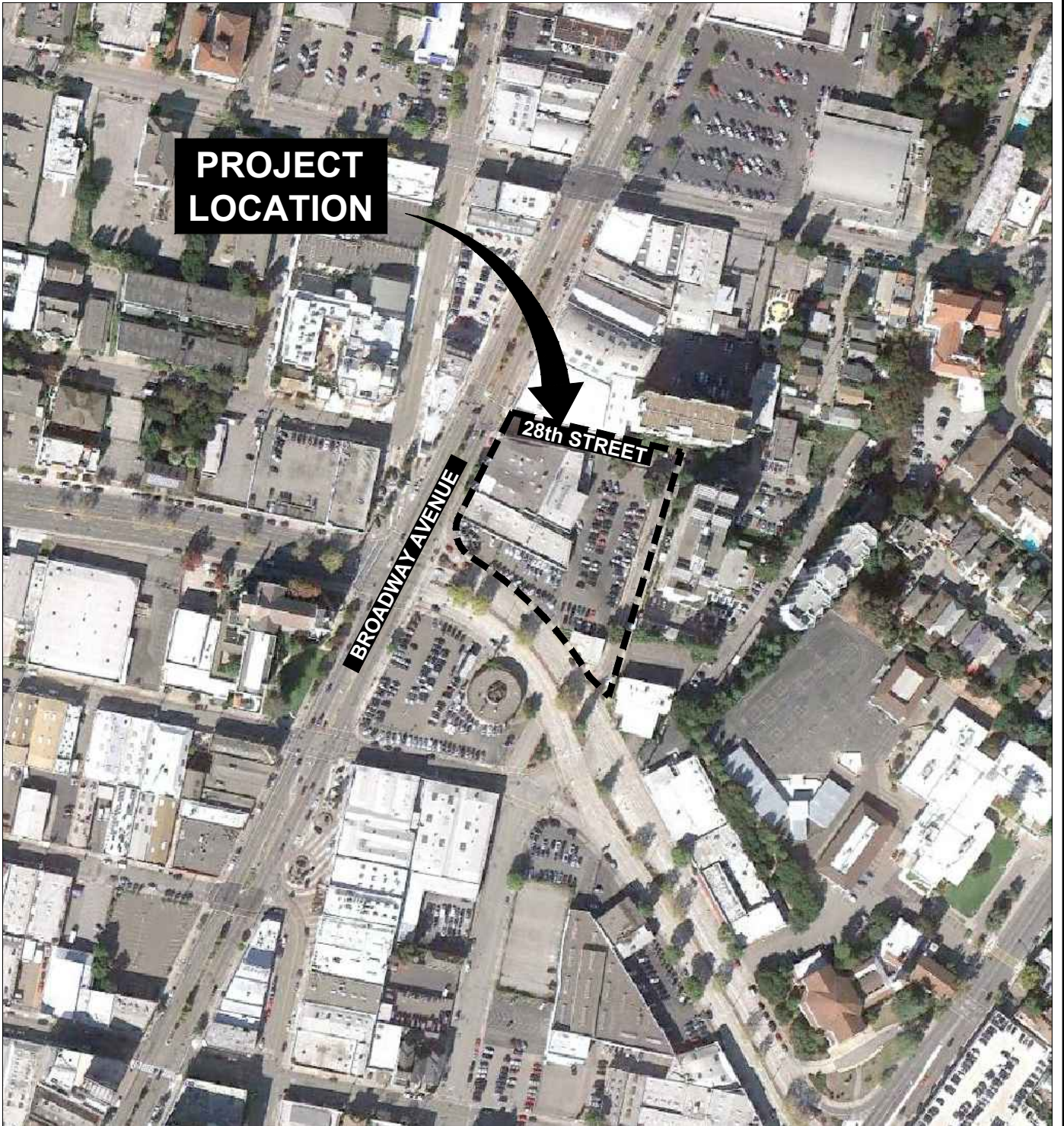
Well Number	Sample Date	TPHg µg/L	TPHd µg/L	TPHmo µg/L	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	EDC µg/L	Isopropyl benzene µg/L	Propyl benzene µg/L	1,3,5- Trimethyl benzene µg/L	1,2,4- Trimethyl benzene µg/L	sec-Butyl benzene µg/L	para- Isopropyl Toluene µg/L	n-Butyl benzene µg/L	Naphthane µg/L	TDS µg/L
Tier I ESL µg/L		100	100	100	1	40	30	20	5	5	6	50	na	na	na	na	na	na	na	17	na
MW-6*	01/21/89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05/16/91	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/18/91	28,000	---	---	640	2,700	1,100	4,500	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/27/91	1,300	---	---	48	130	55	230	---	---	---	---	---	---	---	---	---	---	---	---	---
	07/13/93	1,100	---	---	5.1	30	30	230	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-7	01/21/89	---	na	na	---	---	---	---	---	na	na	na	na	na	na	na	na	na	na	na	na
	05/16/91	---	na	na	---	---	---	---	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/18/91	---	na	na	---	---	---	---	---	na	na	na	na	na	na	na	na	na	na	na	na
	10/27/91	---	na	na	---	---	---	---	---	na	na	na	na	na	na	na	na	na	na	na	na
	07/13/93	---	na	na	---	---	---	---	---	na	na	na	na	na	na	na	na	na	na	na	na
	06/27/96	ND	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	09/19/96	67	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	12/13/96	ND	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	10/07/97	ND	na	na	ND	ND	ND	ND	ND	na	na	na	na	na	na	na	na	na	na	na	na
	06/08/12	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.6	0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	290
VW-1	06/08/12	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	210
Dup	06/08/12	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	210
VW-2	06/08/12	36,000	3,400 Y	<300	1,800	3,000	1,200	4,900	<25	<25	<25	<25	44	140	240	960	<25	<25	70	480	370
VW-3	06/08/12	120,000 Y	9,300	2,000	54	<20	84	640	<20	<20	<20	<20	100	340	650	2,000	37	22	83	240	370

Notes:

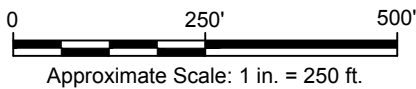
- Tier I ESL Tier I Environmental Screening Levels (ESLs) for shallow soils of less than 3 meters below ground surface and groundwater that is a current or potential source of drinking water.
- TPHg Total Petroleum Hydrocarbons as gasoline
- TPHd Total Petroleum Hydrocarbons as diesel
- TPHmo Total Petroleum Hydrocarbons as motor oil
- MTBE Methyl tertiary butyl ether
- cDCE cis-1,2-Dichloroethene
- EDC 1,2-Dichloroethane (ethylene dichloride)
- TCE Trichloroethene
- TDS total dissolved solids
- µg/L micrograms per liter
- ND Not detected at or above detection limits (historical limits unknown).
- Not analyzed
- na historical data not available
- Dup Duplicate sample
- * Wells abandoned
- < Not detected at or above the laboratory detection limit noted.
- Y Laboratory reports the sample exhibits chromatographic pattern which does not resemble standard.
- J Laboratory reports estimated value.

Figures

CITY:(Rept) DIV/GROUP:(Rept) DB:(Rept) LD:(Opt) PIC:(Opt) TM:(Opt) LYR:(Opt)ON+OFF+REF:
G:\ENV\CAD\emery\lic\ACT\EM001048\001\00001\CS\WIR_2012DWG\EM001048\NOI.dwg LAYOUT: 1 SAVED: 6/25/2012 2:57 PM ACADVER: 18.1S (LMS TECH) PAGES: 1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 6/25/2012 2:58 PM BY: REYES, ALEC
XREFS: IMAGES: PROJECTNAME: EM001048 0001 Aerial.jpg



SOURCE: GOOGLE EARTH PRO



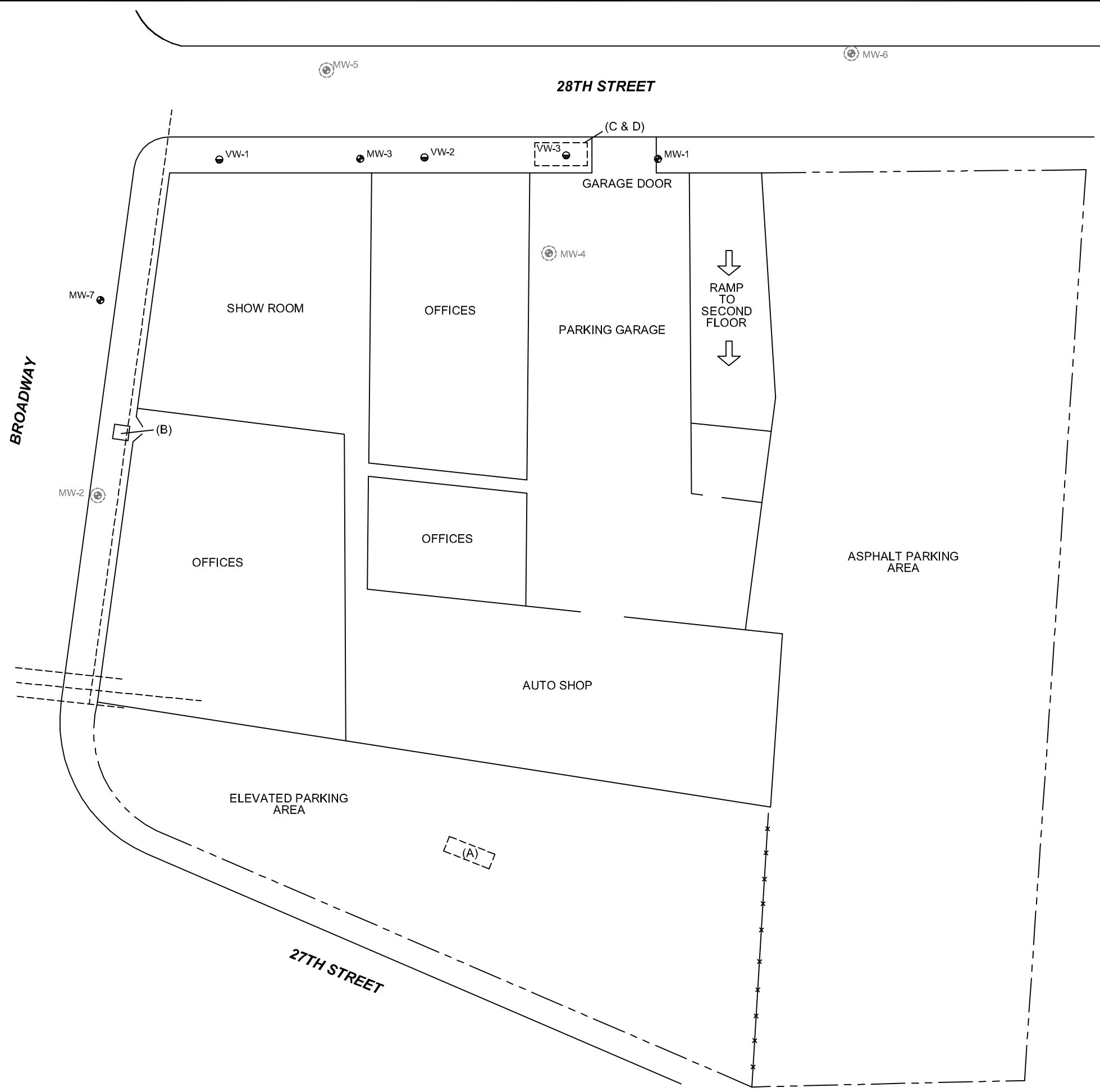
2740 BROADWAY
OAKLAND, CALIFORNIA
GROUNDWATER MONITORING REPORT

SITE LOCATION MAP

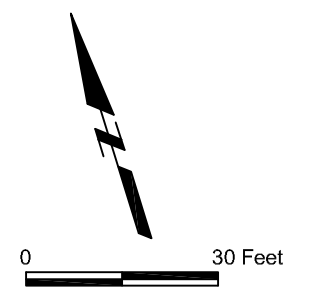


FIGURE
1

CITY:\Read\ DIV\GROUP\F\Read\ DB\Read\ LD\Op\ PIC\Op\ PM\Read\ TM\Op\ LYS\Option\OFF\REF*
 G:\ENVCAD\emeryville\ACT\EM001048\0001\00001\GWINR 2012\DWG\EM001048 B102.dwg LAYOUT: 2. SAVED: 6/25/2012 3:00 PM ACADVER: 18.1S (LMS TECH) PAGES: 18. PLOT SETUP: --- PLOT STYLE/TABLE: ARCADIS.CTB PLOTTED: 6/25/2012 3:01 PM BY: REYES, ALEC



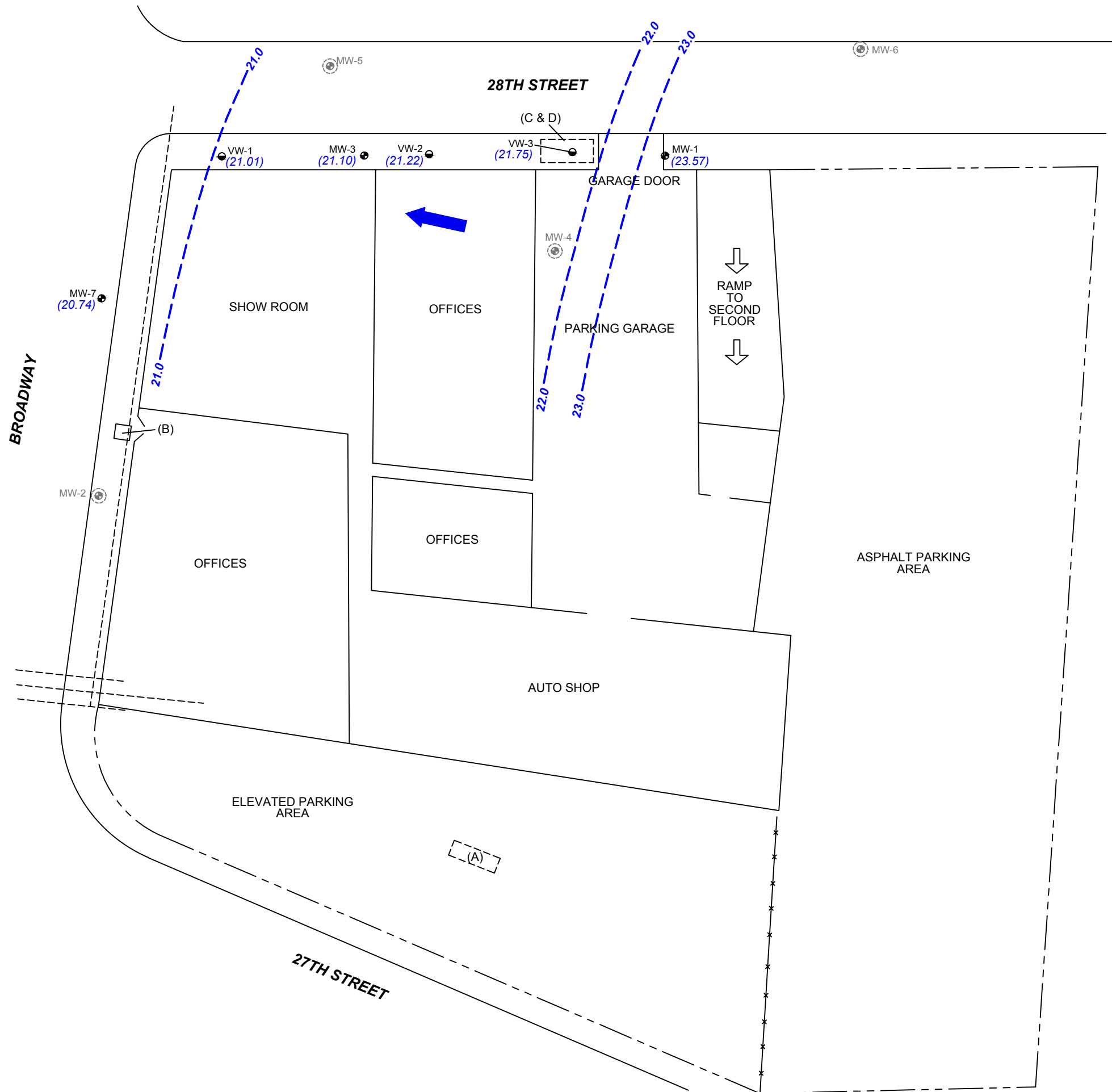
- LEGEND**
- PROPERTY LINE
 - x-x-x- FENCE LINE
 - - - - - UTILITY LINE
 - MW-3 ● MONITORING WELL LOCATION
 - MW-5 ⊕ ABANDONED MONITORING WELL
 - VW-1 ● VAPOR EXTRACTION WELL
 - [] FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED



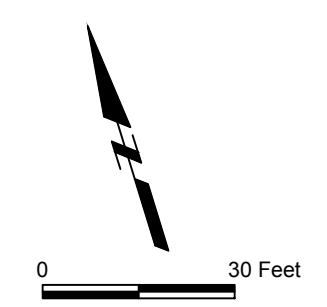
REFERENCES:
 MAP DIGITIZED FROM A SITE PLAN BY
 ENVIRONMENTAL SCIENCE & ENGINEERING (6/91)
 AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 -
 REVISED 12/28/98)

2740 BROADWAY OAKLAND, CALIFORNIA GROUNDWATER MONITORING REPORT	
SITE PLAN	
	FIGURE 2

CITY:(Read) DIV:(GROUP:(Read) DB:(Read) LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) Lyr:(Option):OFF=REF*
 G:\ENVCAD\emeryville\ACT\EM001048\000100001\GWMR 2012\DWG\EM001048 W03.dwg LAYOUT: 3 SAVED: 6/25/2012 10:14 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ... PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 6/25/2012 3:02 PM BY: REYES, ALEC



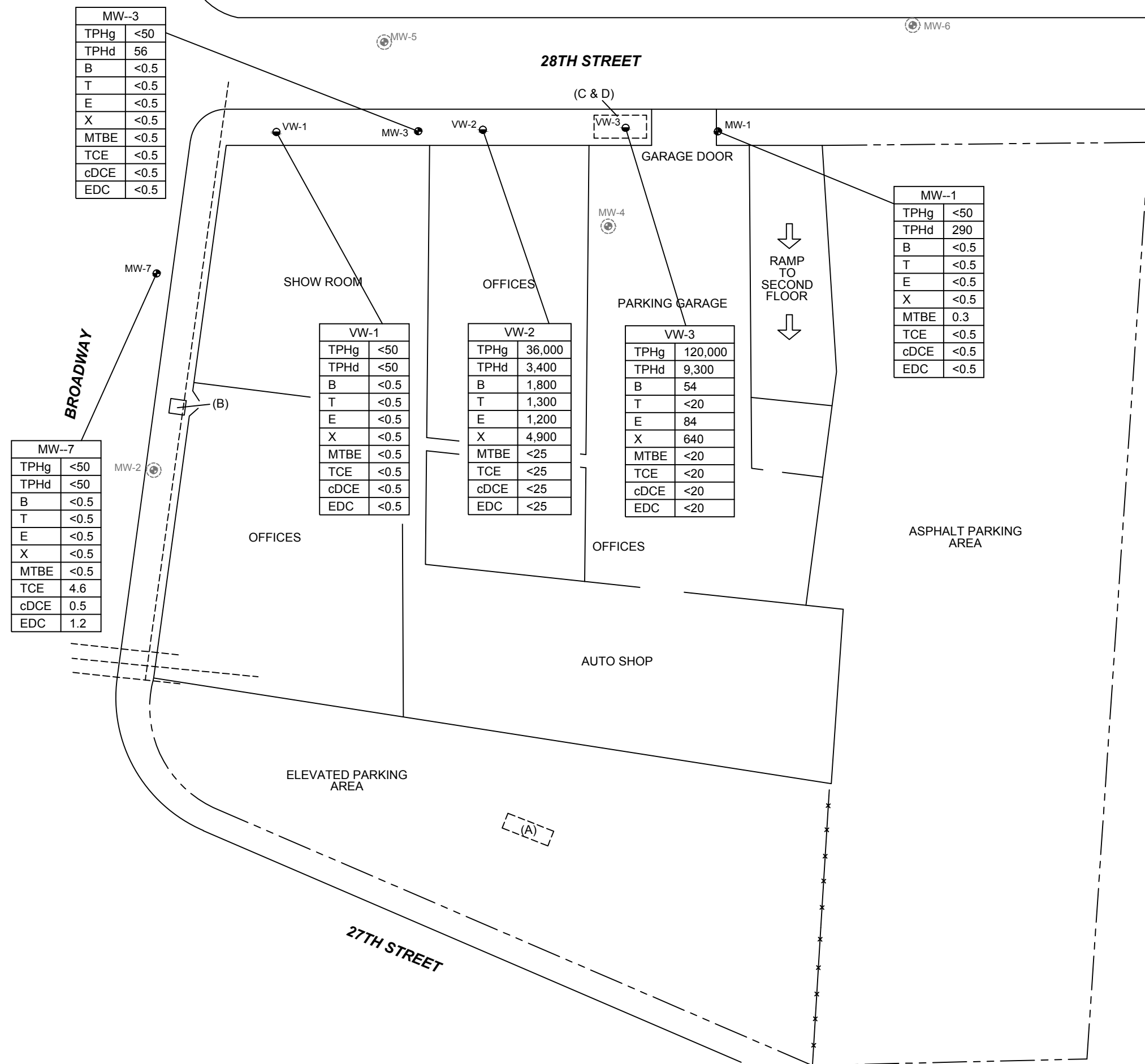
- LEGEND**
- PROPERTY LINE
 - x-x-x- FENCE LINE
 - - - - - UTILITY LINE
 - MW-3 ● MONITORING WELL LOCATION
 - MW-5 ● ABANDONED MONITORING WELL
 - VW-1 ● VAPOR EXTRACTION WELL
 - (Dashed) FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
 - (23.57) RELATIVE GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
 - ➡ INFERRED GROUNDWATER FLOW DIRECTION
 - 22.0 - - - - GROUNDWATER ELEVATION CONTOUR



REFERENCES:
 MAP DIGITIZED FROM A SITE PLAN BY ENVIRONMENTAL SCIENCE & ENGINEERING (6/91)
 AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 - REVISED 12/28/98)

2740 BROADWAY OAKLAND, CALIFORNIA	
GROUNDWATER MONITORING REPORT	
GROUNDWATER ELEVATION CONTOUR MAP	
JUNE 8, 2012	
	FIGURE 3

CITY:\Read\ DIV\GROUP:\Read\ DB:\(Read) LD:\(Opt) PIC:\(Opt) PM:\(Read) T:\(Opt) L:\(Opt)\ON*OFF=REF*
 G:\ENV\CAD\Emeryville\ACT\EM001048\0001\GWMR 2012\DWG\EM001048_C04.dwg LAYOUT: 4_SAVED: 6/25/2012 10:14 AM ACADVER: 18.1S (LMS TECH) PAGES: 18 PLOTSETUP: --- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 6/25/2012 3:17 PM BY: REYES, ALEC



MW-3	
TPHg	<50
TPHd	56
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MTBE	<0.5
TCE	<0.5
cDCE	<0.5
EDC	<0.5

MW-1	
TPHg	<50
TPHd	290
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MTBE	0.3
TCE	<0.5
cDCE	<0.5
EDC	<0.5

MW-7	
TPHg	<50
TPHd	<50
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MTBE	<0.5
TCE	4.6
cDCE	0.5
EDC	1.2

VW-1	
TPHg	<50
TPHd	<50
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MTBE	<0.5
TCE	<0.5
cDCE	<0.5
EDC	<0.5

VW-2	
TPHg	36,000
TPHd	3,400
B	1,800
T	1,300
E	1,200
X	4,900
MTBE	<25
TCE	<25
cDCE	<25
EDC	<25

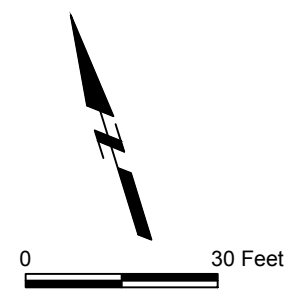
VW-3	
TPHg	120,000
TPHd	9,300
B	54
T	<20
E	84
X	640
MTBE	<20
TCE	<20
cDCE	<20
EDC	<20

LEGEND

- PROPERTY LINE
- x-x-x- FENCE LINE
- - - - - UTILITY LINE
- MW-3 ● MONITORING WELL LOCATION
- MW-5 ⊙ ABANDONED MONITORING WELL
- VW-1 ● VAPOR EXTRACTION WELL
- FORMER UNDERGROUND STORAGE TANK LOCATION
- (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
- (B) WASTE OIL (550 GAL); TANK REMOVED
- (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED

Sample Location	
TPHg	Total Petroleum Hydrocarbons - Gasoline Range Organics
TPHd	Total Petroleum Hydrocarbons - Diesel Range Organics
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylenes
MTBE	Methyl Tertiary Butyl Ether
TCE	Trichloroethene
cDCE	cis-1,2-dichloroethene
EDC	1, 2-Dichloroethane

NOTE: ALL CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER (µg/L).



REFERENCES:
 MAP DIGITIZED FROM A SITE PLAN BY ENVIRONMENTAL SCIENCE & ENGINEERING (6/91) AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 - REVISED 12/28/98)

2740 BROADWAY
 OAKLAND, CALIFORNIA
GROUNDWATER MONITORING REPORT

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

FIGURE
4



Appendix A

Field Sampling Notes

Development Data Sheet

Job#: EI-120606		Developer: EM.		Client: Arcadis	
Well ID: VW-1		Date: 6/6/12		Site: 2740 Broadway Oakland V.W	
Well diam: 1/4" 1" 2" 3" (4") 6" Other:			DTW: 918	TD Before: 18.55	TD After: 19.55
Purge equip: ES-diam Bladder Peri Waterra (Positive Air Displacement) Ext. System			Surge block used: (Y) N		
disp bailer teflon bailer other:					
Length of time surged prior to development: 10 min					
Pump depth/ intake:		Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163			
(TD - DTW X Multiplier = 1 Volume			80% Recovery (TD - DTW X 0.20 + DTW)		

1 Volume = **6.09** X 10 = **60.9** (Total Purge) **11.5 = 80%** Meter(s): **YSI PRO PLUS**

Time	Temp (°F / °C)	pH	Cond (mS / µS)	Turbidity (NTU)	D.O. (mg/l)	ORP (mV)	Purge Rate (gal or mL / min)	Volume Removed (gal / L)	DTW	Notes
1413	18.5	6.6	272	>1000	4.0	101.0		6.1	11.20	lt. orange hard bottom
1428	18.3	6.6	270	857	3.0	110		12.2	11.70	switched to E.S. pa
1435	18.1	6.6	270	22	2.8	116	5.0	18.3	12.15	↓ after
1440	18.3	6.7	265	728	4.6	109		24.4	15.48	lt orange color
1441	18.5	6.7	272	45	2.7	109		30.5	15.90	Dewatered here
1451	18.4	6.7	272	44	2.5	113		36.6		wanted for recharge
1459	18.4	6.7	273	52.5	2.6	114		43.0		Dewatered again Sounder stuck on something unknown
— Feels as though there is something sitting in bottom of well obstructing pump from going to the absolute bottom of well. Possible PVC, bailer ect.										
Parameters stable; NTUs < 50, hard bottom; development complete.										
Did well dewater (YES) NO			Total volume removed: 43.0 (gal / L)							
Sample method (if applicable): Disp Bailer Ded. Tubing New Tubing Ext. Port Other:										
Sample date:			Sample time:			DTW at sample:				
Sample ID:			Lab:			Number of bottles:				
Analysis:										

Development Data Sheet

Job#: E1-120606	Developer: EM	Client: Arcadis
Well ID: YW-2	Date: 6/6/12	Site: 2740 Broadway, Oakland YW
Well diam: 1/4" 1" 2" 3" (4") 6" Other:	DTW: 8.90	TD Before: 16.93 TD After: 16.93
Purge equip: ES - diam Bladder Peri Waterra Positive Air Displacement Ext. System	Surge block used: (Y) N	
Length of time surged prior to development: 10 min		
Pump depth/ intake:	Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163	
(TD - DTW X Multiplier = 1 Volume) 80% Recovery (TD - DTW X 0.20 + DTW)		

1 Volume = 5.21 X 10 = 52.10 (Total Purge) Meter(s):

Time	Temp (°C/°F)	pH	Cond (mS/cm)	Turbidity (NTU)	D.O. (mg/l)	ORP (mV)	Purge Rate (gal or ml/min)	Volume Removed (gal / L)	DTW	Notes
1525	17.7	6.3	570	>1000	1.8	-30		5.25	11.35	hard bottom silty
1538	17.6	6.45	573	>1000	1.9	-60		10.5	11.90	dk gray water. mild dbt, sewer-like voc's
1544	17.8	6.5	572	>1000	1.8	-55	5.0	15.75	15.10	switched to E.S. pump
1552	17.9	6.45	572	84	1.5	-53	↓	21.0	11.90	↓ dewatering start
1554	17.9	6.5	574	>1000	1.7	-55	↓	26.25	15.09	dewatering
1602	17.9	6.45	572	>1000	1.7	-48	↓	31.5	15.08	dewatering
Recharge calculated @ 0.2' / min										
Parameters stable, hard bottom, water turbid but not very silty. Per client ok to call development complete.										
Slightest bit of skin noted in bucket										
* Removed extraction piping from well to access. Needs 4" cap.										

Did well dewater? (YES) NO	Total volume removed: _____ (gal / L)
Sample method (if applicable): Disp Bailer Ded. Tubing New Tubing Ext. Port Other:	
Sample date: _____	Sample time: _____ DTW at sample: _____
Sample ID: _____	Lab: _____ Number of bottles: _____
Analysis: _____	

Development Data Sheet

Job#: <u>EI-120606</u>		Developer: <u>EM</u>		Client: <u>Arcadis</u>	
Well ID: <u>MW-1</u>		Date: <u>6/6/12</u>		Site: <u>2740 Broadway, Oakland, VA</u>	
Well diam: 1/4" 1" <u>(2")</u> 3" 4" 6" Other:			DTW: <u>6.00</u>	TD Before: <u>19.20</u>	TD After: <u>19.20</u>
Purge equip: ES - diam: Bladder Peri Waterra <u>Positive Air Displacement</u> Ext. System			Surge block used: <u>(Y)</u> N		
Length of time surged prior to development: <u>10 min</u>					
Pump depth/ intake: <u>bottle</u>			Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163		
(TD - DTW X Multiplier = 1 Volume			80% Recovery (TD - DTW X 0.20 + DTW)		

1 Volume = ^{19.2}2.1 X 10 = 21.1 (Total Purge) Meter(s): YSI PRO

Time	Temp (°C/°F)	pH	Cond (µS)	Turbidity (NTU)	D.O. (mg/l)	ORP (mV)	Purge Rate (gal or mL/min)	Volume Removed (gal / L)	DTW	Notes
1045	19.9	6.47	820	>1000	2.25	231		2.25	8.44	very hard bottom turbid
1051	19.5	6.23	591	>1000	1.85	222		4.5	9.98	little silt
1058	18.7	6.3	585	>1000	2.3	209		6.75	10.37	clearing quickly
1105	18.6	6.3	579	>1000	3.3	176		9.0	11.12	less turbid
1111	18.3	6.4	573	>1000	4.0	178		11.25	11.44	hard bottom
1117	18.4	6.5	568	>1000	4.7	177		13.5	11.58	
1123	18.4	6.5	565	>1000	4.8	175		15.75	11.65	
1131	18.4	6.6	563	>1000	4.8	163		18.0	11.77	
1137	18.4	6.6	562	>1000	4.9	161		20.25	11.80	
1145	18.5	6.6	563	>1000	4.9	162		22.0	11.81	
Very little sediment, hard bottom stable parameters, development complete.										
* 2 1/2 tabs broken on box.										
Did well dewater? YES <input type="radio"/> NO <input checked="" type="radio"/>			Total volume removed: <u>22.0</u> (gal / L)							
Sample method (if applicable): Disp Bailer Ded. Tubing New Tubing Ext. Port Other:										
Sample date:			Sample time:			DTW at sample:				
Sample ID:			Lab:			Number of bottles:				
Analysis:										

Development Data Sheet

Job#: <u>EI-120606</u>		Developer: <u>EM</u>			Client: <u>Arcadis</u>					
Well ID: <u>MW-3</u>		Date: <u>6-6-12</u>		Site: <u>2740 Broadway, Oakland CA</u>						
Well diam: 1/4" 1" <u>2"</u> 3" 4" 6" Other:		DTW: <u>8.76</u>		TD Before: <u>18.55</u>		TD After: <u>18.60</u>				
Purge equip: ES - diam: Bladder Peri Waterra <u>Positive Air Displacement</u> Ext. System										
disp bailer teflon bailer <u>other: Airlift</u> Surge block used: <u>(Y) N</u>										
Length of time surged prior to development: <u>10 min.</u>										
Pump depth/ intake: <u>Bottom</u>		Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163								
(TD - DTW X Multiplier = 1 Volume			80% Recovery (TD - DTW X 0.20 + DTW)							
9.74 1 Volume = <u>1.56</u> X 10 = <u>15.6</u> (Total Purge)										
Meter(s): <u>YSI PRO</u>						<u>10.71 = 80%</u>				
Time	Temp (°C/°F)	pH	Cond (ms/cm)	Turbidity (NTU)	D.O. (mg/l)	ORP (mV)	Purge Rate (gal or mL/min)	Volume Removed (gal/L)	DTW	Notes
920	17.7	6.41	657	>1000	8.6	235.3	0.25	1.6	9.10	hard bottom, turbid
928	20.2	7.0	391	>1000	7.4	226	<0.25	3.2	9.65	switched over to silt P.A.D.
944	18.1	6.94	393	>1000	7.8	211	0.25	4.8	11.35	hard bottom
950	17.7	6.82	390	>1000	7.5	205	0.25	5.4	12.85	DTW still dropping
955	17.8	6.7	390	>1000	7.5	205	0.25	7.0	12.20	changed water briefly shut pump off
1002	17.8	6.7	392	>1000	7.5	203	0.25	8.6	2.35	turbid, very little silt
1008	17.8	6.65	395	>1000	7.5	204	0.25	10.2	12.62	hard bottom
1014	17.8	6.65	391	>1000	7.47	206	0.25	11.8	12.55	
1020	17.8	6.65	390	>1000	7.45	205	0.25	13.6	2.51	
1028	17.8	6.65	390	>1000	7.50	204	0.25	16.0	12.58	
Parameters stabilized, hard bottom, relatively little sediment in well, Development complete										
Did well dewater? YES <u>(NO)</u>				Total volume removed: <u>16.0</u> (gal/L)						
Sample method (if applicable): Disp Bailer Ded. Tubing New Tubing Ext. Port Other:										
Sample date:			Sample time:			DTW at sample:				
Sample ID:			Lab:			Number of bottles:				
Analysis:										

Development Data Sheet

Job#: <u>E1-120606</u>		Developer: <u>EM.</u>		Client: <u>Aradis</u>	
Well ID: <u>MW-7</u>		Date: <u>6/6/12</u>		Site: <u>2740 Broadway, Oakland YW</u>	
Well diam: 1/4" 1" 2" 3" <u>4"</u> 6" Other:			DTW: <u>9.10</u>	TD Before: <u>23.50</u>	TD After:
Purge equip: <u>ES-diam</u> Bladder Peri Waterra <u>Positive Air Displacement</u> Ext. System			Surge block used: <u>(Y)</u> N		
disp bailer teflon bailer other:					
Length of time surged prior to development: <u>10 min</u>					
Pump depth/ intake:		Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163			
(TD - DTW X Multiplier = 1 Volume			80% Recovery (TD - DTW X 0.20 + DTW)		

1 Volume = 9.36 X 10 = 93.6 (Total Purge) 11.98 ^{8%} Meter(s): VSI PROPlus

Time	Temp (°/°F)	pH	Cond (mS/°C)	Turbidity (NTU)	D.O. (mg/l)	ORP (mV)	Purge Rate (gal or mL/min)	Volume Removed (gal / L)	DTW	Notes
1240	20.9	6.7	397	>1000	1.55	123		9.5	10.85	hard bottom, dark grey
1302	19.9	6.5	385	>1000	2.0	126		18.0	11.15	water, milky
1318	20.0	6.4	384	>1000	2.0	122		27.5	11.30	lt. grey
1325	19.9	6.5	382	>1000	2.5	109	5.0	37.0	17.97	switched to E.S. pump
1327	19.5	6.45	384	>1000	1.9	102		46.5	19.65	
1330	19.7	6.4	386	>1000	1.1	102		57.0	20.15	waited briefly for sink
1335	19.6	6.4	391	>1000	1.0	103		66.5	20.77	too empty
1337	19.5	6.3	390	>1000	0.9	107		77.0	21.10	Turbid, little silt/sand
1339	19.6	6.3	387	>1000	0.7	107		86.5	21.55	waited for sink to drain
1345	19.6	6.3	390	>1000	0.8	105		97.0	17.10	
Parameters stable, very little sediment in water										
Development complete										
needs locking cap 4" + lock										
Did well dewater? YES <u>(NO)</u>						Total volume removed: <u>97.0</u> (gal) / L				
Sample method (if applicable): Disp Bailer Ded. Tubing New Tubing Ext. Port Other:										
Sample date:			Sample time:			DTW at sample:				
Sample ID:			Lab:			Number of bottles:				
Analysis:										

Well Maintenance Inspection Form

Client: e. Arendis
EI-120606

Site: 2740 Broadway, Oakland VW

Date: 6/6/12

Job #: EI-120606

Technician: E.M

Page 1 of 1

Inspection Point	Well Inspected - No Corrective Action Required	Entry Indicates Deficiency										Well Not Inspected (explain in notes)	Notes (Note any repairs made while on site)		
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (# missing / # total tabs)	Tabs stripped (# stripped / # total tabs.)	Tabs broken (# broken / # of total tabs)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard			Below Grade	Other (explain in notes)
MW-1		X	X		/	/	2 2								2" cap
MW-3			X		4 4	4 4	/								4"
MW-7		X		X	/	/	1 2								
VW-1					4 4	4 4	/								extraction in well removal.
VW-2					4 4	4 4	/								↓ ↓
VW-3					4 4	4 4	/								
					/	/	/								
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Notes: VW-1, 2, 3 need new 4" caps since removing extraction plumbing will replace on return to sample.

Repair codes: rt=retap/ bolts added or replaced as=annular seal repair.

Drum Log

Site: 2740 Broadway Oakland VW

Drum(s) Location On Site: Inside NE Bay garage Door between MW-1 & VW-3

Date		# of drums			total	contents (s=sol w=water m=mixed ?=unknown)	labeled (y or n)	label legible (y or n)	tech initial	Notes:
		full	partial	empty						
6/6/12	Arrival	—	—	—	0					
6/6/12	Departure	3	1	1	5	W	Y	Y	SM	
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
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	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									

Equipment Calibration Log

Equipment make/model	Equipment ID/serial number	Date	Time	Calibration Standards	Equipment Reading	Equipment Calibrated	Temp (°C / °F)	Tech init.	Comments
YSI PRO	12A100565	6/6/12	815	PH-4.0,7.0,10.0	4,7,10.0	✓	14.0	EA	
I	I	I	818	DO-100%	100.1%	✓	16.5	EA	
I	I	I	820	Cond 1413	1413	✓	15.0	EA	
I	I	I	822	ORP 244.0	244.0	✓	15.0	EA	

Notes/comments:



Confluence Environmental, Inc.
 3300 El Camino Ave, Suite 300 #148
 Sacramento, CA 95821
 916-760-7641 - main
 916-473-8617 - fax
 www.confluence-env.com

Chain of Custody

Project Name: VW Dealership, Oakland
 Job Number: 44-120608
 TAT: STANDARD 5 DAY 2 DAY 24 HOUR OTHER:

Lab: Curtis & Tompkins	Site Address: 2740 Broadway, Oakland	Confluence PM: Jason Brown
Address: 2323 Fifth St, Berkeley, CA	California Global ID No.: TO6001002227	Phone / Fax: 916-760-7641 / 916-473-8617
Contact:	Include EDF w/ Report: Yes No *Per agreement with Arcadis	Confluence Log Code: CESC
Phone/ Fax: 510-486-0900	Consultant / PM: Arcadis / Ron Golobouw	Report to: Ron Golobouw & Caitlin Bell
	Phone / Fax: 510-596-9550	Invoice to: Arcadis

Sample ID	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis				Notes and Comments
			Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	VOC's with fuel Oxy's, BTEX, Chlorinated Solvents including TCE (8260B)	TPH-G (8015)	TPH-D & MO (8015)	TDS (2540C)	
MW7	800	4/9/12	X			9	3						X	X	X	X	
VW1	835			X		1							X	X	X	X	
MW3	920			X		1							X	X	X	X	
VW2	1005			X		1							X	X	X	X	
MW1	1015			X		1							X	X	X	X	
VW3	1100			X		1							X	X	X	X	
				X		2							X				

Sampler's Name: <u>B. Morris</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Confluence Environmental		4/8/12	1145		4/9/12	1145
Shipment Date:						
Shipment Method:						

Special Instructions:

Drum Log

Site: 2740 Broadway Oakland VW

Drum(s) Location On Site: Inside NE Bay garage Door between MW-1 & VW-3

Date		# of drums			total	contents (is soil w/ water mentioned ? unknown)	labeled (y or n)	label legible (y or n)	tech initial	Notes:
		full	partial	empty						
6/6/12	Arrival	—	—	—	0	—	—	—	JK	
6/6/12	Departure	3	1	1	5	W	Y	Y	SM	
6/8/12	Arrival	3	1	1	5	W	Y	X	SM	
6/16/12	Departure	4			4	W	Y	Y	SM	
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									

Equipment Calibration Log

Equipment make/model	Equipment ID/serial number	Date	Time	Calibration Standards	Equipment Reading	Equipment Calibrated	Temp (°C / °F)	Tech init.	Comments
YSI Pro Series	#33	6/8/12	700	4, 7, 10	4.0, 7.0 10.0	Y	19	RM	
				1413	1413	Y	19	RM	
				100%	100%	Y	19	RM	
				240	240	Y	19	RM	

Notes/comments:

Well Maintenance Inspection Form

Client: Arcadis Site: 1740 Broadway Oakland Date: 6/8/12

Job #: 41-120608 Technician: BM Page 1 of 1

Inspection Point	Well Inspected - No Corrective Action Required	Entry Indicates Deficiency										Well Not Inspected (explain in notes)	Notes (Note any repairs made while on site)				
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (# missing / # total tabs)	Tabs stripped (# stripped / # total tabs.)	Tabs broken (# broken / # of total tabs)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard			Below Grade	Other (explain in notes)		
MW1				X	/	/	/	/	/	/	/	/	/				
MW3				X	4/4	/	/	/	/	/	/	/	/				vault (2" cap)
MW7				X	/	/	/	/	1/2	/	/	/	/				slip cap (4" cap)
VW1		X		X	4/4	/	/	/	/	/	/	/	/				vault (4" cap)
VW2				X	4/4	/	/	/	/	/	/	/	/				vault (4" cap)
VW3				X	4/4	/	/	/	/	/	/	/	/				vault
					/	/	/	/	/	/	/	/	/				
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Notes: Replaced caps on all wells

Repair codes: **rt**=retap/ bolts added or replaced **as**=annular seal repair,

Water Level Measurements

Job Number: M1-120608 Date: 4/8/12 Client: Arcadis

Site: 2740 Broadway Oakland

Well I.D.	Time	Dia	Depth to NAPL	Thickness of NAPL	Depth to water (DTW)	Total Depth (measured)	Total Depth (historical)	Ref Point (TOC/ TOB)		
MW1 MW1	652	2			16.03	19.20		TOC		
MW3	646	2			8.90	18.60				
MW7	640	4			9.10	23.50				
VW1	643	4			9.01	18.93				
VW2	649	4			8.82	16.90				
VW3	700	4	7.70		7.73	—				

Purging And Sampling Data Sheet

Job#: M1-120608	Sampler: B Myers	Client: Arcadis
Well ID: MW1	Date: 6/8/12	Site: VW Dealership, Oakland
Well diam: 1/4" 1" <u>2"</u> 3" 4" 6" Other:	DTW: 6.03	Total Depth: 19.20
Purge equip: ES - diam: Bladder <u>Peri</u> Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:		
Tubing: OD: <u>New</u> Dedicated NA		
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> Extraction Other:		
Pump depth/ intake: 15	Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163	
(TD - DTW X Multiplier = 1 Volume		80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _____ X 3 = _____ (Total Purge) 80% = _____

Time	Temp (°C/°F)	pH	Cond (mS/µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
1029	18.4	6.4	742	8	700	600ml	1.1	66	6.35	
1032	18.6	6.3	732	7		1.2L	1.1	68	6.35	
1035	18.5	6.3	720	7		1.8L	0.98	70	6.35	
1038	18.5	6.3	791	6		2.4L	0.87	70	6.35	
1041	18.5	6.3	780	6		3L	0.82	69	6.35	
1044	18.6	6.3	786	6	—	3.6L	0.81	69	6.35	

Did well dewater? YES NO Total volume removed: 3.6L (gal / L)

Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:

Sample date: 6/8/12 Sample time: 1045 DTW at sample: 6.35

Sample ID: MW1 Lab: C&T Number of bottles: 9

Analysis: VOC's plus Oxy's, TPH-G, TPH-D & MO, TDS

Equipment blank ID @ Field blank ID @

Duplicate ID: Pre-purge DO: Post purge DO:

Fe²⁺: Pre-purge ORP: Post purge ORP:

NAPL depth: Volume of NAPL: Volume removed: ml

Purging And Sampling Data Sheet

Job#: M1-120608	Sampler: B Myers	Client: Arcadis
Well ID: M1-120608 MW7	Date: 6/8/12	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" 4" 6" Other:	DTW: 9.10	Total Depth: 23.50
Purge equip: ES - diam: Bladder <input type="checkbox"/> Peri <input checked="" type="checkbox"/> Waterra <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Ext. System <input type="checkbox"/>		
disp bailer teflon bailer other: Tubing: OD: <input checked="" type="checkbox"/> New <input type="checkbox"/> Dedicated <input type="checkbox"/> NA		
Purge method: 3-5 Case Volume <input type="checkbox"/> Micro/Low-Flow <input checked="" type="checkbox"/> Extraction <input type="checkbox"/> Other:		
Pump depth/ intake: 19 Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163		
(TD - DTW X Multiplier = 1 Volume		80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _____ X 3 = _____ (Total Purge) 80% = _____

Time	Temp (°C/°F)	pH	Cond (mS/µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
735	18.1	8.2	751	8	700ml	600ml	6.1	161	9.26	
738	18.0	7.7	738	8		1.2L	2.7	165	9.30	
741	18.0	7.4	737	8		1.8L	2.0	168	9.33	
744	18.0	7.1	736	8		2.4L	1.5	170	9.33	
747	18.0	6.9	732	7		3L	1.3	172	9.33	
750	18.0	6.8	730	7		3.6L	1.3	172	9.33	
753	18.1	6.6	728	6		4.2L	1.5	172	9.34	
756	18.1	6.6	726	5		4.8L	1.6	172	9.34	
759	18.0	6.6	725	5		5.4L	1.6	173	9.34	

Did well dewater? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Total volume removed: 5.4L (gal / L)	
Sample method: Disp Bailer <input type="checkbox"/> Ded. Tubing <input type="checkbox"/> <input checked="" type="checkbox"/> New Tubing <input type="checkbox"/> Ext. Port <input type="checkbox"/> Other:			
Sample date: 6/8/12	Sample time: 8:00	DTW at sample: 9.34	
Sample ID: MW7	Lab: C&T	Number of bottles: 9	
Analysis: VOC's plus Oxy's, TPH-G, TPH-D & MO, TDS			
Equipment blank ID @	Field blank ID @		
Duplicate ID:	Pre-purge DO:	Post purge DO:	
Fe ²⁺ :	Pre-purge ORP:	Post purge ORP:	
NAPL depth:	Volume of NAPL:	Volume removed:	ml

Purging And Sampling Data Sheet

Job#: M1-120608	Sampler: B Myers	Client: Arcadis
Well ID: VW1	Date: 6/8/12	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" <u>4"</u> 6" Other:	DTW: 9.01 Total Depth: 18.53	
Purge equip: ES - diam: Bladder <u>Peri</u> Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other: Tubing: OD: <u>New</u> Dedicated NA		
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> Extraction Other:		
Pump depth/ intake: 17	Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius ² X 0.163	
(TD - DTW X Multiplier = 1 Volume		80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _____ X 3 = _____ (Total Purge) 80% = _____

Time	Temp (°C/°F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL / min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
820	17.6	6.8	349	7	200	600ml	3.1	165	9.20	
823	17.6	6.7	348	7		1.2	2.8	164	9.23	
826	17.7	6.7	347	6		1.8L	2.8	162	9.25	
829	17.6	6.7	346	6		2.4L	2.8	162	9.27	
832	17.6	6.7	346	6		3L	2.8	161	9.28	
835	17.7	6.7	346	6	—	3.6L	2.8	160	9.28	

Did well dewater? YES <input type="radio"/> <u>NO</u>		Total volume removed: 3.6L (gal / L)
Sample method: Disp Bailer Ded. Tubing <u>New Tubing</u> Ext. Port Other:		
Sample date: 6/8/12	Sample time: 835	DTW at sample: 9.28
Sample ID: VW1	Lab: C&T	Number of bottles: 9
Analysis: VOC's plus Oxy's, TPH-G, TPH-D & MO, TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID: DUP	Pre-purge DO:	Post purge DO:
Fe2 ⁺ :	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: M1-120608	Sampler: B Myers	Client: Arcadis
Well ID: VW2	Date: 6/8/12	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" <u>4"</u> 6" Other:	DTW: 8.82	Total Depth: 16.90
Purge equip: ES - diam: Bladder <u>Peri</u> Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:		
Tubing: OD: <u>New</u> Dedicated NA		
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> Extraction Other:		
Pump depth/ intake: 14	Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163	
(TD - DTW X Multiplier = 1 Volume		80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _____ X 3 = _____ (Total Purge) 80% = _____

Time	Temp (°/°F)	pH	Cond (mS / S)	Turbidity (NTU)	Purge Rate (gal or mL / min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
945	17.5	6.5	733	8	200	600	0.92	57	9.15	
948	17.7	6.5	734	6		1.2L	0.88	35	9.15	
951	17.6	6.6	734	6		1.8L	1.0	23	9.15	
954	17.6	6.6	736	6		2.4L	1.3	16	9.15	
957	17.7	6.6	734	5		3L	1.5	10	9.15	
1000	17.6	6.6	735	5		3.6L	1.4	6	9.15	
1003	17.6	6.6	735	5		4.2L	1.4	2	9.15	

Did well dewater? YES NO Total volume removed: 3.6L (gal/L)

Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:

Sample date: 6/8/12 Sample time: 1005 DTW at sample: 9.15

Sample ID: VW2 Lab: C&T Number of bottles: 9

Analysis: VOC's plus Oxy's, TPH-G, TPH-D & MO, TDS

Equipment blank ID @	Field blank ID @
Duplicate ID:	Pre-purge DO: Post purge DO:
Fe ²⁺ :	Pre-purge ORP: Post purge ORP:
NAPL depth:	Volume of NAPL: Volume removed: ml

Purging And Sampling Data Sheet

Job#: M1-120608	Sampler: B Myers	Client: Arcadis
Well ID: VW3	Date: 6/8/12	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" 4" 6" Other:	DTW: 7.73	Total Depth: —
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:		
Tubing: OD: New Dedicated NA		
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other:		
Pump depth/ intake:	Multipliers: 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"= 1.02 6"= 1.47 Radius ² X 0.163	
(TD - DTW X Multiplier = 1 Volume		80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _____ X 3 = _____ (Total Purge) 80% = _____

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL / min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
6:03										5gph detected w/ I.P., double checked w/ disp bailer. No much inside bailer but outside of bailer was coated heavily with SPA.
										Grab sample taken from below SPA
										No parameters taken due to SPA, then raised tubing & tried to remove SPA
										approx 100 ml SPA removed

Did well dewater? YES <input type="radio"/> NO <input checked="" type="radio"/>	Total volume removed: — (gal / L)
Sample method: Disp Bailer Ded. Tubing <input checked="" type="radio"/> New Tubing Ext. Port Other:	
Sample date: 6/8/12	Sample time: 11:00 DTW at sample: —
Sample ID: VW3	Lab: C&T Number of bottles: 9
Analysis: VOC's plus Oxy's, TPH-G, TPH-D & MO, TDS	
Equipment blank ID @	Field blank ID @
Duplicate ID:	Pre-purge DO: Post purge DO:
Fe2 ⁺ :	Pre-purge ORP: Post purge ORP:
NAPL depth: 7.70	Volume of NAPL: 0.03 Volume removed: ml



Appendix B

Laboratory Analytical Report



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 236951
ANALYTICAL REPORT**

Arcadis
2000 Powell St.
Emeryville, CA 94608

Project : EM001048.0001-0001
Location : VW Dealership, Oakland
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW7	236951-001
VW1	236951-002
MW3	236951-003
VW2	236951-004
MW1	236951-005
VW3	236951-006
TB	236951-007
DUP	236951-008

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: 
Project Manager

Date: 06/18/2012

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 236951
Client: Arcadis
Project: EM001048.0001-0001
Location: VW Dealership, Oakland
Request Date: 06/08/12
Samples Received: 06/08/12

This data package contains sample and QC results for seven water samples, requested for the above referenced project on 06/08/12. The samples were received cold and intact. All data were e-mailed to Ron Goloubow on 06/18/12.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

High response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 06/14/12 10:56; affected data was qualified with "b". High recoveries were observed for tert-butyl alcohol (TBA) in the BS/BSD for batch 187602; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. No other analytical problems were encountered.

Total Dissolved Solids (TDS) (SM2540C):

No analytical problems were encountered.



Confluence Environmental, Inc.
 3308 El Camino Ave, Suite 300 #148
 Sacramento, CA 95821
 916-760-7641 - main
 916-473-8617 - fax
 www.confluence-env.com

Chain of Custody

236951

Project Name: VW Dealership, Oakland

Job Number: 41-120608

TAT: STANDARD 5 DAY 2 DAY 24 HOUR OTHER:

Lab: Curtis & Tompkins	Site Address: 2740 Broadway, Oakland	Confluence PM: Jason Brown
Address: 2323 Fifth St, Berkeley, CA	California Global ID No.: TO6001002227	Phone / Fax: 916-760-7641 / 916-473-8617
Contact:	Include EDF w/ Report: Yes No *Per agreement with Arcadis	Confluence Log Code: CESC
Phone/ Fax: 510-486-0900	Consultant / PM: Arcadis / Ron Golobouw	Report to: Ron Golobouw & Caitlin Bell
	Phone / Fax: 510-596-9550	Invoice to: Arcadis

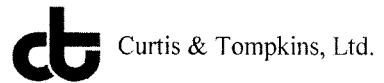
Sample ID	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis					Notes and Comments
			Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	VOC's with fuel Oxy's, BTEX, Chlorinated Solvents including TCE (8260B)	TPH-G (8015)	TPH-D & MO (8015)	TDS (2540C)		
1 MW7	822	4/8/12	X			9	3						X	X	X	X		
2 VW1	835		X			1	1						X	X	X	X		
3 MW3	920		X			1	1						X	X	X	X		
4 VW2	1005		X			1	1						X	X	X	X		
5 MW1	1045		X			1	1						X	X	X	X		
6 VW3	1100		X			1	1						X	X	X	X		
			X			2	2						X	X	X	X		

Sampler's Name: <u>B. Morris</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Confluence Environmental	<i>[Signature]</i>	4/8/12	1145	<i>[Signature]</i>	4/8/12	11:45
Shipment Date:						
Shipment Method:						

Special Instructions:

3 of 42

COOLER RECEIPT CHECKLIST



Login # 236951 Date Received 6/8/12 Number of coolers 1
 Client ARCADIS Project VW Dealership, Oakland

Date Opened 6/8/12 By (print) ICHOY (sign) [Signature]
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank; ~~temp. taken with IR gun~~

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? R. Goban By T. Bobb Date: 6-8-12

COMMENTS

Did not reach him however log-n
duplicate for all analysis.

TO
 10) rec'd 2 VOAs label "TB" not listed/written on COC BUT ANALYSIS were marked / requested
 rec'd 6 VOAs + 1 poly + 2 amber containers labeled "DUP" 6/8/12 no time that's not on COC.

20) -007 [TB] - 2 of 2 VOAs rec'd w/ bubbles

Hold for per RA

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/08/12
Units:	ug/L	Received:	06/08/12

Field ID: MW7 Diln Fac: 1.000
 Type: SAMPLE Batch#: 187511
 Lab ID: 236951-001 Analyzed: 06/12/12

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	76-121

Field ID: VW1 Diln Fac: 1.000
 Type: SAMPLE Batch#: 187511
 Lab ID: 236951-002 Analyzed: 06/13/12

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	76-121

Field ID: MW3 Diln Fac: 1.000
 Type: SAMPLE Batch#: 187511
 Lab ID: 236951-003 Analyzed: 06/13/12

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	76-121

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/08/12
Units:	ug/L	Received:	06/08/12

Field ID: VW2 Diln Fac: 20.00
 Type: SAMPLE Batch#: 187608
 Lab ID: 236951-004 Analyzed: 06/15/12

Analyte	Result	RL
Gasoline C7-C12	36,000	1,000

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	76-121

Field ID: MW1 Diln Fac: 1.000
 Type: SAMPLE Batch#: 187608
 Lab ID: 236951-005 Analyzed: 06/15/12

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	76-121

Field ID: VW3 Diln Fac: 100.0
 Type: SAMPLE Batch#: 187511
 Lab ID: 236951-006 Analyzed: 06/12/12

Analyte	Result	RL
Gasoline C7-C12	120,000 Y	5,000

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	76-121

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/08/12
Units:	ug/L	Received:	06/08/12

Field ID: DUP Diln Fac: 1.000
 Type: SAMPLE Batch#: 187511
 Lab ID: 236951-008 Analyzed: 06/13/12

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	79	76-121

Type: BLANK Batch#: 187511
 Lab ID: QC643767 Analyzed: 06/12/12
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	76-121

Type: BLANK Batch#: 187608
 Lab ID: QC644174 Analyzed: 06/14/12
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	76-121

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC643766	Batch#:	187511
Matrix:	Water	Analyzed:	06/12/12
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,099	110	79-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	76-121

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	187511
MSS Lab ID:	236990-001	Sampled:	06/07/12
Matrix:	Water	Received:	06/09/12
Units:	ug/L	Analyzed:	06/12/12
Diln Fac:	1.000		

Type: MS Lab ID: QC643768

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	11.70	2,000	1,925	96	68-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	76-121

Type: MSD Lab ID: QC643769

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,923	96	68-120	0	21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	76-121

RPD= Relative Percent Difference

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC644173	Batch#:	187608
Matrix:	Water	Analyzed:	06/14/12
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	850.1	85	79-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	76-121

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	187608
MSS Lab ID:	237058-008	Sampled:	06/12/12
Matrix:	Water	Received:	06/12/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Type: MS Lab ID: QC644232

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	381.2	2,000	2,327	97	68-120

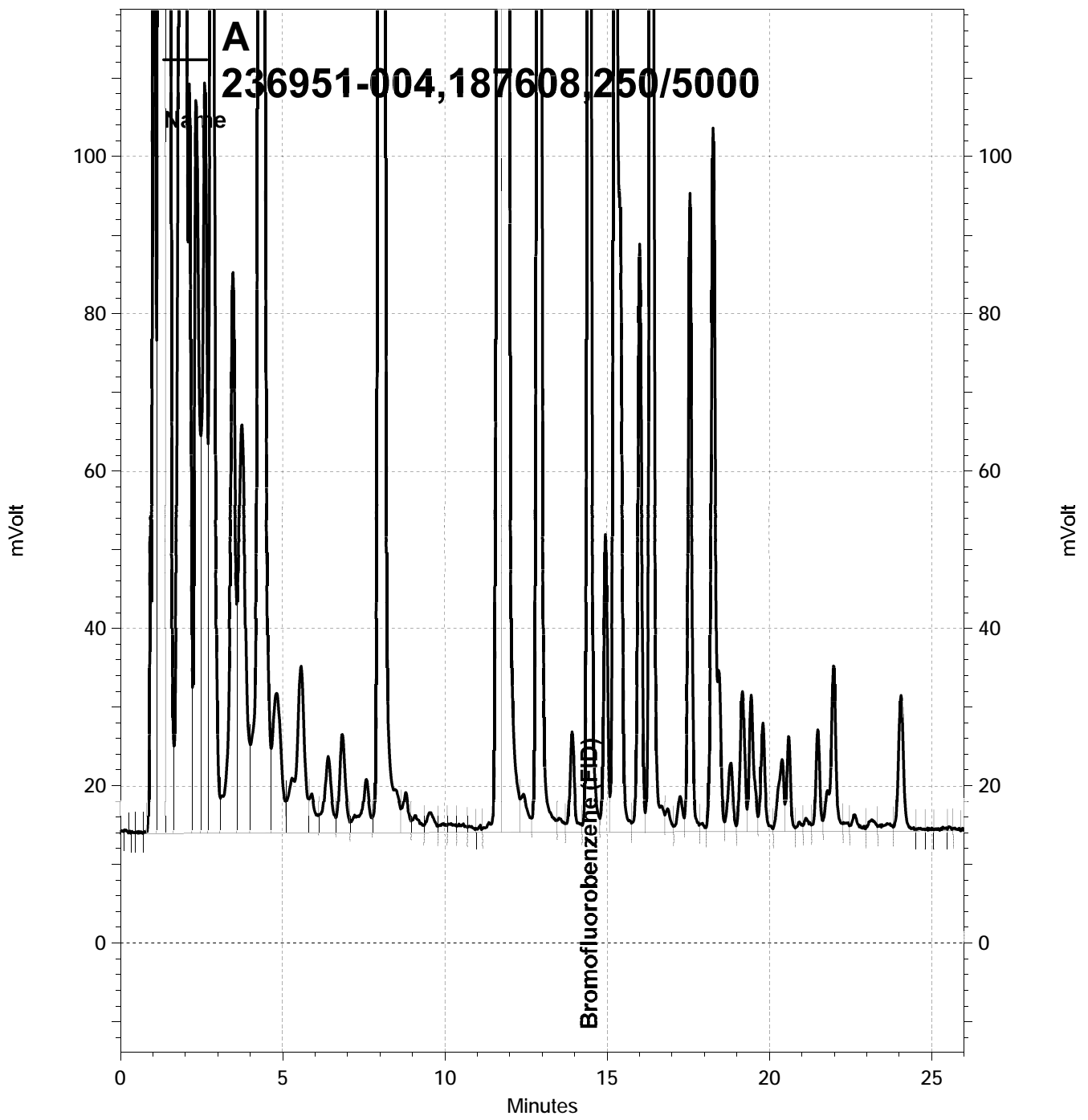
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	76-121

Type: MSD Lab ID: QC644233

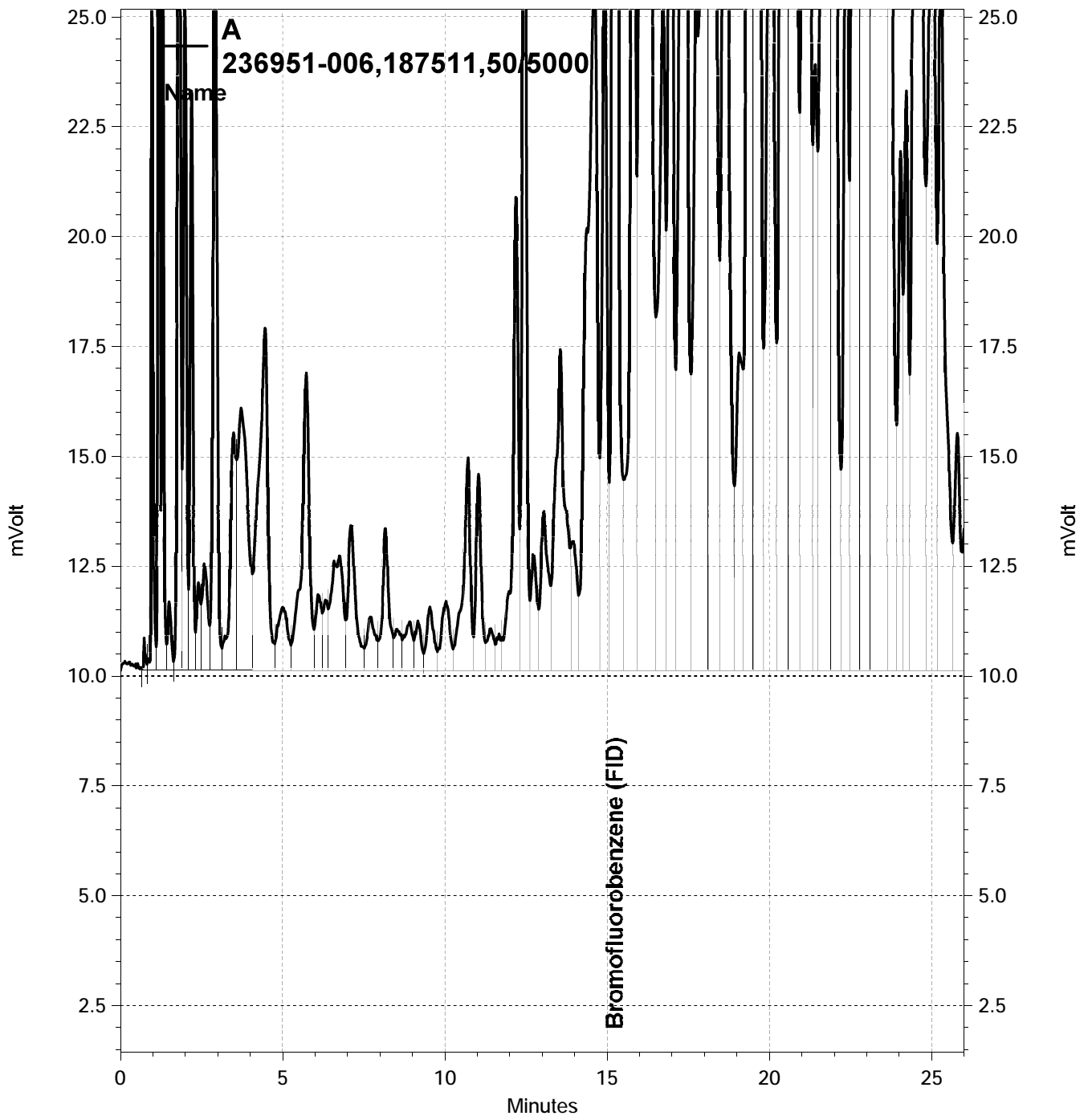
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,188	90	68-120	6	21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	76-121

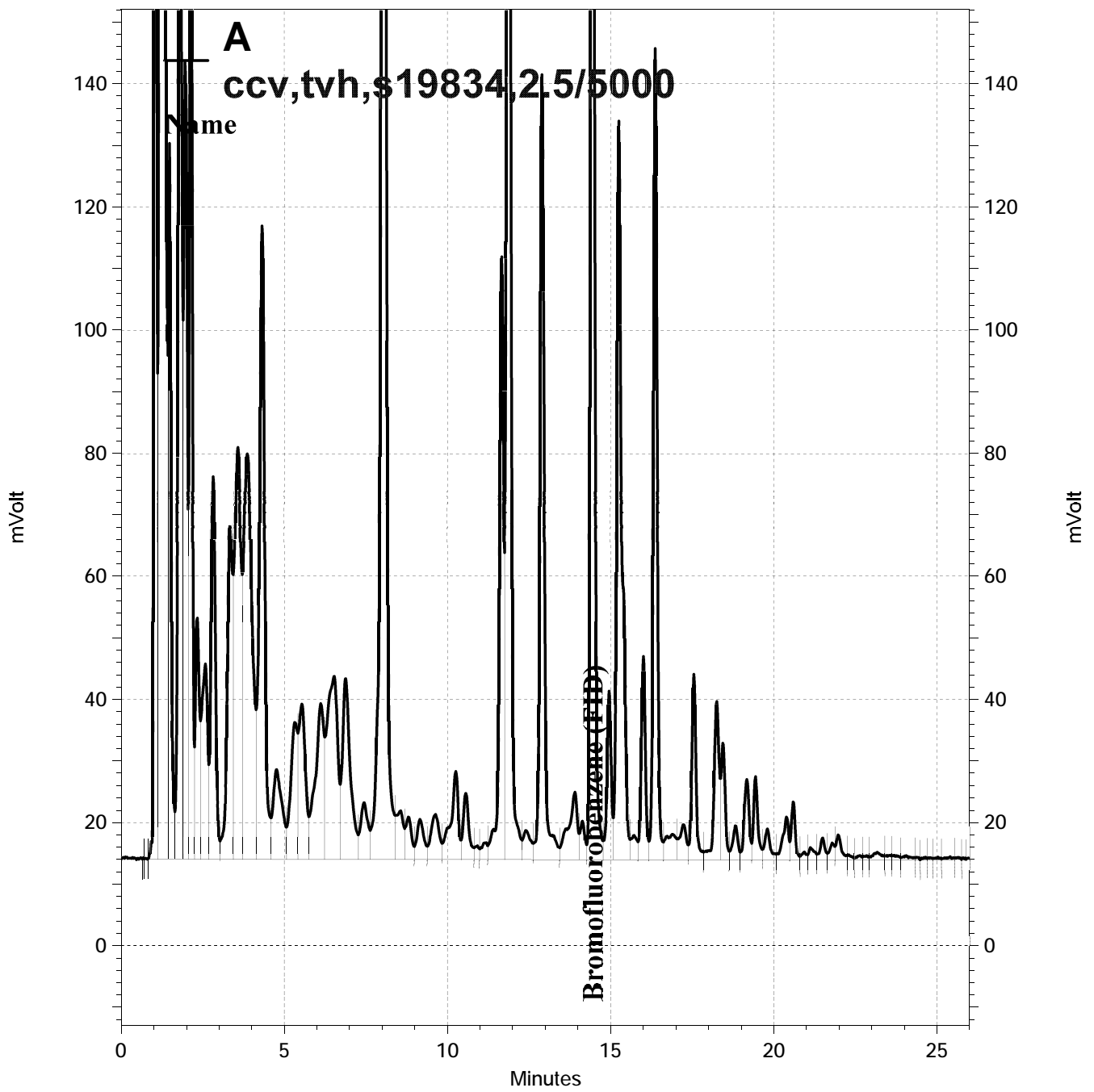
RPD= Relative Percent Difference



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Total Extractable Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/08/12
Units:	ug/L	Received:	06/08/12
Diln Fac:	1.000	Prepared:	06/11/12
Batch#:	187477		

Field ID:	MW7	Lab ID:	236951-001
Type:	SAMPLE	Analyzed:	06/14/12

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	93	61-129

Field ID:	VW1	Lab ID:	236951-002
Type:	SAMPLE	Analyzed:	06/12/12

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	94	61-129

Field ID:	MW3	Lab ID:	236951-003
Type:	SAMPLE	Analyzed:	06/12/12

Analyte	Result	RL
Diesel C10-C24	56	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	91	61-129

Field ID:	VW2	Lab ID:	236951-004
Type:	SAMPLE	Analyzed:	06/14/12

Analyte	Result	RL
Diesel C10-C24	3,400 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	99	61-129

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	187477
Units:	ug/L	Prepared:	06/11/12
Diln Fac:	1.000	Analyzed:	06/13/12

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC643618

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,101	84	59-120

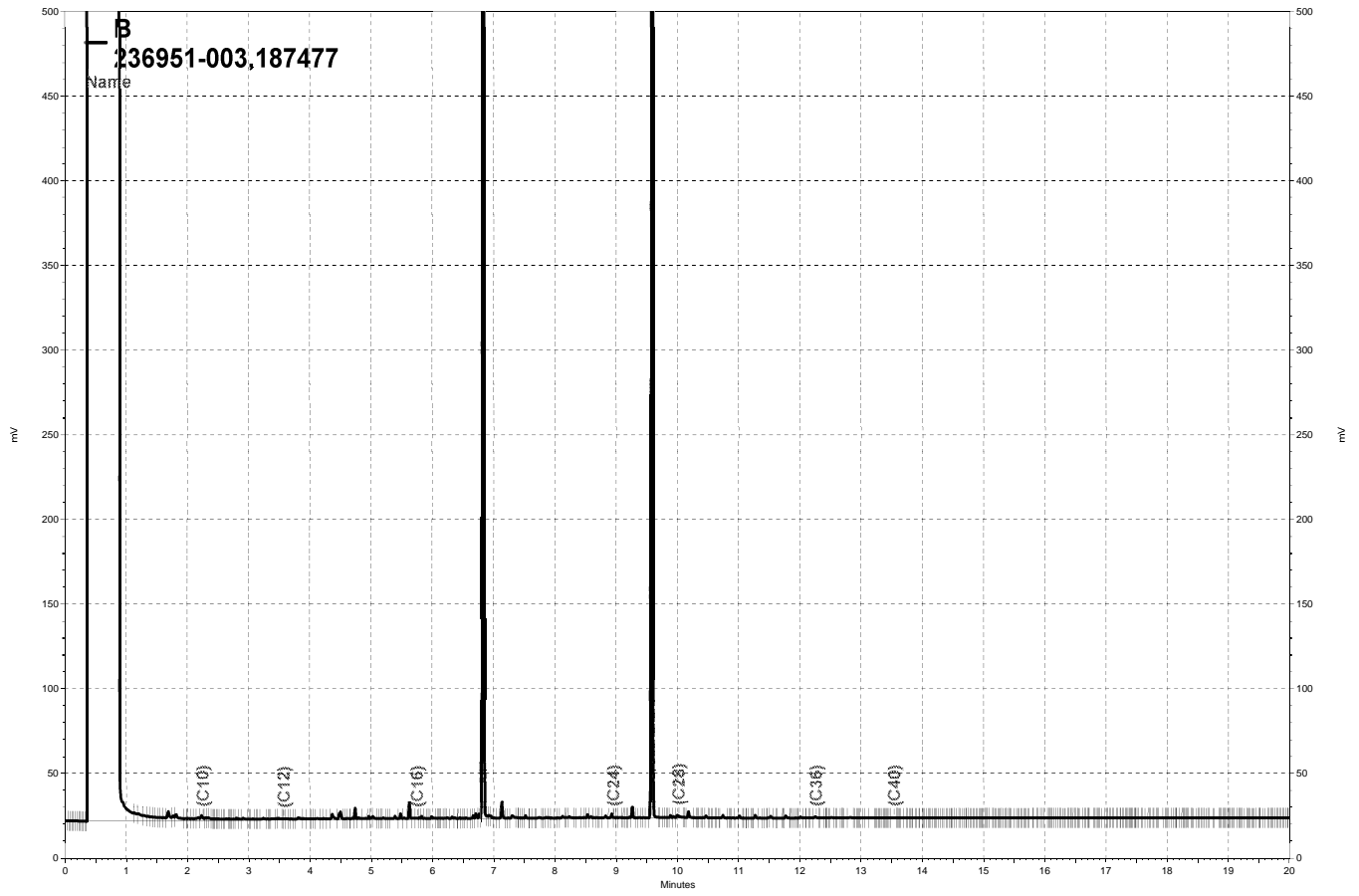
Surrogate	%REC	Limits
o-Terphenyl	107	61-129

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC643619

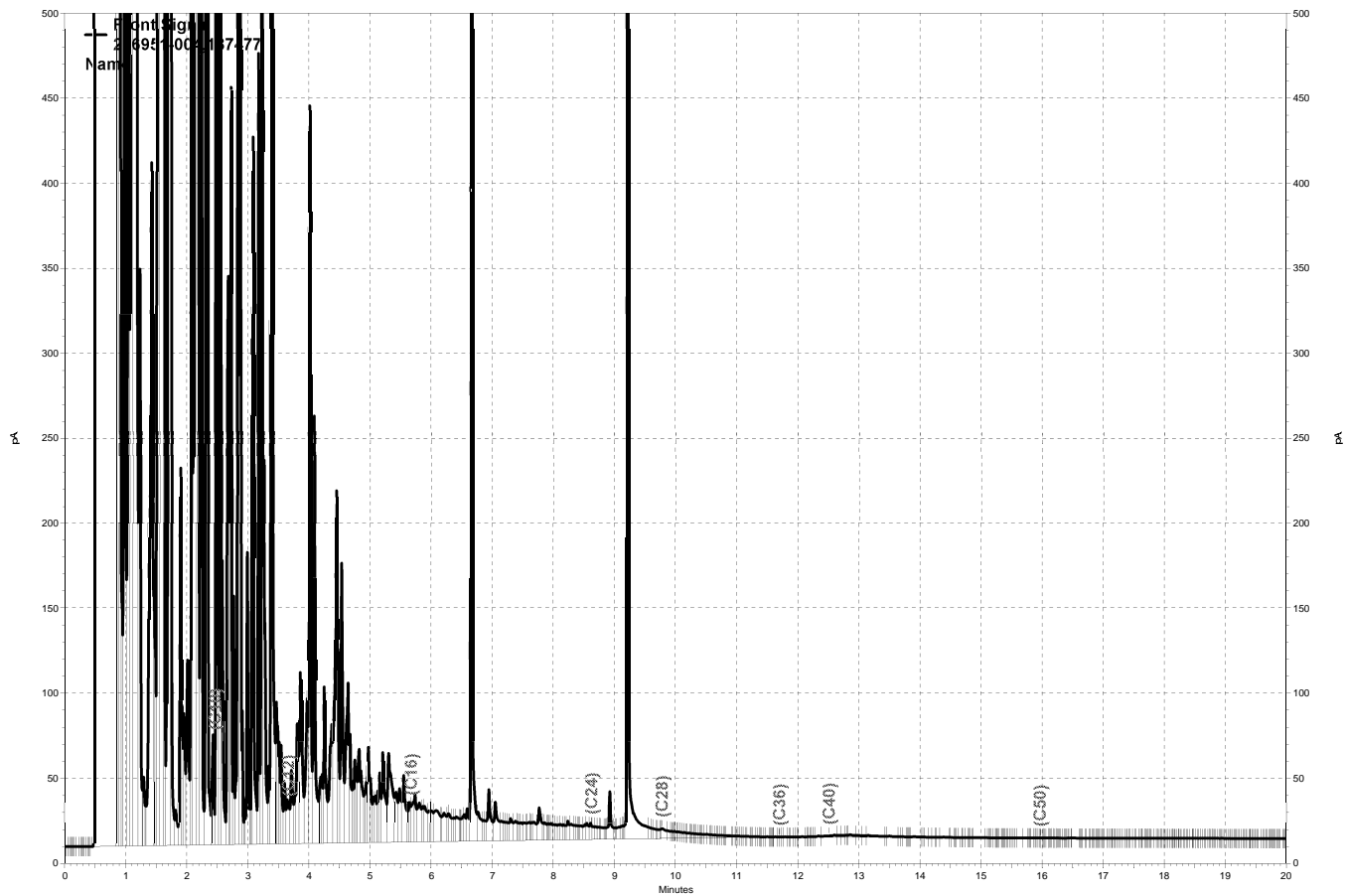
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,831	73	59-120	14	52

Surrogate	%REC	Limits
o-Terphenyl	92	61-129

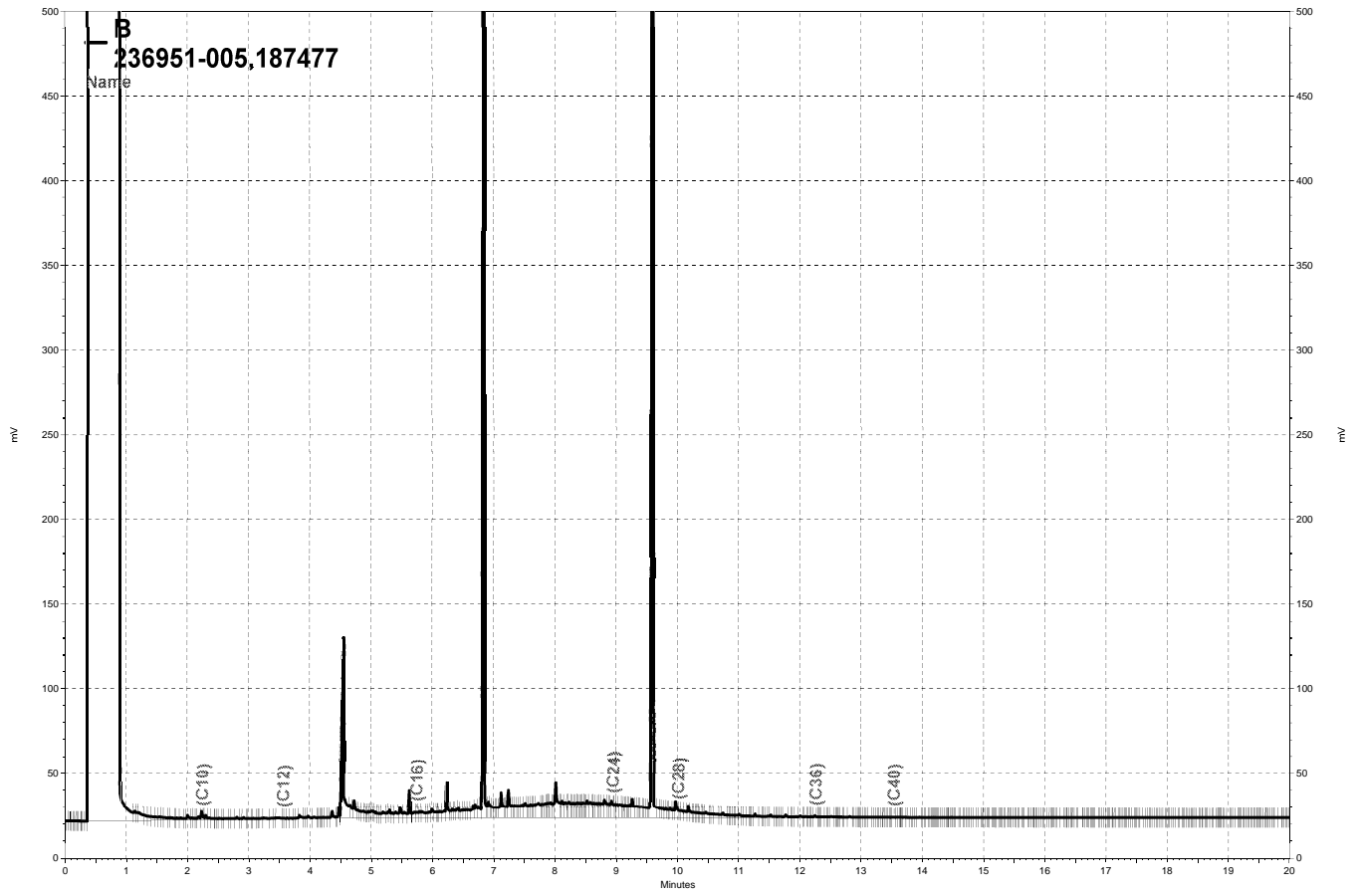
RPD= Relative Percent Difference



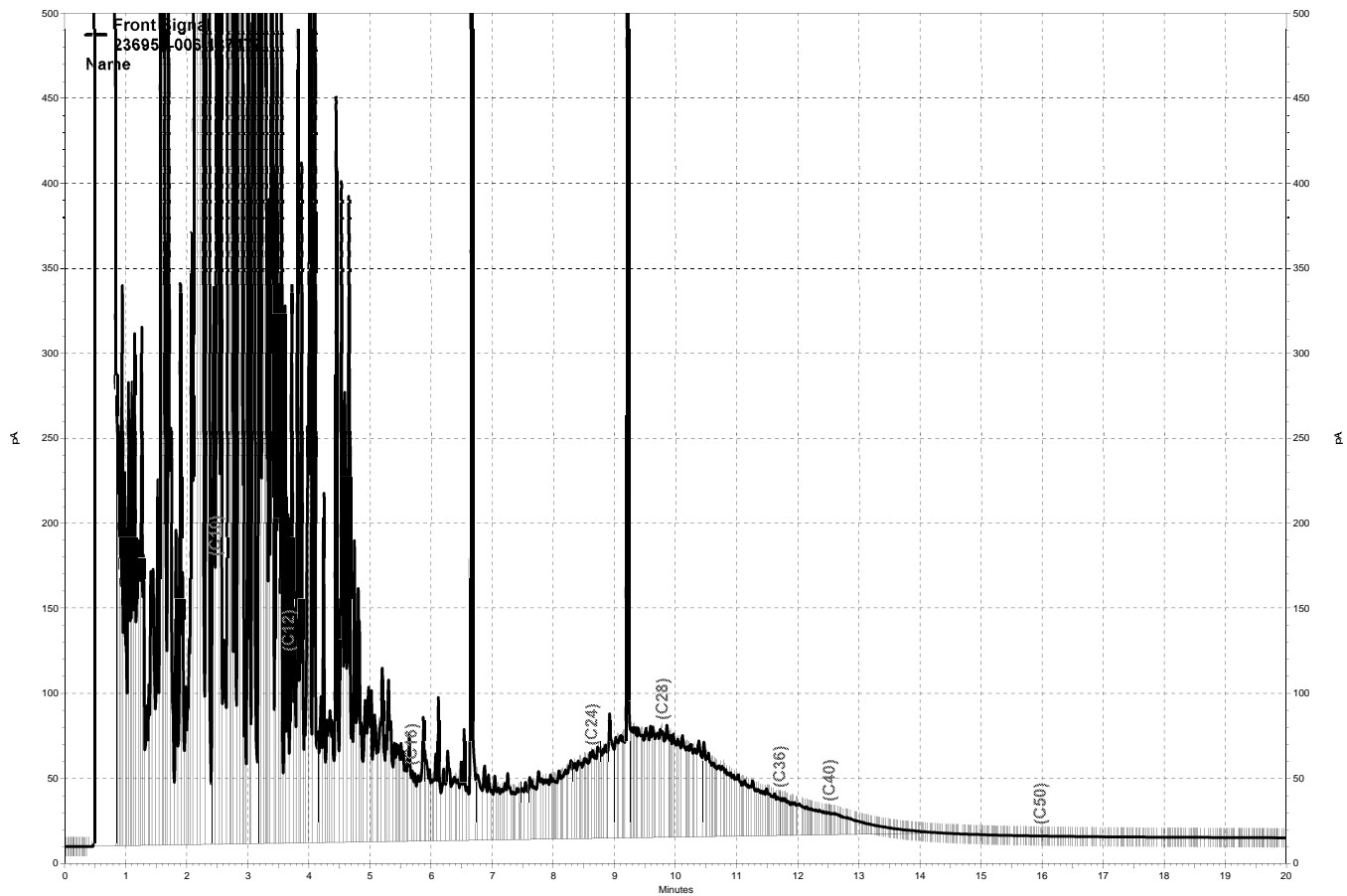
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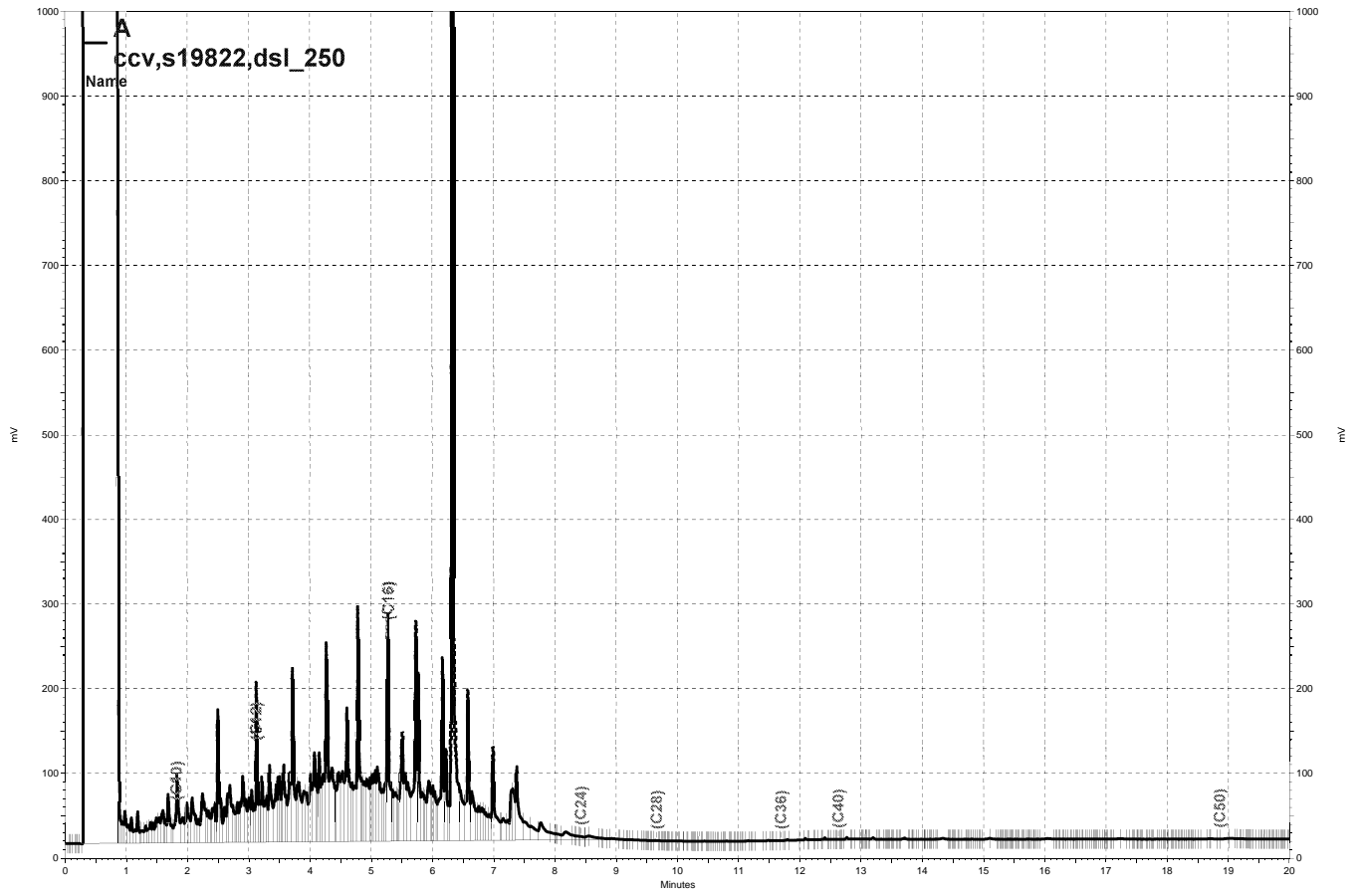
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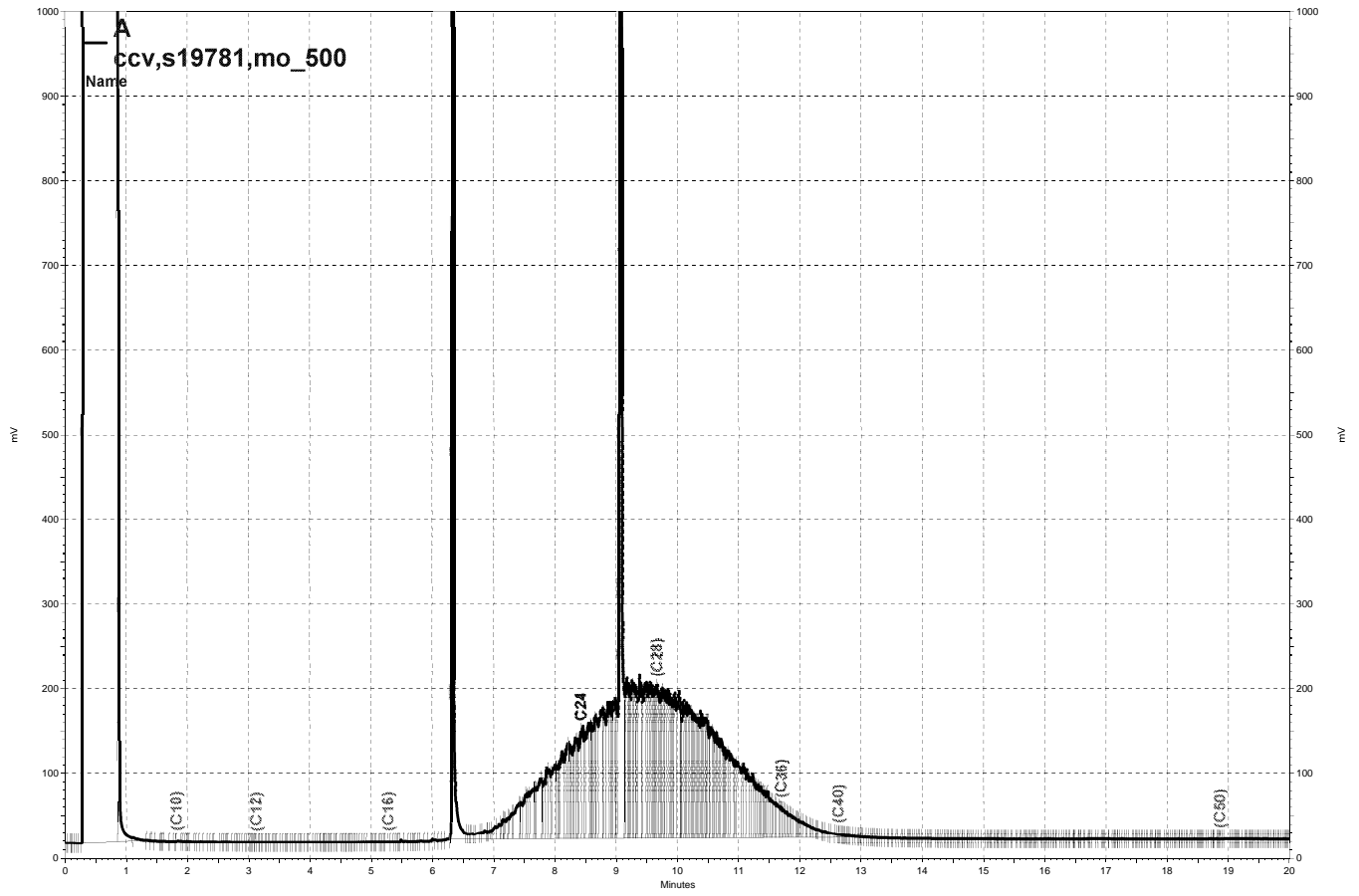
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Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW7	Batch#:	187602
Lab ID:	236951-001	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	0.5	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	1.2	0.5
Benzene	ND	0.5
Trichloroethene	4.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW7	Batch#:	187602
Lab ID:	236951-001	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	111	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW1	Batch#:	187602
Lab ID:	236951-002	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW1	Batch#:	187602
Lab ID:	236951-002	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	105	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW3	Batch#:	187602
Lab ID:	236951-003	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW3	Batch#:	187602
Lab ID:	236951-003	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	108	69-145
Toluene-d8	100	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW2	Batch#:	187602
Lab ID:	236951-004	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	50.00		

Analyte	Result	RL
Freon 12	ND	50
tert-Butyl Alcohol (TBA)	ND	500
Chloromethane	ND	50
Isopropyl Ether (DIPE)	ND	25
Vinyl Chloride	ND	25
Bromomethane	ND	50
Ethyl tert-Butyl Ether (ETBE)	ND	25
Chloroethane	ND	50
Methyl tert-Amyl Ether (TAME)	ND	25
Trichlorofluoromethane	ND	50
Acetone	ND	500
Freon 113	ND	250
1,1-Dichloroethene	ND	25
Methylene Chloride	ND	250
Carbon Disulfide	ND	25
MTBE	ND	25
trans-1,2-Dichloroethene	ND	25
Vinyl Acetate	ND	500
1,1-Dichloroethane	ND	25
2-Butanone	ND	500
cis-1,2-Dichloroethene	ND	25
2,2-Dichloropropane	ND	25
Chloroform	ND	25
Bromochloromethane	ND	25
1,1,1-Trichloroethane	ND	25
1,1-Dichloropropene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloroethane	ND	25
Benzene	1,800	25
Trichloroethene	ND	25
1,2-Dichloropropane	ND	25
Bromodichloromethane	ND	25
Dibromomethane	ND	25
4-Methyl-2-Pentanone	ND	500
cis-1,3-Dichloropropene	ND	25
Toluene	3,000	25
trans-1,3-Dichloropropene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	500
1,3-Dichloropropane	ND	25
Tetrachloroethene	ND	25
Dibromochloromethane	ND	25
1,2-Dibromoethane	ND	25
Chlorobenzene	ND	25
1,1,1,2-Tetrachloroethane	ND	25
Ethylbenzene	1,200	25
m,p-Xylenes	3,700	25
o-Xylene	1,200	25
Styrene	ND	25
Bromoform	ND	50
Isopropylbenzene	44	25
1,1,2,2-Tetrachloroethane	ND	25
1,2,3-Trichloropropane	ND	25
Propylbenzene	140	25

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW2	Batch#:	187602
Lab ID:	236951-004	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	50.00		

Analyte	Result	RL
Bromobenzene	ND	25
1,3,5-Trimethylbenzene	240	25
2-Chlorotoluene	ND	25
4-Chlorotoluene	ND	25
tert-Butylbenzene	ND	25
1,2,4-Trimethylbenzene	960	25
sec-Butylbenzene	ND	25
para-Isopropyl Toluene	ND	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
n-Butylbenzene	70	25
1,2-Dichlorobenzene	ND	25
1,2-Dibromo-3-Chloropropane	ND	100
1,2,4-Trichlorobenzene	ND	25
Hexachlorobutadiene	ND	100
Naphthalene	480	100
1,2,3-Trichlorobenzene	ND	25

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	111	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MWL	Batch#:	187602
Lab ID:	236951-005	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	0.3 J	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

J= Estimated value
 ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW1	Batch#:	187602
Lab ID:	236951-005	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	105	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

J= Estimated value
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW3	Batch#:	187602
Lab ID:	236951-006	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	40.00		

Analyte	Result	RL
Freon 12	ND	40
tert-Butyl Alcohol (TBA)	ND	400
Chloromethane	ND	40
Isopropyl Ether (DIPE)	ND	20
Vinyl Chloride	ND	20
Bromomethane	ND	40
Ethyl tert-Butyl Ether (ETBE)	ND	20
Chloroethane	ND	40
Methyl tert-Amyl Ether (TAME)	ND	20
Trichlorofluoromethane	ND	40
Acetone	ND	400
Freon 113	ND	200
1,1-Dichloroethene	ND	20
Methylene Chloride	ND	200
Carbon Disulfide	ND	20
MTBE	ND	20
trans-1,2-Dichloroethene	ND	20
Vinyl Acetate	ND	400
1,1-Dichloroethane	ND	20
2-Butanone	ND	400
cis-1,2-Dichloroethene	ND	20
2,2-Dichloropropane	ND	20
Chloroform	ND	20
Bromochloromethane	ND	20
1,1,1-Trichloroethane	ND	20
1,1-Dichloropropene	ND	20
Carbon Tetrachloride	ND	20
1,2-Dichloroethane	ND	20
Benzene	54	20
Trichloroethene	ND	20
1,2-Dichloropropane	ND	20
Bromodichloromethane	ND	20
Dibromomethane	ND	20
4-Methyl-2-Pentanone	ND	400
cis-1,3-Dichloropropene	ND	20
Toluene	ND	20
trans-1,3-Dichloropropene	ND	20
1,1,2-Trichloroethane	ND	20
2-Hexanone	ND	400
1,3-Dichloropropane	ND	20
Tetrachloroethene	ND	20
Dibromochloromethane	ND	20
1,2-Dibromoethane	ND	20
Chlorobenzene	ND	20
1,1,1,2-Tetrachloroethane	ND	20
Ethylbenzene	84	20
m,p-Xylenes	540	20
o-Xylene	100	20
Styrene	ND	20
Bromoform	ND	40
Isopropylbenzene	100	20
1,1,2,2-Tetrachloroethane	ND	20
1,2,3-Trichloropropane	ND	20
Propylbenzene	340	20

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW3	Batch#:	187602
Lab ID:	236951-006	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	40.00		

Analyte	Result	RL
Bromobenzene	ND	20
1,3,5-Trimethylbenzene	650	20
2-Chlorotoluene	ND	20
4-Chlorotoluene	ND	20
tert-Butylbenzene	ND	20
1,2,4-Trimethylbenzene	2,000	20
sec-Butylbenzene	37	20
para-Isopropyl Toluene	22	20
1,3-Dichlorobenzene	ND	20
1,4-Dichlorobenzene	ND	20
n-Butylbenzene	83	20
1,2-Dichlorobenzene	ND	20
1,2-Dibromo-3-Chloropropane	ND	80
1,2,4-Trichlorobenzene	ND	20
Hexachlorobutadiene	ND	80
Naphthalene	240	80
1,2,3-Trichlorobenzene	ND	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	118	69-145
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	DUP	Batch#:	187602
Lab ID:	236951-008	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	DUP	Batch#:	187602
Lab ID:	236951-008	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2-Dichloroethane-d4	107	69-145
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	187602
Units:	ug/L	Analyzed:	06/14/12
Diln Fac:	1.000		

Type: BS Lab ID: QC644150

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	180.8 b	145 *	47-136
Isopropyl Ether (DIPE)	25.00	22.48	90	54-136
Ethyl tert-Butyl Ether (ETBE)	25.00	24.44	98	57-133
Methyl tert-Amyl Ether (TAME)	25.00	24.35	97	65-120
1,1-Dichloroethene	25.00	22.95	92	66-131
Benzene	25.00	24.13	97	80-121
Trichloroethene	25.00	24.67	99	79-120
Toluene	25.00	24.80	99	80-120
Chlorobenzene	25.00	23.76	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	109	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	98	80-120

Type: BSD Lab ID: QC644151

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	174.9 b	140 *	47-136	3	28
Isopropyl Ether (DIPE)	25.00	20.81	83	54-136	8	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.24	89	57-133	9	20
Methyl tert-Amyl Ether (TAME)	25.00	24.16	97	65-120	1	20
1,1-Dichloroethene	25.00	20.94	84	66-131	9	20
Benzene	25.00	23.28	93	80-121	4	20
Trichloroethene	25.00	23.28	93	79-120	6	20
Toluene	25.00	22.45	90	80-120	10	20
Chlorobenzene	25.00	21.76	87	80-120	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	116	69-145
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-120

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC644152	Batch#:	187602
Matrix:	Water	Analyzed:	06/14/12
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC644152	Batch#:	187602
Matrix:	Water	Analyzed:	06/14/12
Units:	ug/L		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-125
1,2-Dichloroethane-d4	123	69-145
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
 RL= Reporting Limit

Total Dissolved Solids (TDS)			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	EM001048.0001-0001	Analysis:	SM2540C
Analyte:	Total Dissolved Solids	Sampled:	06/08/12
Matrix:	Water	Received:	06/08/12
Units:	mg/L	Prepared:	06/14/12
Diln Fac:	1.000	Analyzed:	06/15/12
Batch#:	187629		

Field ID	Type	Lab ID	Result	RL
MW7	SAMPLE	236951-001	290	10
VW1	SAMPLE	236951-002	210	10
MW3	SAMPLE	236951-003	310	10
VW2	SAMPLE	236951-004	370	10
MW1	SAMPLE	236951-005	410	10
VW3	SAMPLE	236951-006	370	10
DUP	SAMPLE	236951-008	210	10
	BLANK	QC644265	ND	10

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Dissolved Solids (TDS)			
Lab #:	236951	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	EM001048.0001-0001	Analysis:	SM2540C
Analyte:	Total Dissolved Solids	Batch#:	187629
Field ID:	ZZZZZZZZZZ	Sampled:	06/12/12
MSS Lab ID:	237041-001	Received:	06/12/12
Matrix:	Water	Prepared:	06/14/12
Units:	mg/L	Analyzed:	06/15/12
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC644266		104.0	92.00		88	73-120		
BSD	QC644267		104.0	88.00		85	73-120	4	5
SDUP	QC644268	402.0		398.0	10.00			1	5

RL= Reporting Limit

RPD= Relative Percent Difference