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GROUP OF AMERICA

Volkswagen Group of America
2200 Central Expressway
Menlo Park, CA 94025
(703) 364-7010

March 19, 2014

Mr. Jerry Wickham, PG, CEG, CHG
Alameda County Health Care Services
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject:

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

Dear Mr. Wickham:

Enclosed please find the groundwater and soil vapor monitoring report that was prepared by ARCADIS-US (the "ARCADIS Letter") for CBRE – Global Corporate Services (CBRE) on behalf of Volkswagen Group of America (VWoA). The results of the groundwater monitoring activities that were conducted at the Site in December 2013 and soil vapor monitoring activities that were conducted in February 2014 are summarized therein.

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.

VWoA, CBRE, and ARCADIS 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 (703) 364-7230 or Ron Goloubow of ARCADIS at (415) 432-6942.

Sincerely,



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

**Volkswagen Group of America, Inc.
in care of CBRE – Global Corporate
Services**

Groundwater and Soil Vapor Monitoring Report

Fuel Leak Case No. RO0000400 and
GeoTracker Global ID T0600100227
Volkswagen Automobile Dealership
2740 Broadway Avenue
Oakland, California

March 19, 2014



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Groundwater and Soil Vapor Monitoring Report

Volkswagen Automobile
Dealership
2740 Broadway Avenue
Oakland, California

Volkswagen Group of America, Inc., in
care of CBRE – Global Corporate
Services

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Our Ref.:
EM001048.0001

Date:
March 19, 2014

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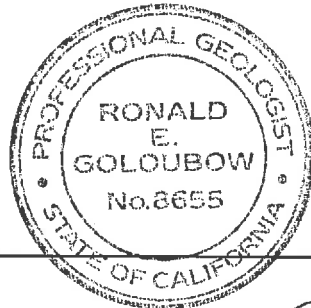
A	Field Sampling Notes
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Certification

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an ARCADIS U.S., Inc., California Professional Geologist.



Ronald E. Goloubow
Principal Geologist
California Professional Geologist (8655)



Expires Nov. 30, 2013

3/19/14
Date



Groundwater and Soil Vapor Monitoring Report

Volkswagen Automobile
Dealership
2740 Broadway Avenue
Oakland, California

1. Introduction

ARCADIS U.S., Inc. (ARCADIS) has prepared this Groundwater and Soil Vapor Monitoring Report for Volkswagen Group of America, Inc., in care of CBRE – Global Corporate Services (CBRE) for the Volkswagen Automobile Dealership located at 2740 Broadway Avenue, in Oakland, California (the Site; Figures 1 and 2). This report presents the groundwater monitoring data collected at the Site from October 1 to December 31, 2013 (the Reporting Period), and provides the historical groundwater chemical concentration data. This report also presents the results of the soil vapor monitoring point installation, and provides the soil vapor analytical data collected at the Site in February 2014.

Groundwater monitoring and reporting is being conducted at the Site in response to the letter from the Alameda County Health Care Services Agency – Alameda County Environmental Health (ACEH) to CBRE dated November 12, 2013 (ACEH 2013). The soil vapor monitoring was conducted at the Site in accordance with the “Soil Vapor Sampling Plan,” dated September 26, 2013 (the Work Plan; ARCADIS 2013b). The Work Plan was prepared in response to requests from the ACEH to assess soil vapor quality at the Site in letters to CBRE dated April 6, 2012 (ACEH 2012a) and November 15, 2012 (ACEH 2012b). The Work Plan was approved by the ACEH in their letter to CBRE dated November 12, 2013 (ACEH 2013).

2. 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); and 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. [ESE] 1991b and QST Environmental 1999) and recent site reconnaissance. The soil vapor extraction wells contain groundwater and groundwater samples have been collected and analyzed from these wells.



Groundwater and Soil Vapor Monitoring Report

Volkswagen Automobile
Dealership
2740 Broadway Avenue
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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. Additionally, well MW-2 was indicated as an abandoned well in a map included in an ESE report (ESE 1991a) and does not appear in the recent data summary tables. The highest concentrations of total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) have historically been detected in groundwater samples collected from well VW-3, located approximately adjacent to former 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). Details regarding the operational history of this extraction system were not provided (i.e., flow rates, mass of contaminants removed).

In June 2012, ARCADIS coordinated the redevelopment and sampling of the remaining groundwater monitoring and vapor extraction wells on site (ARCADIS 2012). Groundwater monitoring wells MW-1, MW-3, and MW-7 and former soil vapor extraction wells VW-1, VW-2, and VW-3 were redeveloped and sampled (Figure 2). In July 2013 ARCADIS coordinated the installation of wells MW-8 and MW-9 (ARCADIS 2013a).

Based on the results of the soil and groundwater samples collected at the Site, ARCADIS prepared a Work Plan to conduct the soil vapor monitoring at the Site (ARCADIS 2013b) and the ACEH requested that groundwater sampling of the existing monitoring wells be conducted during the fourth quarter of 2013 (ACEH 2013).

3. Groundwater Elevation

ARCADIS retained Confluence Environmental Inc. to conduct the groundwater monitoring activities at the Site on December 10, 2013. Prior to commencement of groundwater sampling, each well was inspected and a depth to groundwater measurement was collected at each well 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. The groundwater elevations measured at the

Sites were used to produce a groundwater elevation contour map (Figure 3). From this information, groundwater direction was determined to be towards the north-northwest under a gradient of 0.015 feet per foot between wells MW-1 and MW-8. Although this groundwater flow direction is not consistent with the measurements collected in September 2013 (west) a groundwater flow direction to the north has been previously reported at this Site and is consistent with the distribution of fuel-affected groundwater. Therefore the current flow direction to the north-northwest is within historical fluctuations (ESE 1991b).

4. Groundwater Sample Collection

Groundwater sample collection was completed using conventional low-flow techniques in accordance with United States Environmental Protection Agency (USEPA) 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 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.

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 located in Berkeley, California. Groundwater samples and a duplicate sample were submitted for the analyses below.

- TPHg and BTEX using USEPA Method 8260B
- TPH as diesel (TPHd) and TPH as motor oil (TPHmo) using USEPA Method 8015

An equipment blank and trip blank were collected and submitted to the laboratory, but were not analyzed. The equipment blank and/or trip blank samples were to be submitted for analysis if the analytical results for the groundwater samples collected during this reporting period were identified as inconsistent relative to the analytical results for groundwater samples previously collected at the Site.

All investigation-derived waste is currently stored on site in an appropriately labeled 55-gallon drum for later characterization and disposal.

5. Groundwater Monitoring Results

Analytical results for groundwater samples collected at the Site during this reporting period indicate that petroleum-related compounds are present in the vicinity of the former gasoline USTs formerly located near 28th Street at concentrations above laboratory reporting limits. 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 the laboratory analytical report for the samples collected in December 2013 is provided as Appendix B. Concentration contour maps for TPHg and benzene are provided as Figures 4 and 5, respectively.

TPHg was detected above laboratory reporting limits in samples collected from wells MW-1, MW-8, MW-9, VW-2, and VW-3 at concentrations ranging from 85 to 12,000 micrograms per liter ($\mu\text{g/L}$; see Table 3 and Figure 4). TPHd was detected above laboratory reporting limits in samples collected from wells MW-1, MW-8, MW-9, VW-2, and VW-3 at concentrations ranging from 220 to 3,200 $\mu\text{g/L}$ (see Table 3). TPHmo was only detected above the laboratory reporting limit in the sample collected from former vapor extraction well VW-3 at a concentration of 730 $\mu\text{g/L}$ (see Table 3).

Benzene was detected above laboratory reporting limits in the samples collected from wells MW-3, MW-8, MW-9, VW-2, and VW-3 at concentrations ranging from 28 to 500 $\mu\text{g/L}$ (see Table 3 and Figure 5). Toluene was detected above laboratory reporting limits in the samples collected from wells MW-8, VW-2, and VW-3 at concentrations ranging from 1.7 $\mu\text{g/L}$ to 260 $\mu\text{g/L}$ (see Table 3). Ethylbenzene was detected above laboratory reporting limits in the samples collected from wells MW-8, MW-9, VW-2, and VW-3 at concentrations ranging from 11 to 890 $\mu\text{g/L}$ (see Table 3). Total xylenes was detected above laboratory reporting limits in wells MW-3, MW-8, MW-9, VW-2, and VW-3 at concentrations ranging from 1.1 to 1,209 $\mu\text{g/L}$ (see Table 3).

Detected concentrations were compared to the Tier I Environmental Screening Levels (ESLs) for groundwater that is a current or potential source of drinking water (California Regional Water Quality Control Board [RWQCB] 2013). These screening levels were chosen as a conservative comparison. Concentrations of TPHg, TPHd, TPHmo, and/or BTEX detected in samples collected from wells MW-1, MW-3, MW-8, MW-9, VW-2, and/or VW-3 were detected above the applicable ESL. Table 3 compares the detected groundwater concentrations with the applicable ESL. As stated in the ESL guidance document (RWQCB 2013):

“The presence of a chemical at concentrations in excess of an ESL does not necessarily indicate adverse effects on human health or the environment, rather that additional evaluation is warranted. Use of the ESLs as cleanup levels should be evaluated in view of the overall site investigation results and the cost/benefit of performing a more site-specific evaluation.”

6. Soil Vapor Monitoring Point Installation and Sampling

In accordance with the Work Plan (ARCADIS 2013b), two types of soil vapor monitoring points, soil vapor monitoring wells and sub-slab soil vapor probes, were installed on site in the vicinity of the former USTs on February 11, 12, and 13, 2014 (see Figure 2). At the request of the client and tenant, two additional soil vapor monitoring wells and three additional sub-slab soil vapor probes were installed along with the soil vapor monitoring points proposed in the Work Plan. The location of each soil vapor monitoring point is included on Figure 2 and information regarding the installation of these wells is summarized in the following sections. The newly installed soil vapor monitoring points were sampled on February 13 and 17, 2014, in accordance with the procedure provided in the Work Plan (ARCADIS 2013b). Field notes from the soil vapor monitoring point installation and sampling are provided in Appendix A. Photos of the newly installed wells are provided in Appendix D.

6.1 Pre-Field Activities

ARCADIS notified Underground Service Alert 48 hours in advance of the field activities to identify underground utilities. In addition, ARCADIS subcontracted Cruz Brothers Locators, a subsurface utilities locating firm, to clear the proposed boring and soil vapor probe locations of subsurface obstructions.

ARCADIS obtained a drilling permit from the Alameda County Public Works Agency, Water Resources Section (ACPWA) and scheduled grouting inspections with an agent from the ACPWA for the installation of VW-4, VW-5, and VW-6. ACPWA did not require drilling permits or grouting inspection for the sub-slab soil vapor probes.

ARCADIS also updated the site-specific health and safety plan in order to identify any potential health and safety risks associated with the additional work.

6.2 Soil Vapor Monitoring Wells

Soil vapor monitoring well VW-4 was installed inside an office and wells VW-5 and VW-6 were installed by Confluence, a C-57 state licensed driller, within the service center garage (see Figure 2). Each soil vapor monitoring well was advanced by coring through the concrete slab and then hand auguring to the final depth of 5.5 feet below ground surface (bgs). Each soil vapor monitoring well was constructed with a 6-inch long stainless-steel well screen connected to ¼-inch-diameter Polytetrafluoroethylene (PTFE) tubing. Wells were completed with a ¼-inch-diameter valve in the closed position within a small at-grade well box (see photos in Appendix D). The 6-inch-long screen was set within 1 foot of sand filter pack at a depth of approximately 5 feet bgs. Each well was then completed with 1 foot of dry bentonite followed by hydrated bentonite to the ground surface. The well box was set in neat cement. Typical well construction details are shown on Figure 6. Field boring logs are provided as Appendix C.

6.3 Sub-Slab Soil Vapor Probes

Sub-slab soil vapor probe SS-SV-1 was installed within the service center garage and probes SS-SV-2 through SS-SV-5 were installed inside offices (see Figure 2). Each sub-slab soil vapor probe was installed by ARCADIS personnel using a hammer drill to create a ½-inch-diameter hole through the concrete slab of the building and approximately 3 inches into the soil beneath the slab. A 1.5-inch-diameter drill bit was used to create a space in the top of the slab for connection fittings (see Figure 7). After clearing the hole of any drilling-related debris, each sub-slab soil vapor probe was constructed by connecting ¼-inch-diameter stainless steel tubing to a compression fitting adapter with a threaded plug and placing the open end of the tubing into the ½-inch-diameter borehole, while maintaining an open space of approximately 4 inches inside the boring. PTFE tape was used to ensure a tight fit within the borehole. The top portion of the sub-slab soil vapor probe was then cemented into place using non-shrinking cement and set flush with the ground surface. The compression fitting adapter was fitted with a threaded plug to prevent migration of sub-slab soil vapor into the building. Typical sub-slab soil vapor probe construction is shown on Figure 7 and photos of the sub-slab soil vapor probes are included in Appendix D.

6.4 Sample Collection

Following installation and the required equilibration period (24 hours for sub-slab probes and 48 hours for soil vapor monitoring wells), soil vapor samples were collected

from the soil vapor monitoring wells and the sub-slab soil vapor probes on February 13 and 17, 2014. Prior to sample collection each location was purged and leak tested. Purging consisted of removing approximately three volumes of stagnant or ambient air from the soil vapor probe at a flow rate of less than 200 milliliters per minute (ml/min). One volume consists of the internal volume of the tubing, void space of the sand pack around the probe tip, and void space of the dry bentonite in the annular space. Purge volume was calculated in the field and recorded on soil vapor sample collection logs (see Appendix A). Leak testing was conducted to confirm ambient air was not infiltrating into the subsurface. The wellhead and entire sample train (valves, tubing, gauges, manifold, and sample canister) were placed in an enclosure. The tracer compound (helium) was then permitted to enter the enclosure. At least 10% helium was maintained in the enclosure using a portable helium detector. Field testing for helium prior to sample collection indicated no leaks occurred. Analysis for the tracer compound in the soil vapor samples was also included to confirm field helium readings. Soil vapor samples were then collected using 1-liter batch certified SUMMA canisters at a flow rate of less than 200 ml/min.

7. Soil Vapor Sampling Results

Each vapor sample was submitted to Eurofins Air Toxics (a California certified laboratory located in Folsom, CA) for the following analyses:

- Volatile Organic Compounds (VOCs) by USEPA method TO-15
- TPHg by USEPA method TO-3GC
- Oxygen and Helium by American Society for Testing Materials method D-1946

Analytical results for the soil vapor samples are summarized in Table 4 and shown on Figure 8. TPHg was detected at each soil vapor monitoring point (soil vapor monitoring wells and sub-slab soil vapor probes) at concentrations ranging from 290 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 1,200 $\mu\text{g}/\text{m}^3$ and benzene was detected in three of the eight samples (one sample collected from a soil vapor monitoring well and two samples collected from sub-slab soil vapor probes) at concentrations ranging from 4.4 to 6.3 $\mu\text{g}/\text{m}^3$. Chlorinated VOCs were not detected above the laboratory reporting limit(s) at any of the soil vapor monitoring points. Field readings and laboratory analytical results indicated no helium was present in the samples, confirming that no leaks of ambient air into the sample canister occurred during the collection of the vapor samples. Field notes are provided in Appendix A.



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The concentrations of constituents of concern (COCs) detected in soil vapor samples were compared to the Tier 1 soil gas ESLs (see Table 4; RWQCB 2013). No COCs detected in these vapor samples were at concentrations above the Tier 1 soil gas ESLs for residential or commercial land use (RWQCB 2013). Laboratory analytical reports are provided as Appendix B.

Oxygen was detected in each soil vapor sample at concentrations ranging from 18 to 22%. Based on previous ARCADIS experience, oxygen levels near ambient conditions (18 to 22%) within 5 feet of the ground surface are not unlikely. The presence of oxygen at these concentrations could further promote the biodegradation of the fuel and fuel-related compounds in the vadose zone.

8. Conclusions and Further Actions

8.1 Groundwater

The results of the December 2013 groundwater monitoring event indicate that COCs that have been detected in previous sampling events are still present in groundwater at and near the Site. Since groundwater monitoring resumed in June of 2012, the range of concentrations of COCs detected in groundwater samples has been considerably lower than the range of concentrations detected in sampling events conducted between 1989 and 1999 (see Table 3). The data suggest that affected groundwater at the Site is located near the former gasoline USTs (C and D) and has migrated to the north side of 28th Street (see Figures 4 and 5). Fuel and fuel-related compounds have been detected above the applicable ESLs for sites where groundwater is a potential source of drinking water for groundwater samples collected from wells MW-1, VW-2, and VW-3 since 2012 and from wells MW-3, MW-8, and MW-9 since 2013.

8.2 Soil Vapor

The results of the February 2014 soil vapor monitoring activities indicate that site COCs do not exist in soil vapor at the Site at concentrations above the soil vapor ESLs for residential and commercial land use (see Table 4). Because the ESLs are based on conservative assumptions (RWQCB 2013), a site-specific human health risk assessment and attenuation factor estimation as described in the Work Plan (ARCADIS 2013b) is not warranted. Concentrations of soil vapor detected below the ESLs indicate that potential human health risks and indoor air impacts are unlikely.



Groundwater and Soil Vapor Monitoring Report

Volkswagen Automobile
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2740 Broadway Avenue
Oakland, California

8.3 Closing

ARCADIS would like to request a meeting with ACEH to review the results of the soil vapor investigation and groundwater monitoring and assess any data gaps in preparation for a request for closure under the State Water Resources Control Board's (SWRCB's) Low-Threat Underground Storage Tank Case Closure Policy (SWRCB 2012).

9. References

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2740 Broadway Avenue
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SWRCB, 2012. Low-Threat Underground Storage Tank Case Closure Policy, August 17.

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Tables

Table 1
Groundwater Elevation Data
 Volkswagen Automobile Dealership
 2740 Broadway Avenue, Oakland, CA

Well	Well Casing Elevation ⁽¹⁾⁽²⁾	Screen Interval feet below ground surface	Well Diameter (inches)	Total Well Depth (feet)	Depth to Product ⁽³⁾ 10-Dec-13	Depth to Water ⁽³⁾ 10-Dec-13	Groundwater Elevation ⁽²⁾ 10-Dec-13
MW-1	31.28	5 to 20	2	19.20	NM	8.11	23.17
MW-3	31.68	5 to 20	2	18.60	NM	10.10	21.58
MW-7	31.53	20 to 25	4	23.50	NM	10.20	21.33
MW-8	32.70	16 to 20	2	20.01	NM	10.99	21.71
MW-9	31.85	11 to 15	2	14.90	NM	10.73	21.12
VW-1	31.67	14.5 to 19.5	4	18.55	NM	10.14	21.53
VW-2	31.71	12 to 16.5	4	16.93	NM	10.01	21.70
VW-3	31.11	5 to 15.5	4	14.10	sheen	9.10	22.01

Notes:

(1) Survey conducted by PLS Surveys Inc. on July 1, 2013.

(2) In reference to 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
 Volkswagen Automobile Dealership
 2740 Broadway Avenue, Oakland, CA

Well ID	Sample Date	Temp. (Celsius)	Cond. ($\mu\text{S}/\text{cm}$)	DO (mg/L)	pH	ORP (mV)
MW-1	12/10/13	17.4	753	0.72	5.90	32.0
MW-3	12/10/13	17.1	476	3.95	6.14	116
MW-7	12/10/13	18.3	389.9	0.83	6.14	149.2
MW-8	12/10/13	18.6	775	1.26	6.17	29.4
MW-9	12/10/13	17.8	910	2.11	6.01	28.5
VW-1	12/10/13	18.4	386	1.59	6.27	75.5
VW-2	12/10/13	17.2	609	0.54	6.12	-56.5
VW-3	12/10/13	16.3	684	0.44	6.68	-46

Notes:

NA = not analyzed

mg/L = milligrams per liter

Temp. = temperature

Cond. = specific conductance

$\mu\text{S}/\text{cm}$ = microSiemens per centimeter

DO = dissolved oxygen

ORP = oxidation-reduction potential

mV = millivolts

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

Well Number	Sample Date	TPHg µg/L (C7-C12)	TPHd µg/L (C10 - C24)	TPHmo µg/L (C24-C36)	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	1,1- Dichloroethene µg/L	1,2- Dichloroethane µg/L	1,3,5- Trimethyl benzene µg/L	1,2,4- Trimethyl benzene µg/L	n-Butyl benzene µg/L	Naphthalene µg/L	trans-1,2- Dichloroethene µg/L	TDS µg/L
Tier I ESL µg/L		100	100	100	1	40	30	20	5	5	6	5	0.5	na	na	na	17	na	na
VI ESL (Fine-Coarse Mix) µg/L		No Value	No Value	No Value	270	Sample Soil Gas	3,100	Sample Soil Gas	100,000	1,300	No Value	130,000	1,000	No Value	No Value	No Value	1,600	120,000	No Value
MW-1	01/21/89	ND	na	na	53	13	1.4	8.2	---	na	na	---	na	na	na	na	na	---	na
	05/13/91	130	na	na	ND	ND	ND	ND	---	58	na	---	ND	na	na	na	na	---	na
	10/18/91	ND	na	na	ND	ND	ND	ND	---	120	na	---	ND	na	na	na	na	---	na
	10/27/91	ND	na	na	ND	ND	ND	ND	---	11	na	---	ND	na	na	na	na	---	na
	07/13/93	ND	na	na	ND	ND	ND	ND	---	6.4	na	---	ND	na	na	na	na	---	na
	06/27/96	ND	na	na	ND	ND	ND	ND	---	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
	12/13/96	ND	na	na	ND	ND	ND	ND	---	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
	08/03/99	ND	na	na	ND	ND	ND	ND	ND	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	<2.0	---	410
	06/19/13	<50	290 Y	<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	<2.0	<0.5	na
	09/26/13	<50	120 Y	<310	<0.5	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	na
	12/10/13	85 Z	220 Y	<300	<0.5	<0.5	<0.5	<0.5	0.7	52	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na
MW-2*	01/21/89	ND	na	na	ND	ND	ND	ND	---	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
	05/13/91	81,000	na	na	7,800	12,000	1,200	4,000	---	14	na	---	380	na	na	na	na	---	na
	10/18/91	73,000	na	na	9,400	8,600	750	3,300	---	14	na	---	8.3	na	na	na	na	---	na
	10/27/91	37000	na	na	7,100	4,900	970	3,500	---	ND	na	---	170	na	na	na	na	---	na
	07/13/93	41,000	na	na	8,100	6,200	8,100	4,400	---	14	na	---	150	na	na	na	na	---	na
	06/27/96	370	na	na	120	75	6.2	47	---	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
	12/13/96	ND	na	na	30	10	2	7.4	---	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
Dup	10/07/97	ND	na	na	ND	ND	ND	ND	ND	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
	08/03/99	21,000	na	na	5,500	2,300	470	990	---	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	<2.0	---	310
	06/19/13	<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	<2.0	<0.5	na
	09/26/13	<50	<51	<310	2.6	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	na
	12/10/13	<50	<51	<300	28	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<2.0	<0.5	na
MW-4*	01/21/89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05/13/91	13,000	---	---	160	690	250	1,100	---	490	---	---	ND	---	---	---	---	---	---
	10/18/91	ND	---	---	11	11	ND	15	---	450	---	---	3.9	---	---	---	---	---	---
	10/27/91	180	---	---	6.4	2.8	1.2	6.2	---	520	---	---	ND	---	---	---	---	---	---
	07/13/93	320	---	---	36	4.4	1.8	5.3	---	550	---	---	ND	---	---	---	---	---	---

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

Well Number	Sample Date	TPHg µg/L (C7-C12)	TPHd µg/L (C10 - C24)	TPHmo µg/L (C24-C36)	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	1,1-Dichloroethene µg/L	1,2-Dichloroethane µg/L	1,3,5-Trimethyl benzene µg/L	1,2,4-Trimethyl benzene µg/L	n-Butyl benzene µg/L	Naphthalene µg/L	trans-1,2-Dichloroethene µg/L	TDS µg/L
Tier I	ESL µg/L	100	100	100	1	40	30	20	5	5	6	5	0.5	na	na	na	17	na	na
MIP-2	04/05/13	510 Y	450	<300	140	1.1	<1.0	0.7 J	<1.0	42	4.4	<1.0	1.5	<1.0	<1.0	<1.0	<4.0	<1.0	---
MIP-3	04/05/13	1,800	600	<300	270	2.1	120	135	1.2 J	270	17	<1.7	1.1 J	<1.7	1.5 J	3.0	17	<1.7	---
MIP-4	04/05/13	13,000	4,300	320	15	5.7	510	1,490	<5.0	960	11	<5.0	<5.0	290	850	57	150	<5.0	---
Dup	04/05/13	14,000	1,700	<300	29	8.5	670	1,970	<6.3	750	7.0	<6.3	<6.3	340	1,000	73	200	<6.3	---
MIP-5	04/05/13	4,200	1,000	<300	9.0	18	46	189	<1.3	170	10	<1.3	1.2 J	58	170	19	18	<1.3	---

- 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.
 - Z Sample exhibits unknown single peak or peaks
 - VI ESL Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion for Fine to Coarse Media for Commercial/Industrial Land Use
 - Bolded values are above the Tier I ESL
 - Italicized values are above the VI ESL

Table 4
Summary of Soil Vapor Analytical Results
 Volkswagen Automobile Dealership
 2740 Broadway Avenue, Oakland, CA

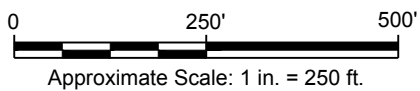
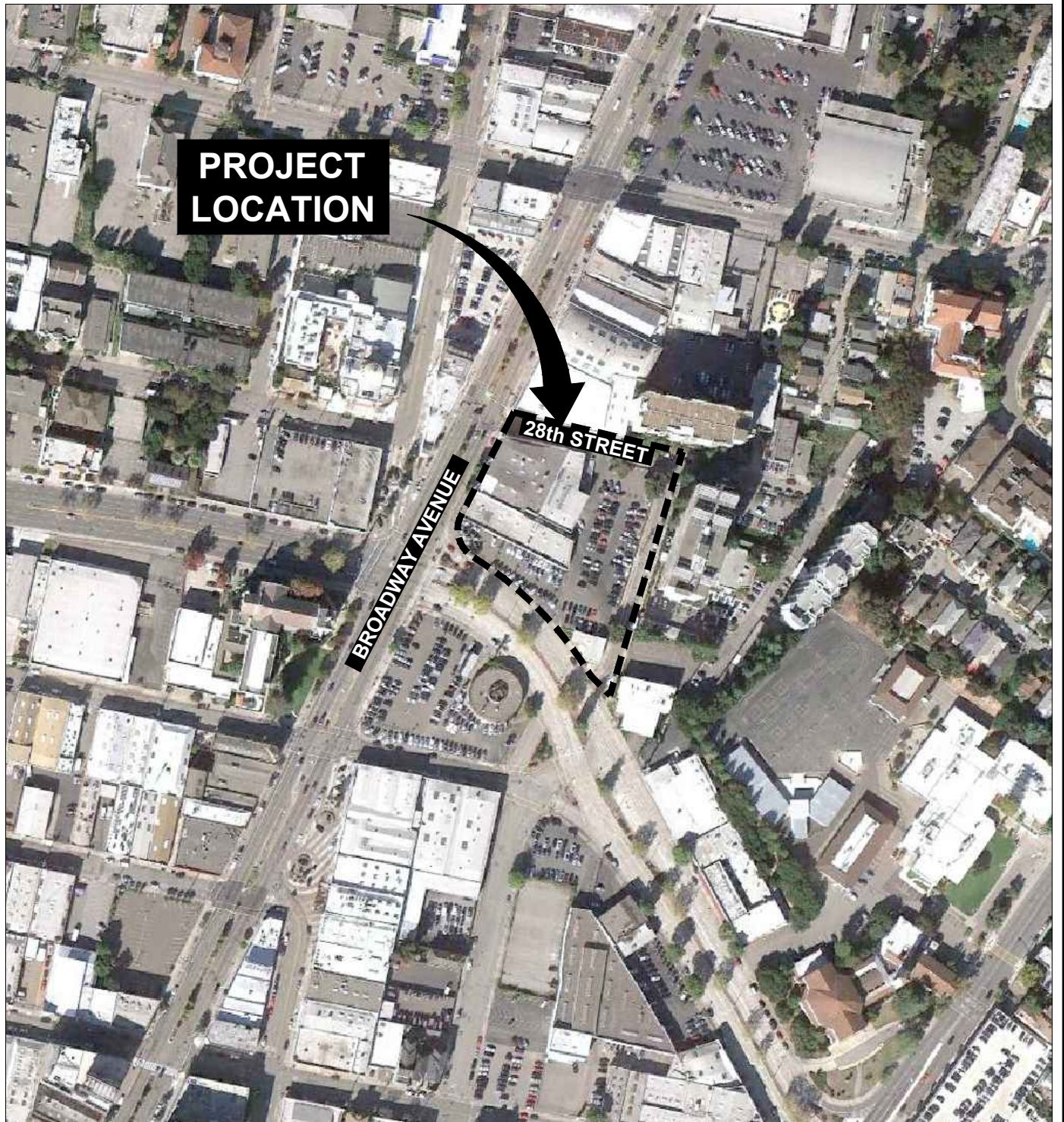
Well Number	Sample Date	TPHg (C7-C12) (µg/m ³)	Benzene (µg/m ³)	Toluene (µg/m ³)	Ethyl benzene (µg/m ³)	Total Xylenes (µg/m ³)	TCE (µg/m ³)	cis-1,2-DCE (µg/m ³)	1,2-DCA (µg/m ³)	trans-1,2-DCE (µg/m ³)	Vinyl Chloride (µg/m ³)	Oxygen (%)	Helium (%)
Tier I ESL Commercial (µg/m³)		50,000	420	1,300,000	4,900	220,000	3,000	N/A	580	260,000	160	N/A	N/A
LTC Commercial Scenario 4b (µg/m³)		N/A	280,000	N/A	3,600,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VW-4	02/17/14	390	<3.7	8.3	<5.0	<5.0	<6.2	<4.6	<4.7	<4.6	<3.0	22	<0.12
VW-5	02/13/14	930	6.3	40	<5.4	<5.4	<6.7	<4.9	<5.0	<4.9	<3.2	21	<0.12
VW-6	02/13/14	290	<4.1	34	<5.6	<5.6	<6.9	<5.1	<5.2	<5.1	<3.3	18	<0.13
SS-SV-1	02/13/14	870	5.5	39	<4.6	10	<5.7	<4.2	<4.3	<4.2	<2.7	22	<0.10
SS-SV-2	02/13/14	490	<4.3	8.4	<5.8	6.3	<7.2	<5.3	<5.4	<5.3	<3.4	22	<0.13
SS-SV-3	02/13/14	1,200	<4.0	63	<5.5	5.6	<6.8	<5.0	<5.1	<5.0	<3.2	21	<0.13
SS-SV-4	02/17/14	360	<3.9	13	<5.3	<5.3	<6.6	<4.8	<5.0	<4.8	<3.1	21	<0.12
SS-SV-5	02/17/14	1,000	4.4	46	<5.4	11	<6.7	<5.0	<5.1	<5.0	<3.2	22	<0.12

Notes:

- Tier I ESL Tier I Environmental Screening Levels (ESLs) for shallow soils of less than 3 meters below ground surface for commercial land use and groundwater that is a current or potential source of drinking water.
- LTC Commercial Scenario 4b Low-Threat Closure Policy Petroleum Vapor Intrusion to Indoor Air Scenario 4b (direct Measurement of Soil Gas Concentrations - With Bioattenuation Zone) for commercial land use.
- TPHg Total Petroleum Hydrocarbons as gasoline
- TCE Trichloroethene
- 1,2-DCA 1,2-Dichloroethane
- cis-1,2-DCE cis-1,2-Dichloroethene
- trans-1,2-DCE trans-1,2-Dichloroethene
- µg/m³ micrograms per cubic meter air
- < Not detected at or above the laboratory reporting limit noted.
- N/A Not Applicable

Figures

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) TM:(Opt) LYR:(Opt)ON=OFF=REF-
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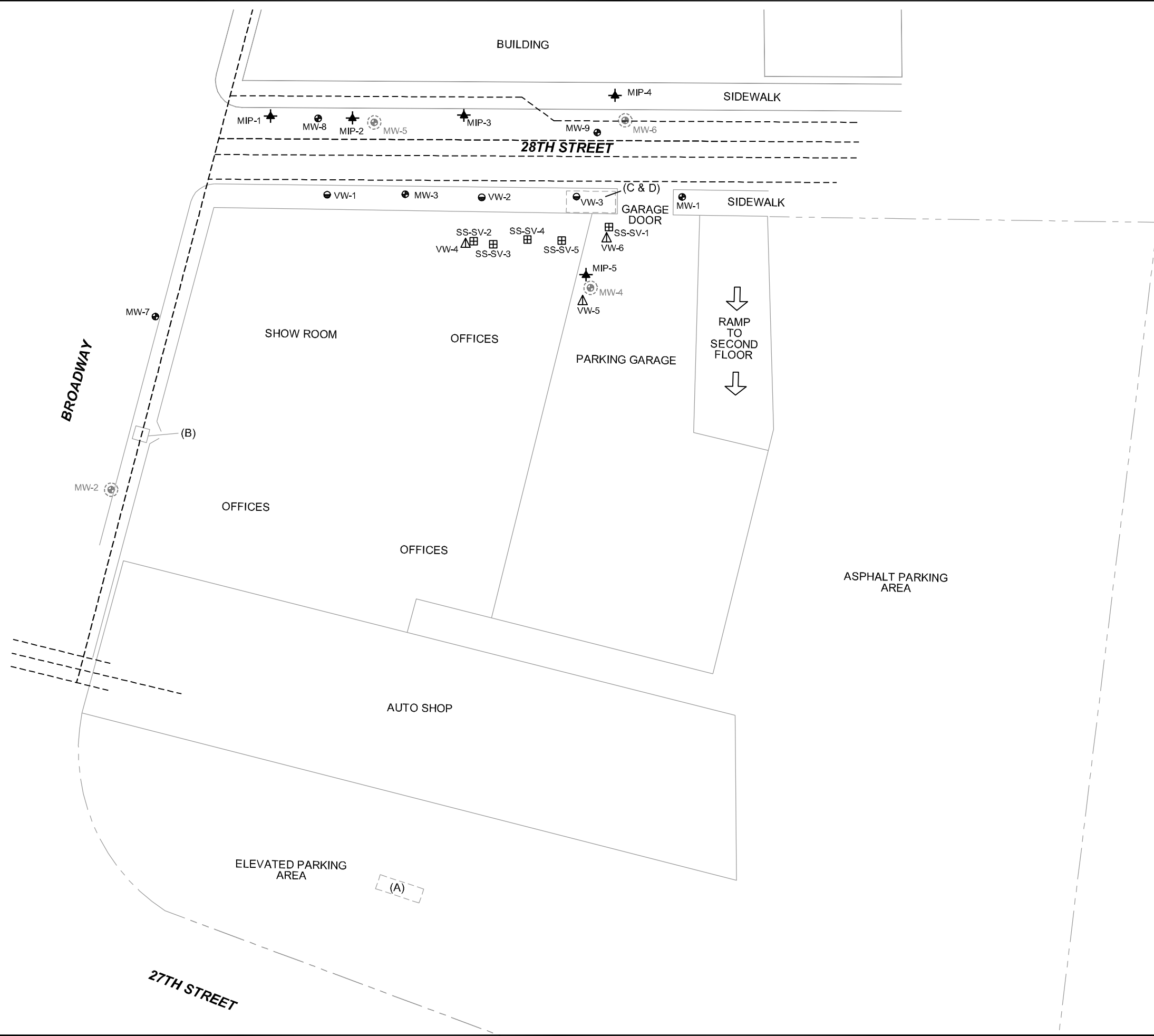
VW OAKLAND
2740 BROADWAY
OAKLAND, CALIFORNIA

SITE LOCATION MAP

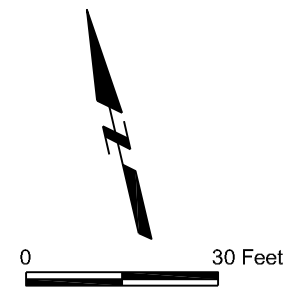


FIGURE
1

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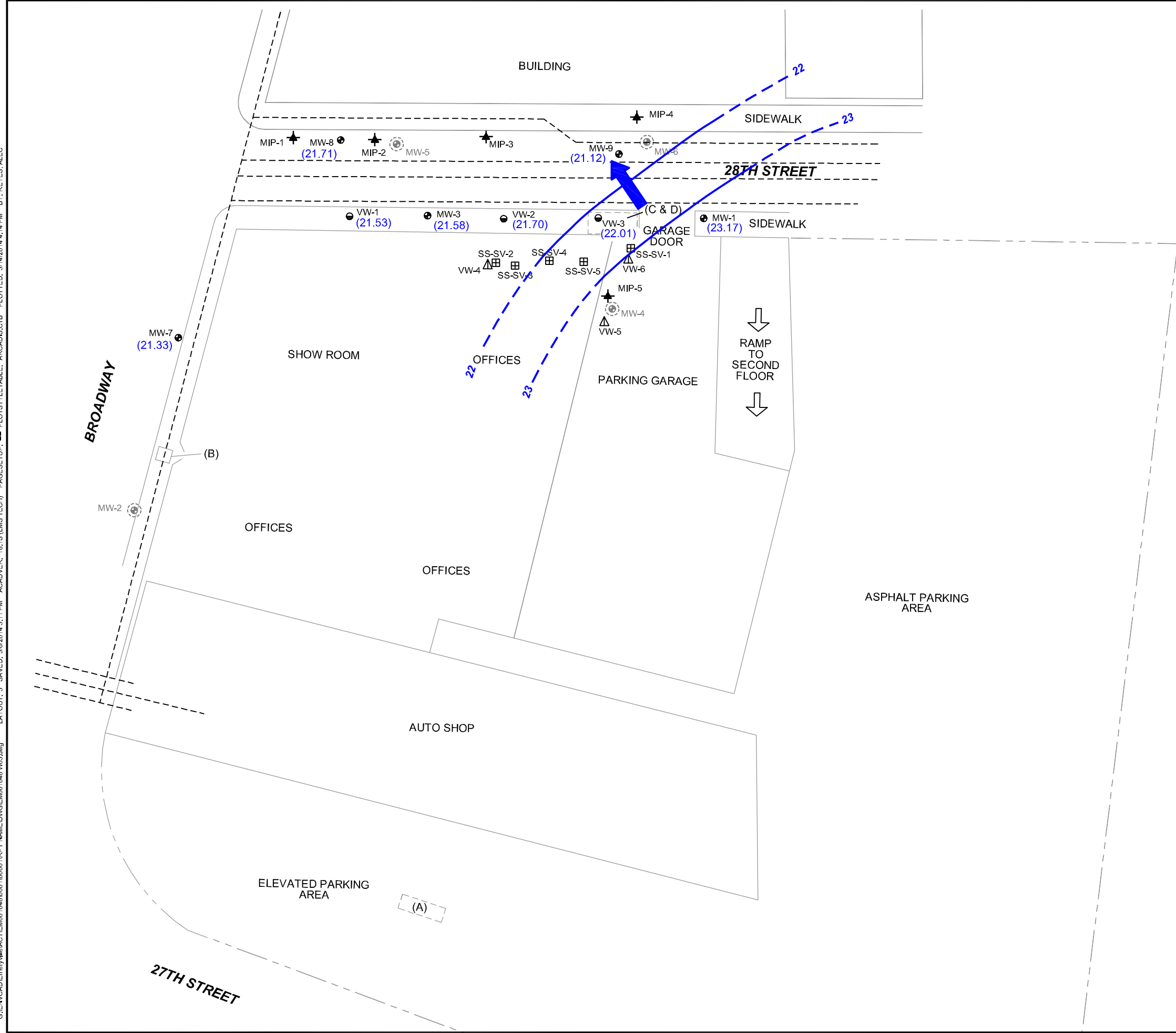
- LEGEND**
- PROPERTY LINE
 - x-x-x- FENCE LINE
 - - - - - UTILITY LINE
 - [] FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
 - MW-3 ● MONITORING WELL LOCATION
 - MW-5 ⊙ ABANDONED MONITORING WELL
 - VW-1 ● VAPOR EXTRACTION WELL
 - VW-6 ▲ SOIL VAPOR MONITORING WELL
 - SS-SV-1 ▣ SUB-SLAB SOIL VAPOR PROBE
 - MIP-1 ✦ SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
 - EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE



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)

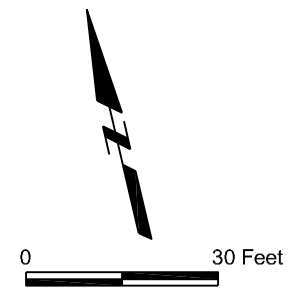
VW OAKLAND 2740 BROADWAY OAKLAND, CALIFORNIA	
SITE PLAN	
	FIGURE 2

CITY:\Read\ DIV\GROUP\Read\ DB\Read\ LD\Op\ PIC\Op\ PNC\Op\ PNC\Read\ TMI\Op\ Lyr\Option\OFF\REF*
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LEGEND

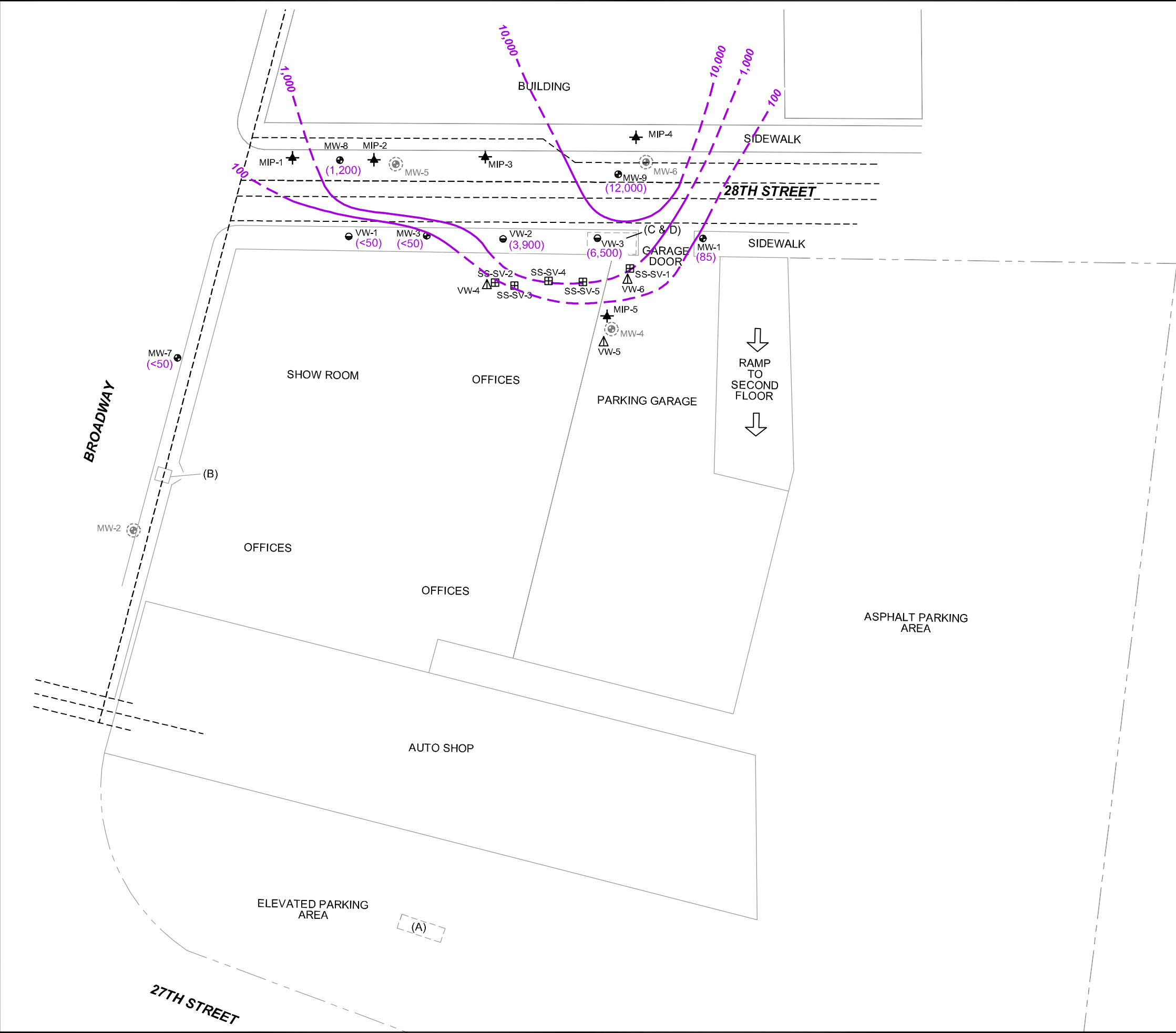
- PROPERTY LINE
- x-x-x- FENCE LINE
- - - - UTILITY LINE
- [] FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
- MW-3 ● MONITORING WELL LOCATION
- MW-5 ⊙ ABANDONED MONITORING WELL
- VW-1 ● VAPOR EXTRACTION WELL
- VW-6 ▲ SOIL VAPOR MONITORING WELL
- SS-SV-1 ▣ SUB-SLAB SOIL VAPOR PROBE
- MIP-1 ★ SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
- EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE
- (22.16) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 22 — CONTOUR OF CONSTANT GROUNDWATER ELEVATION
- ← INFERRED GROUNDWATER FLOW DIRECTION



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)

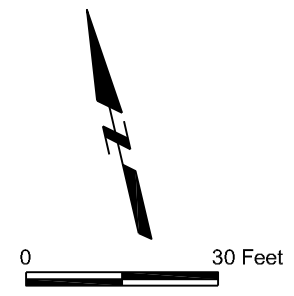
VW OAKLAND 2740 BROADWAY OAKLAND, CALIFORNIA
GROUNDWATER CONTOUR MAP
ARCADIS
FIGURE 3

CITY:\Read\DIV\GROUP\Read\DB\Read\LD\Op\PIC\Op\PM\Read\TM\Op\LYR\Option\OFF\REF*
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LEGEND

- PROPERTY LINE
- *-*- FENCE LINE
- - - UTILITY LINE
- [] 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
- MW-3 ● MONITORING WELL LOCATION
- MW-5 ● ABANDONED MONITORING WELL
- VW-1 ● VAPOR EXTRACTION WELL
- VW-6 ▲ SOIL VAPOR MONITORING WELL
- SS-SV-1 ▣ SUB-SLAB SOIL VAPOR PROBE
- MIP-1 ★ SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
- EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE
- (6,500) TPHg CONCENTRATION IN MICROGRAMS PER LITER (µg/L) (DECEMBER 2013)
- 10,000 APPROXIMATE EXTENTS OF CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- TPHg GASOLINE-RANGE TOTAL PETROLEUM HYDROCARBONS



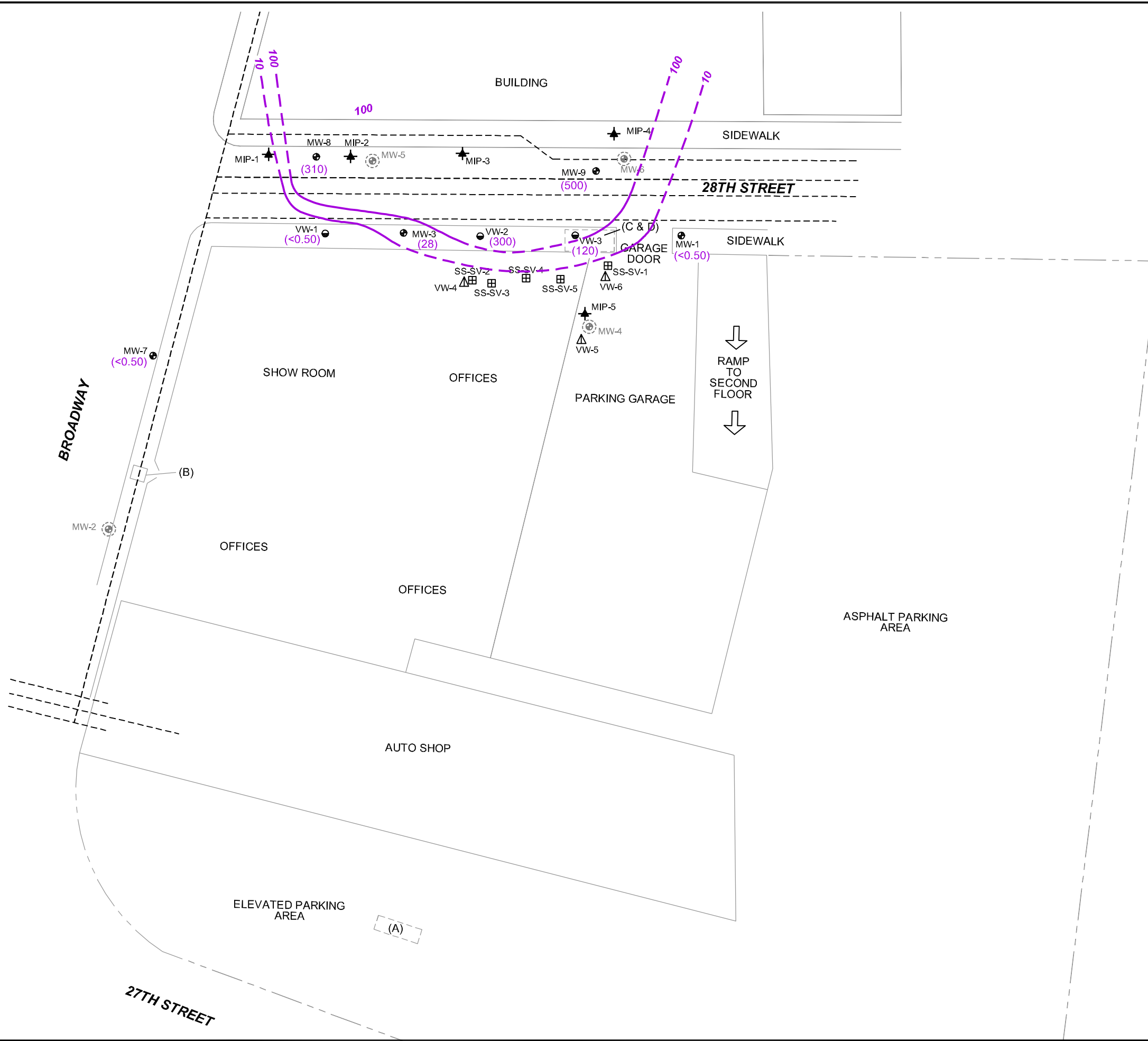
REFERENCES:
 MAP DIGITIZED FROM A SITE PLAN BY ENVIRONMENTAL SCIENCE & ENGINEERING (6/91)
 AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 - REVISED 12/28/98)

VW OAKLAND
 2740 BROADWAY
 OAKLAND, CALIFORNIA

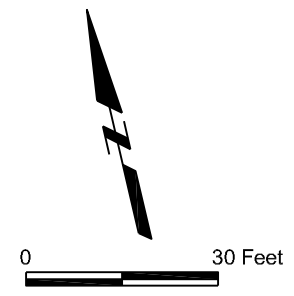
TPHg GROUNDWATER CONCENTRATION CONTOUR MAP

FIGURE 4

CITY:\Read\ DIV\GROUP\F\Read\ DB\Read\ LD\Op\ PIC\Op\ PM\Read\ TMI\Op\ LVR\Option\OFF\REF* G:\ENVCAD\emeryville\ACT\ITEM001\048\0001\00001\RPT\NAME\DWG\SEM01\048\005.dwg LAYOUT: 5. SAVED: 3/6/2014 3:11 PM ACADVER: 18.1S (LMS TECH) PAGES: 5. PLOT: 3/14/2014 3:58 PM BY: REYES, ALEC



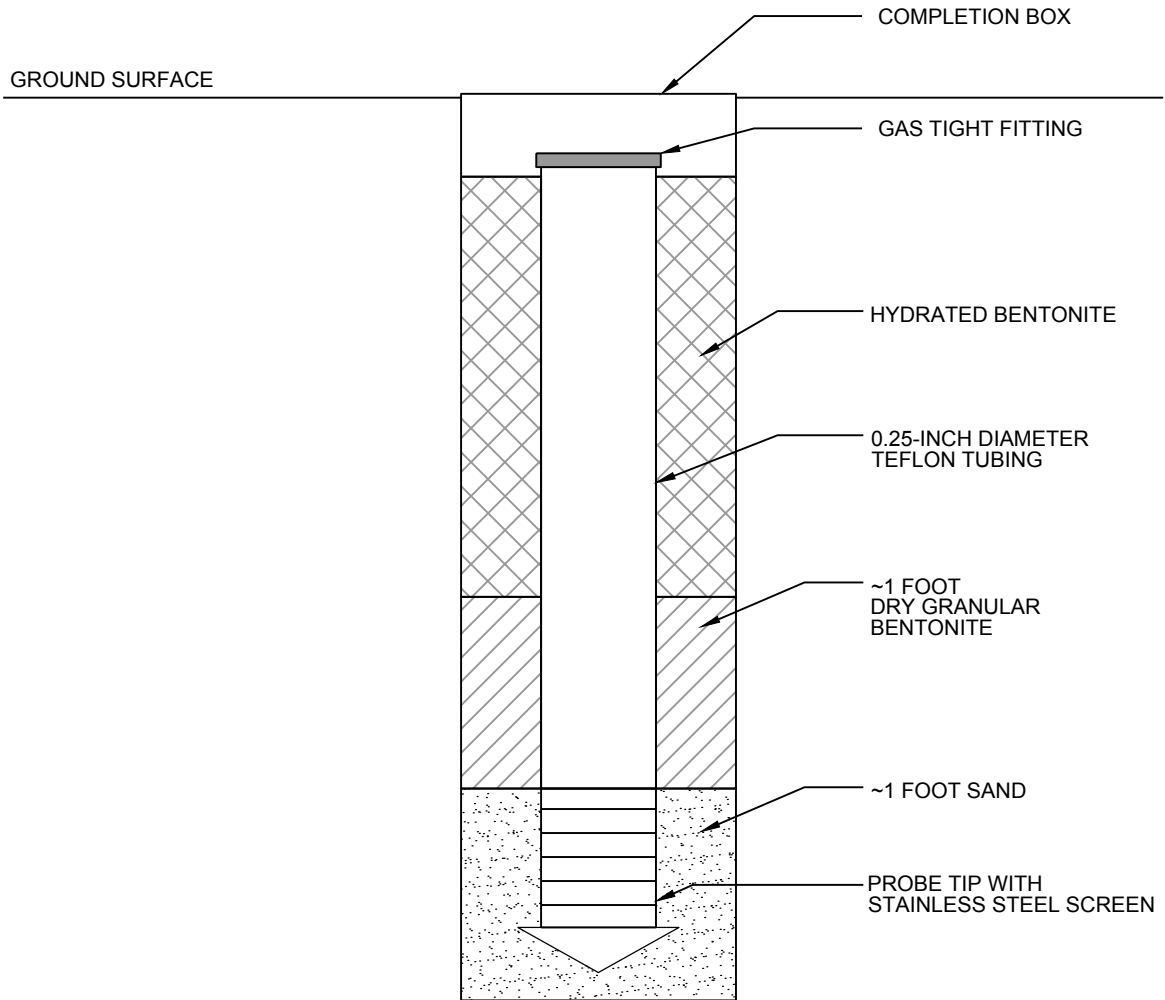
- ### LEGEND
- PROPERTY LINE
 - *-*- FENCE LINE
 - - - - UTILITY LINE
 - - - - FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
 - MW-3 ● MONITORING WELL LOCATION
 - MW-5 ⊙ ABANDONED MONITORING WELL
 - VW-1 ● VAPOR EXTRACTION WELL
 - VW-6 ▲ SOIL VAPOR MONITORING WELL
 - SS-SV-1 □ SUB-SLAB SOIL VAPOR PROBE
 - MIP-1 ★ SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
 - EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE
 - (1,330) BENZENE CONCENTRATION IN MICROGRAMS PER LITER ($\mu\text{g/L}$) (DECEMBER 2013)
 - 100 APPROXIMATE EXTENTS OF CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



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)

VW OAKLAND 2740 BROADWAY OAKLAND, CALIFORNIA	
BENZENE GROUNDWATER CONCENTRATION CONTOUR MAP	
ARCADIS	FIGURE 5

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NOT TO SCALE

ADAPTED FROM
ACTIVE SOIL INVESTIGATIONS ADVISORY,
DTSC, APRIL 2012

VW OAKLAND
2740 BROADWAY
OAKLAND, CALIFORNIA

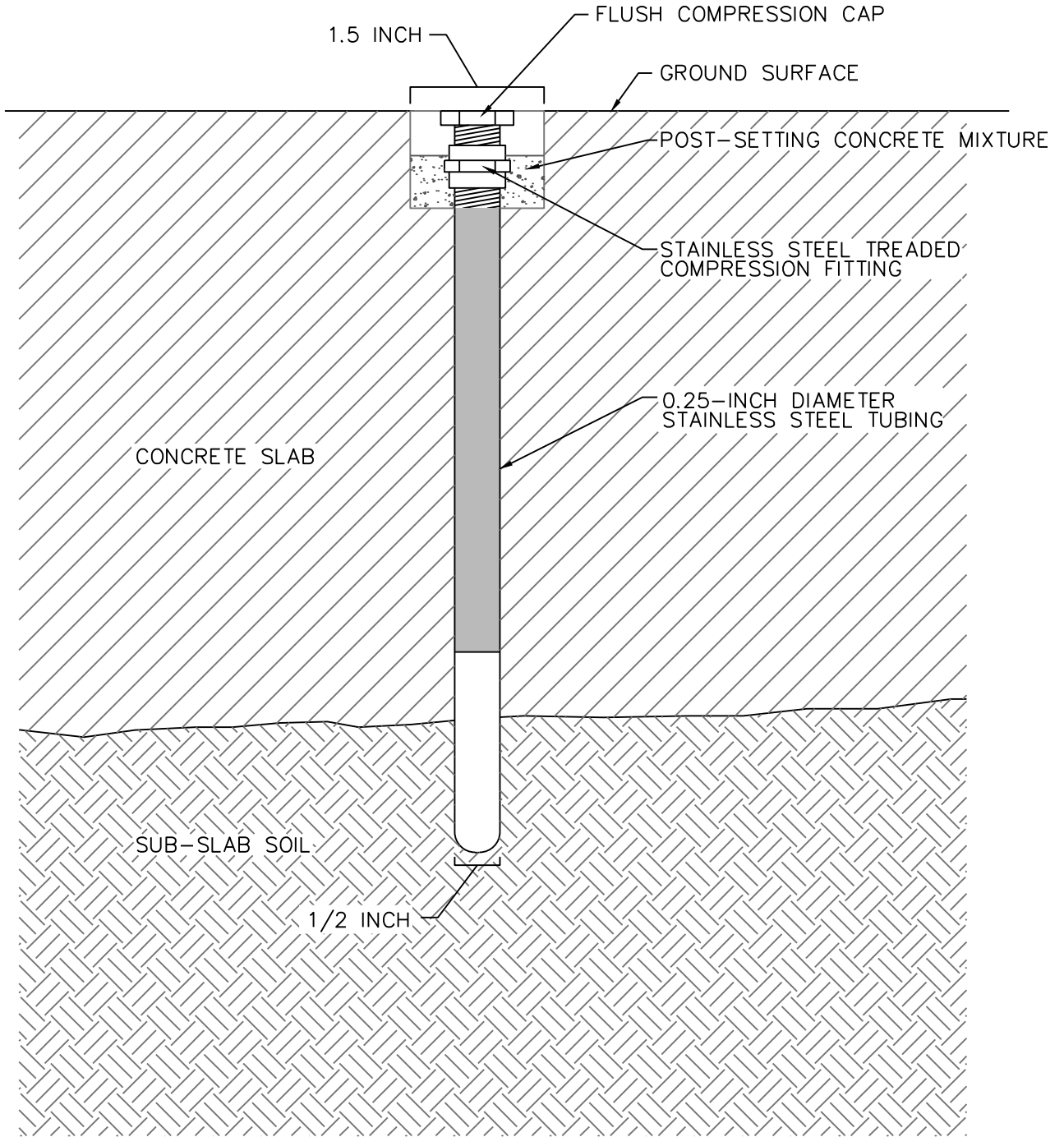
SOIL VAPOR MONITORING WELL DESIGN



FIGURE

6

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NOTE:

SCHEMATIC IS NOT TO SCALE.
DIMENSIONS AND DEPTHS ARE APPROXIMATE.

VW OAKLAND
2740 BROADWAY
OAKLAND, CALIFORNIA

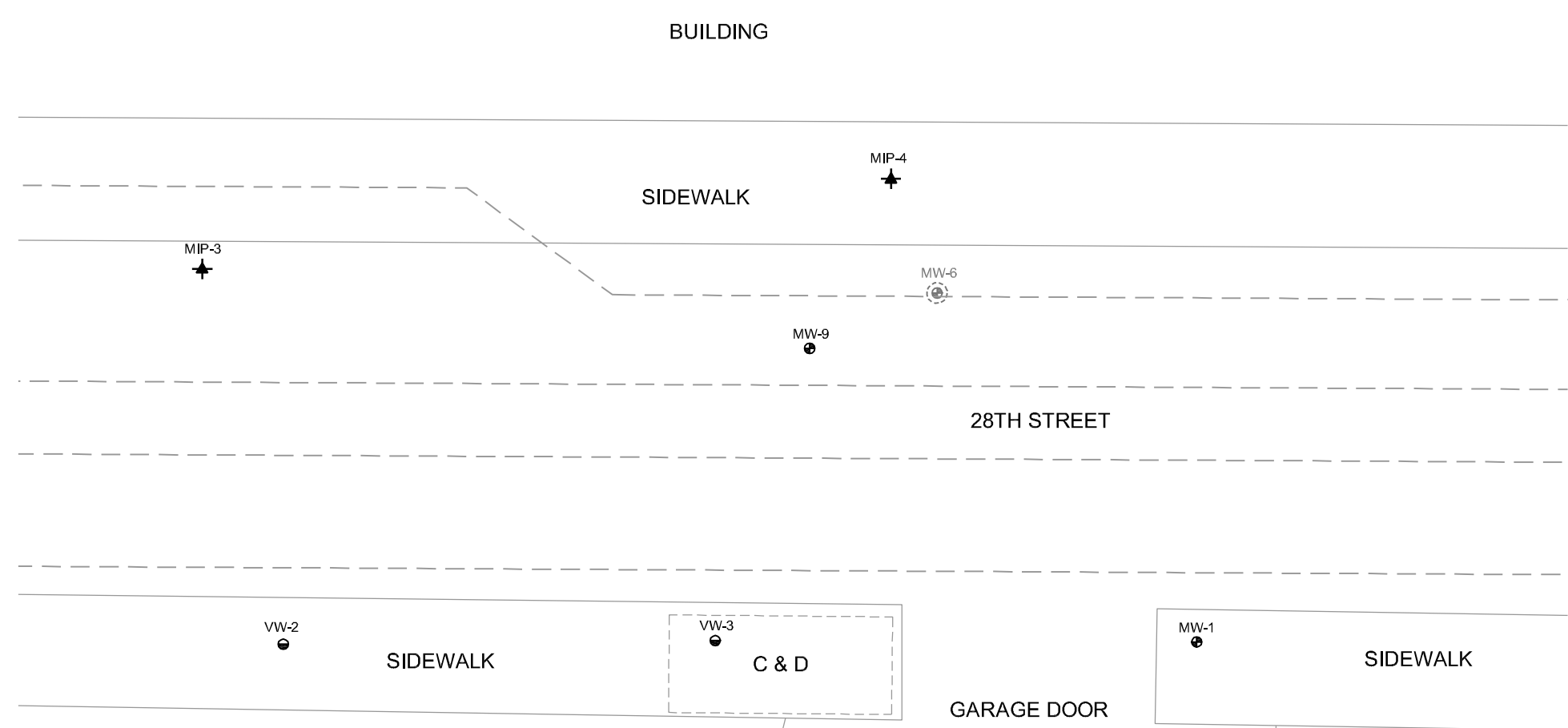
**SUB-SLAB SOIL VAPOR PROBE
SCHEMATIC DIAGRAM**



FIGURE

7

CITY:\(Read) \DIV\GROUP\(\Read) DB\(\Read) LD\(\Op) PIC\(\Op) FMS\(\Read) TMS\(\Op) LYS\(\Op)MON\OFF\REF*
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LEGEND

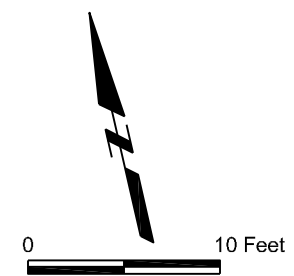
--- PROPERTY LINE
--- UTILITY LINE
[] FORMER UNDERGROUND STORAGE TANK LOCATION

- (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

MW-3 ● MONITORING WELL LOCATION
MW-5 ● ABANDONED MONITORING WELL
VW-1 ● VAPOR EXTRACTION WELL
VW-6 ▲ SOIL VAPOR MONITORING WELL
SS-SV-1 ■ SUB-SLAB SOIL VAPOR PROBE
MIP-1 ✦ SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE

LOCATION ID	
Date	DATE OF SAMPLE
TPHg	TOTAL PETROLEUM HYDROCARBONS IN GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

NOTE:
ALL SOIL VAPOR ANALYTICAL RESULTS
SHOWN IN MICROGRAMS PER CUBIC METER



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)

Date	2/13/2014
TPHg	490
B	<4.3
T	8.4
E	<5.8
X	6.3

Date	2/17/2014
TPHg	390
B	<3.7
T	8.3
E	<5.0
X	<5.0

Date	2/13/2014
TPHg	1,200
B	<4.0
T	63
E	<5.5
X	5.6

Date	2/17/2014
TPHg	360
B	<3.9
T	13
E	<5.3
X	<5.3

Date	2/13/2014
TPHg	930
B	6.3
T	40
E	<5.4
X	<5.4

Date	2/17/2014
TPHg	1,000
B	4.4
T	46
E	<5.4
X	11

Date	2/13/2014
TPHg	870
B	5.5
T	39
E	<4.6
X	10

Date	2/13/2014
TPHg	290
B	<4.1
T	34
E	<5.6
X	<5.6

VW OAKLAND
2740 BROADWAY
OAKLAND, CALIFORNIA

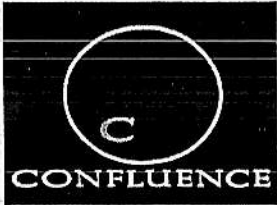
SOIL VAPOR ANALYTICAL DATA FOR SAMPLES COLLECTED FEBRUARY 13 AND 17, 2014

FIGURE
8



Appendix A

Field Sampling Notes



Confluence Environmental, Inc.
 3309 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: F1-131210
 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: <u>Yes</u> No	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	TPH-G, BTEX (8260)	TPH-D & MO (8015)			
MW-1	1040	12/10/13	X			5	2			3			X	X			
MW-3	0950					5	2			3			X	X			
MW-7	0845					5	2			3			X	X			
MW-8	0850					5	2			3			X	X			
MW-9	1105					5	2			3			X	X			
VW-1	0920					5	2			3			X	X			
VW-2	1015					5	2			3			X	X			
VW-3	1130					5	2			3			X	X			
EB	1135					5	2			3			X	X			
DJP	0830					5	2			3			X	X			

Sampler's Name: <u>A. Feeney</u>	Relinquished By / Affiliation: <u>A. Feeney / Confluence</u>	Date: <u>12/10/13</u>	Time: <u>1330</u>	Accepted By / Affiliation: <u>[Signature] CESC</u>	Date: <u>12/10/13</u>	Time: <u>1330</u>
Sampler's Company: Confluence Environmental						
Shipment Date:						
Shipment Method:						

Special Instructions:



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

Project Name: VW Dealership, Oakland

Job Number: F1-131210

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.: TQ6001002227		Phone / Fax: 916-760-7641 / 916-473-8617	
Contact:		Include EDF w/ Report: <u>(Yes)</u> No		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	TPH-G, BTEX (8260)	TPH-D & MO (8015)			
TB	-	12/10/13	X	X		3							X				

Sampler's Name: <u>A. Feeney</u>		Relinquished By / Affiliation		Date	Time	Accepted By / Affiliation		Date	Time
Sampler's Company: Confluence Environmental		<u>Adam [Signature] / Confluence</u>		12/10/13	1330	<u>[Signature] C&T</u>		12/10/13	1330
Shipment Date:									
Shipment Method:									
Special Instructions:									

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 Flow Cell ↓	#2 ↓	12/10/13 ↓	0730 ↓	PH 4, 7, 10 CO ₂ 14.7 O ₂ - D.O. 100%	4.5, 7.5, 10.0 14.7 261.0 100%	✓ ✓ ✓ ✓	4.9 5.0 1.5	ADP AGC ADP ADP	

Notes/comments:

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 (seal w/water m=metal ?=unknown)	labeled (y or n)	label legible (y or n)	tech initial	Notes:
		full	partial	empty						
6/6/12	Arrival	—	—	—	0	—	—	—	EM	
6/6/12	Departure	3	1	1	5	W	Y	Y	EM	
6/13/13	Arrival	4 3	1	0	5	W	Y	Y	EM	
6/13/13	Departure	5	1	1	7	W	Y	Y	EM	
4/7/13	Arrival	10	1	1	12	w/s	Y	Y	BM	
4/7/13	Departure	11		1	12	w/s	Y	Y	BM	
6/19/13	Arrival	11		1	12	w/s	Y	Y	BM	
6/19/13	Departure	11	1		12	w/s	Y	Y	BM	
9/26/13	Arrival	0	0	0	0	-	-	-	AE	
9/26/13	Departure	0	1	0	1	W	Y	Y	AE	
12/10/13	Arrival	0	1	0	1	W	Y	Y	AE	
12/10/13	Departure	0	1	0	1	W	Y	Y	AE	
	Arrival									
	Departure									
	Arrival									
	Departure									
	Arrival									
	Departure									

Well Maintenance Inspection Form

Client: Arcadis Site: VW Oakland Date: 12/10/13
 Job #: FL-131210 Technician: A. Feevey Page 1 of 1

Inspection Point	Entry Indicates Deficiency										Notes (Note any repairs made while on site)			
	Well Inspected - No Corrective Action Required	Cap non-functional	Lock non-functional	Lock missing	Bolts missing / # total (# missing / # total tabs)	Tabs stripped / # (# stripped / # total tabs.)	Tabs broken / # of (# broken / # of total tabs)	Annular seal incomplete	Apron damaged	Rim / Lid broken		Trip Hazard	Below Grade	Other (explain in notes)
MW-1				X										
MW-3				X	4									
MW-7				X										
MW-8				X										
MW-9				X										
VW-1				X	4									
VW-2				X	4									
VW-3				X	4									

Notes: _____

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

Water Level Measurements

Job Number: FL-131210 Date: 12/10/13 Client: Acadix

Site: VW Oakland

Well I.D.	Time	Dia	Depth to NAPL	Thickness of NAPL	Depth to water (DTW)	Total Depth (measured)	Total Depth (historical)	Ref Point <u>TOC/TOB</u>	check w/IPP probe	
MW-1	0715	2			8.11		19.20	TOC		
MW-3	0710	2			10.10		18.60			
MW-7	0705	4			10.20		23.50			
MW-8	0703	2			10.99		20.01			
MW-9	0718	2			10.73		14.90			
VW-1	0708	4			10.14		18.55			
VW-2	0712	4			10.01		16.93			
* VW-3	0720	4			9.10		14.10		└	* V - no SPH detected seen on probe

Purging And Sampling Data Sheet

Job#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: MW-1	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" (2) 3" 4" 6" Other:	DTW: 8.11	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: New <u>Dedicated</u> NA	
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> 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
1024	17.4	5.94	769	4	200	600 mL	0.95	16.7	8.30	
1027	17.4	5.94	768	3		1.2L	0.62	22.2	8.40	
1030	17.6	5.94	765	2		1.8L	0.72	26.3	8.43	
1033	17.3	5.91	754	2		2.4L	0.73	32.0	8.43	
1036	17.4	5.90	753	2		3.0L	0.72	32.0	8.43	

Did well dewater? YES NO Total volume removed: 3.0 (gal /L)

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

Sample date: 12/10/13 Sample time: 1040 DTW at sample: 8.43

Sample ID: MW-1 Lab: C&T Number of bottles: 5

Analysis: TPH-G, BTEX, TPH-D & MO

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#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: MW-3	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" (2") 3" 4" 6" Other:	DTW: 10.10 Total Depth: 18.60	
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
0930	17.2	6.12	457	6	100	300ml	6.02	100.1	10.25	
0933	17.2	6.13	457	5	1	600ml	5.14	105.3	10.42	
0936	16.7	6.12	465	5	1	900ml	4.57	109.9	10.45	
0939	17.0	6.14	472	4	1	1.2L	3.98	112.8	10.49	
0942	17.1	6.15	475	4	1	1.5L	3.96	115	10.49	
0945	17.1	6.14	476	4	1	1.8L	3.95	116	10.49	

Did well dewater? YES NO Total volume removed: 1.8 (gal / L)

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

Sample date: 12/10/13 Sample time: 0950 DTW at sample: 10.49

Sample ID: MW-3 Lab: C&T Number of bottles: 5

Analysis: TPH-G, BTEX, TPH-D & MO

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#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: MW-7	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" (4") 6" Other:	DTW: 10.20 Total Depth: 23.50	
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
0802	17.8	6.03	387.0	4	200	600ml	2.01	157.5	10.26	
0805	17.3	6.10	392.0	3	1	1.2L	0.87	155.1	10.28	
0808	17.9	6.13	391.0	3	1	1.8L	0.84	152.1	10.28	
0811	18.2	6.14	390.0	3	1	2.4L	0.84	150.1	10.28	
0814	18.3	6.14	384.9	3	1	3.0L	0.83	149.7	10.28	

Did well dewater? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Total volume removed: 3.0 (gal / L)
Sample method: Disp Bailer <input type="checkbox"/> Ded. Tubing <input checked="" type="checkbox"/> New Tubing <input type="checkbox"/> Ext. Port <input type="checkbox"/> Other: <input type="checkbox"/>	
Sample date: 12/10/13	Sample time: 0815 DTW at sample: 10.28
Sample ID: MW-7	Lab: C&T Number of bottles: 5+5
Analysis: TPH-G, BTEX, TPH-D & MO	
Equipment blank ID @	Field blank ID @
Duplicate ID: Dup @ 0820	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#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: MW-8	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" (2") 3" 4" 6" Other:	DTW: 10.99 Total Depth: 20.01	
Purge equip: ES - diam: Bladder <u>Peri</u> Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:	Tubing: OD: New <u>Dedicated</u> NA	
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> 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
0837	18.8	6.25	757	5	2w	6.0mc	2.36	44.7	11.27	
0840	18.5	6.24	772	4	1	1.2c	1.79	33.6	11.27	
0843	18.6	6.19	771	4	1	1.8c	1.24	30.3	11.27	
0846	18.6	6.18	773	4	1	2.4c	1.26	29.5	11.27	
0849	18.6	6.17	775	4		3c	1.26	29.4	11.27	

Did well dewater? YES <input type="radio"/> NO <input checked="" type="radio"/>	Total volume removed: 3 (gal / L)
Sample method: Disp Bailer <input type="radio"/> <u>Ded. Tubing</u> <input type="radio"/> New Tubing <input type="radio"/> Ext. Port <input type="radio"/> Other: <input type="radio"/>	
Sample date: 12/10/13	Sample time: 0850 DTW at sample: 11.27
Sample ID: MW-8	Lab: C&T Number of bottles: 5
Analysis: TPH-G, BTEX, TPH-D & MO	
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#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: MW-9	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" <u>2"</u> 3" 4" 6" Other:	DTW: <u>10.73</u> Total Depth: <u>14.90</u>	
Purge equip: ES - diam: Bladder <u>Peri</u> Waterra Positive Air Displacement Ext. System	disp bailer teflon bailer other: Tubing: OD: New <u>Dedicated</u> NA	
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> 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
1048	17.3	5.99	900	5	100	300 mL	1.01	40.3	10.75	
1051	17.6	5.99	902	4		600 mL	1.64	34.0	10.77	
1054	17.7	6.00	909	3		900 mL	2.11	30.3	10.77	
1057	17.8	6.00	913	3		1.2L	2.10	28.0	10.77	
1100	17.8	6.01	910	3		1.5L	2.11	28.5	10.77	

Did well dewater? YES <u>NO</u>	Total volume removed: _____ (gal / L)
Sample method: Disp Bailer <u>Ded. Tubing</u> New Tubing Ext. Port Other:	
Sample date: <u>12/10/13</u> Sample time: <u>1105</u>	DTW at sample: <u>10.77</u>
Sample ID: <u>MW-9</u> Lab: C&T	Number of bottles: <u>5</u>
Analysis: TPH-G, BTEX, TPH-D & MO	
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#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: VW-1	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" <u>4"</u> 6" Other:	DTW: 10.14 Total Depth: 18.55	
Purge equip: ES - diam: Bladder <u>Peri</u> Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:	Tubing: OD: New <u>Dedicated</u> NA	
Purge method: 3-5 Case Volume <u>Micro/Low-Flow</u> 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
0903	18.2	6.33	382.6	3	200	600ml	2.17	59.2	10.30	
0906	18.3	6.29	384	3	1	1.2L	1.72	67.5	10.34	
0909	18.4	6.28	385	3	1	1.8L	1.63	71.0	10.35	
0912	18.4	6.27	385	3	1	2.4L	1.60	75.2	10.35	
0915	18.4	6.27	386	3		3L	1.59	75.5	10.35	

Did well dewater? YES NO Total volume removed: 3 (gal / L)

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

Sample date: 12/10/13 Sample time: 0920 DTW at sample: 10.35

Sample ID: VW-1 Lab: C&T Number of bottles: 5

Analysis: TPH-G, BTEX, TPH-D & MO

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#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: VW-2	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" (4") 6" Other:	DTW: 10.01 Total Depth: 16.93	
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 / fS)	Turbidity (NTU)	Purge Rate (gal or mL / min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
957	17.5	6.16	616	6	200	600ml	3.27	-15.5	10.17	Strong odor
1000	17.5	6.16	618	4	1	1.2L	2.33	-31.6	10.20	1
1003	17.5	6.14	618	4	1	1.8L	1.04	-43.7	10.24	1
1006	17.2	6.12	613	4	1	2.4L	0.56	-54.0	10.25	1
1009	17.2	6.13	610	4	1	3.0L	0.54	-56	10.25	1
1012	17.2	6.12	609	4	1	3.6L	0.54	-56.5	10.25	1

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

Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:
Sample date: 12/10/13 Sample time: 1015 DTW at sample: 10.25
Sample ID: VW-2 Lab: C&T Number of bottles: 5
Analysis: TPH-G, BTEX, TPH-D & MO
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

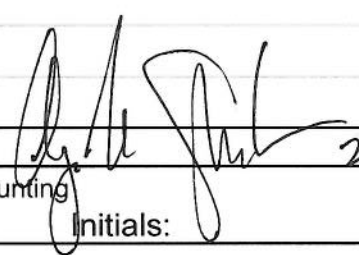
Job#: F1-131210	Sampler: A Feeney	Client: Arcadis
Well ID: VW-3	Date: 12/10/13	Site: VW Dealership, Oakland
Well diam: 1/4" 1" 2" 3" (4") 6" Other:	DTW: 9.10 Total Depth: 14.10	
Purge equip: ES - diam: Bladder (Peri) Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:	Tubing: 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% = _____

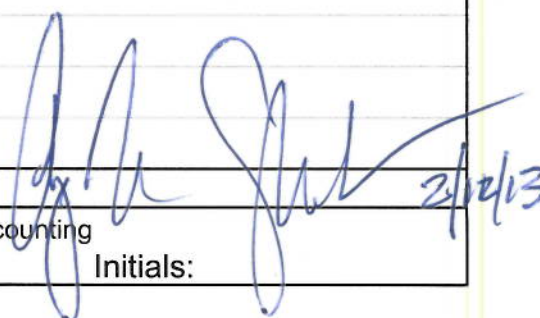
Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
*	Sheen		on	IP	Probe,	no		Product		detected. *
1116	15.9	6.71	685	6	200	600ml	0.74	-20.6	9.10	Strongly oxidized
1119	16.0	6.72	680	5	1	1.2L	0.47	-37.4	9.10	
1122	16.1	6.71	685	5	1	1.8L	0.43	-42.3	9.11	
1125	16.3	6.69	685	5	1	2.4L	0.44	-45.7	9.11	
1128	16.3	6.68	684	5	1	3.0L	0.44	-46	9.11	

Did well dewater? YES (NO)	Total volume removed: 3.0 (gal / L)
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:	
Sample date: 12/10/13	Sample time: 1130 DTW at sample: 9.11
Sample ID: VW-3	Lab: C&T Number of bottles: 5
Analysis: TPH-G, BTEX, TPH-D & MO	
Equipment blank ID EB @ 1135	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

Site Visit Report

ARCADIS Project Number: EM0010460001		Dates of Site Visit: 2/11-2/13	
ARCADIS Project Name: VW Oakland		Location of Project: Oakland, CA	
ARCADIS Personnel Present: Aghan T. Nguyen		Other Persons Present: Jason & Tony - Confluence, Nick - Cruz	
Purpose of Site Visit: Install SV & SS-SV probes			
Date & Time:	Activities:		
0630	Aus / Confluence onsite H & S tailgate		
0700	Cruz onsite VW opens Utility Clearance of Offices		
0715	Confluence sets up at VW-4, note (3) 3" layers to slab.		
0815	Complete hand auguring of VW-4, Begin well construction		
0815	Cruz offsite.		
0910	Begin VW-5 while waiting for well to set.		
0920	→ move to different location → hit refusal with aug. r.		
1040	set up at VW-6 ^{appears to be concrete slab}		
1215	VW-6 complete, notified County inspector		
1000	Sam (Alameda County Inspector) onsite		
1230	AS discusses work w/ Facility Manager, Samir. Agrees to allow sampling during business hours.		
1400	Begin SS-SV-1, ~ 4" of slab		
1445	SS-SV-1 install complete		
1500	AS/TN offsite		
Weather:	Mild Sunny	Signature & Date:	 2/11/13
		Eqpt Billing Log to Accounting	
		Date:	Initials:

Site Visit Report

ARCADIS Project Number: EM001048.0001		Dates of Site Visit: 2/12/13 (2/11-2/13)	
ARCADIS Project Name: VW Oakland		Location of Project: Oakland, CA	
ARCADIS Personnel Present: Ashah / T Nguyen		Other Persons Present:	
Purpose of Site Visit: SS-SV install			
Date & Time:	Activities:		
0655	Arrive onsite		
	H&S tailgate		
	Setup on SS-SV-2 & SS-SV-3		
0800	Complete install of SS-SV-2 & SS-SV-3		
	Setup at SS-SV-4 & SS-SV-5		
0900	Complete SS-SV-4 & SS-SV-5 install		
	Cleanup		
0930	AS/TN offsite to Storage/Eville.		
Weather: Mild & Sunny		Signature & Date:  2/12/13	
		Eqt Billing Log to Accounting	
		Date: Initials:	

Site Visit Report

ARCADIS Project Number: EM006048.0001	Dates of Site Visit: 2-13-19
ARCADIS Project Name: VW Oakland	Location of Project: Oakland, CA
ARCADIS Personnel Present: T. Nguyen	Other Persons Present: N/A
Purpose of Site Visit: SV sampling/sub-slab sampling	
Date & Time:	Activities:
0730	on-site
0735	begin set up on SS-SV-2 to sample
0825	begin purge of SS-SV-2 → 60 mL
0835	begin sample SS-SV-2
0900	purge SS-SV-3
0930	sample SS-SV-3
1000	set up SS-SV-1
1025	purge 60 mL
1035	sample SS-SV-1
1115	begin set up and purge of VW-6
1200	sample VW-6
1250	begin set up at VW-5
1350	sample VW-5
Weather:	Signature & Date:
Eqpt Billing Log to Accounting Date: _____ Initials: _____	

Site Visit Report

ARCADIS Project Number: EM001048-0001		Dates of Site Visit: 2-17-14	
ARCADIS Project Name: VW catchment		Location of Project: Oakland, CA	
ARCADIS Personnel Present: T. Nguyen		Other Persons Present: N/A	
Purpose of Site Visit: SV Sampling / Sub-slab sampling			
Date & Time:	Activities:		
0700	on-site		
0710	Begin setup on VW-4		
0740	Start purging VW-4		
0820	Sample VW-4		
0840	Set up SS-SV-4		
0905	Purge SS-SV-4		
0910	Sample SS-SV-5		
0920	Set up SS-SV-5		
0945	Purge SS-SV-5		
0955	Sample SS-SV-5		
1000	begin clean-up, write LOC and cross-reference samples		

Weather:	Signature & Date:	
	Eqpt Billing Log to Accounting	
	Date:	Initials:



Appendix B

Laboratory Analytical Reports

3/3/2014

Mr. Arpen Shah
Arcadis U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco CA 94104

Project Name: VW Oakland
Project #: EM001048.0001
Workorder #: 1402239A

Dear Mr. Arpen Shah

The following report includes the data for the above referenced project for sample(s) received on 2/18/2014 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1402239A

Work Order Summary

CLIENT:	Mr. Arpen Shah Arcadis U.S., Inc. 100 Montgomery Street Suite 300 San Francisco, CA 94104	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	415-432-6916	P.O. #	VW-WA-01142014
FAX:	415-374-2745	PROJECT #	EM001048.0001 VW Oakland
DATE RECEIVED:	02/18/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	03/03/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SS-SV-2	TO-15	7.3 "Hg	15.1 psi
02A	SS-SV-1	TO-15	1 "Hg	15.3 psi
03A	VW-6	TO-15	6.5 "Hg	14.9 psi
04A	VW-5	TO-15	5.5 "Hg	15 psi
05A	SS-SV-4	TO-15	5.3 "Hg	15 psi
06A	VW-4	TO-15	3.9 "Hg	15 psi
07A	SS-SV-5	TO-15	5.7 "Hg	15.2 psi
08A	SS-SV-3	TO-15	5.9 "Hg	15.1 psi
09A	Lab Blank	TO-15	NA	NA
10A	CCV	TO-15	NA	NA
11A	LCS	TO-15	NA	NA
11AA	LCSD	TO-15	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 03/03/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.
 180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 1402239A

Eight 1 Liter Summa Canister samples were received on February 18, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A signature and date were not provided by the field sampler.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-SV-2

Lab ID#: 1402239A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	5.4	17	10	32
Acetone	13	25	32	59
Toluene	1.3	2.2	5.0	8.4
m,p-Xylene	1.3	1.4	5.8	6.3
1,2,4-Trimethylbenzene	1.3	1.8	6.6	9.0

Client Sample ID: SS-SV-1

Lab ID#: 1402239A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.2	22	8.0	41
Acetone	10	130	25	300
2-Propanol	4.2	4.8	10	12
2,2,4-Trimethylpentane	1.0	1.4	4.9	6.6
Benzene	1.0	1.7	3.4	5.5
Toluene	1.0	10	4.0	39
m,p-Xylene	1.0	2.3	4.6	10

Client Sample ID: VW-6

Lab ID#: 1402239A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	13	24	30	57
Toluene	1.3	9.1	4.8	34

Client Sample ID: VW-5

Lab ID#: 1402239A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	5.0	23	9.3	44
Acetone	12	170	29	410
Hexane	1.2	1.4	4.4	4.9

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VW-5

Lab ID#: 1402239A-04A

2,2,4-Trimethylpentane	1.2	1.7	5.8	7.8
Benzene	1.2	2.0	4.0	6.3
Toluene	1.2	11	4.7	40

Client Sample ID: SS-SV-4

Lab ID#: 1402239A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.9	15	9.2	28
Acetone	12	49	29	120
Toluene	1.2	3.4	4.6	13

Client Sample ID: VW-4

Lab ID#: 1402239A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.6	21	8.7	39
Acetone	12	12	28	28
Toluene	1.2	2.2	4.4	8.3

Client Sample ID: SS-SV-5

Lab ID#: 1402239A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	5.0	87	9.4	160
Acetone	12	160	30	370
2,2,4-Trimethylpentane	1.2	1.3	5.9	6.1
Benzene	1.2	1.4	4.0	4.4
Toluene	1.2	12	4.7	46
m,p-Xylene	1.2	2.5	5.4	11

Client Sample ID: SS-SV-3

Lab ID#: 1402239A-08A

Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-SV-3

Lab ID#: 1402239A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	5.0	59	9.5	110
Acetone	13	230	30	540
Hexane	1.3	1.5	4.4	5.4
Toluene	1.3	17	4.7	63
m,p-Xylene	1.3	1.3	5.5	5.6



Air Toxics

Client Sample ID: SS-SV-2

Lab ID#: 1402239A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022515	Date of Collection:	2/13/14 8:45:00 AM
Dil. Factor:	2.68	Date of Analysis:	2/25/14 03:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.6	Not Detected
Freon 114	1.3	Not Detected	9.4	Not Detected
Chloromethane	13	Not Detected	28	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
1,3-Butadiene	1.3	Not Detected	3.0	Not Detected
Bromomethane	13	Not Detected	52	Not Detected
Chloroethane	5.4	Not Detected	14	Not Detected
Freon 11	1.3	Not Detected	7.5	Not Detected
Ethanol	5.4	17	10	32
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	13	25	32	59
2-Propanol	5.4	Not Detected	13	Not Detected
Carbon Disulfide	5.4	Not Detected	17	Not Detected
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	13	Not Detected	46	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Hexane	1.3	Not Detected	4.7	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.4	Not Detected	16	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	1.3	Not Detected	6.5	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Cyclohexane	1.3	Not Detected	4.6	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.4	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.2	Not Detected
Benzene	1.3	Not Detected	4.3	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.4	Not Detected
Heptane	1.3	Not Detected	5.5	Not Detected
Trichloroethene	1.3	Not Detected	7.2	Not Detected
1,2-Dichloropropane	1.3	Not Detected	6.2	Not Detected
1,4-Dioxane	5.4	Not Detected	19	Not Detected
Bromodichloromethane	1.3	Not Detected	9.0	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	2.2	5.0	8.4
trans-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Tetrachloroethene	1.3	Not Detected	9.1	Not Detected
2-Hexanone	5.4	Not Detected	22	Not Detected



Air Toxics

Client Sample ID: SS-SV-2

Lab ID#: 1402239A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022515	Date of Collection:	2/13/14 8:45:00 AM
Dil. Factor:	2.68	Date of Analysis:	2/25/14 03:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	Not Detected	6.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.8	Not Detected
m,p-Xylene	1.3	1.4	5.8	6.3
o-Xylene	1.3	Not Detected	5.8	Not Detected
Styrene	1.3	Not Detected	5.7	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	Not Detected	6.6	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
Propylbenzene	1.3	Not Detected	6.6	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,2,4-Trimethylbenzene	1.3	1.8	6.6	9.0
1,3-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.9	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	57	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: SS-SV-1

Lab ID#: 1402239A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022517	Date of Collection:	2/13/14 10:30:00 AM
Dil. Factor:	2.11	Date of Analysis:	2/25/14 04:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	Not Detected	5.2	Not Detected
Freon 114	1.0	Not Detected	7.4	Not Detected
Chloromethane	10	Not Detected	22	Not Detected
Vinyl Chloride	1.0	Not Detected	2.7	Not Detected
1,3-Butadiene	1.0	Not Detected	2.3	Not Detected
Bromomethane	10	Not Detected	41	Not Detected
Chloroethane	4.2	Not Detected	11	Not Detected
Freon 11	1.0	Not Detected	5.9	Not Detected
Ethanol	4.2	22	8.0	41
Freon 113	1.0	Not Detected	8.1	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.2	Not Detected
Acetone	10	130	25	300
2-Propanol	4.2	4.8	10	12
Carbon Disulfide	4.2	Not Detected	13	Not Detected
3-Chloropropene	4.2	Not Detected	13	Not Detected
Methylene Chloride	10	Not Detected	37	Not Detected
Methyl tert-butyl ether	1.0	Not Detected	3.8	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.2	Not Detected
Hexane	1.0	Not Detected	3.7	Not Detected
1,1-Dichloroethane	1.0	Not Detected	4.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.2	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.2	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.1	Not Detected
Chloroform	1.0	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.0	Not Detected	5.8	Not Detected
Cyclohexane	1.0	Not Detected	3.6	Not Detected
Carbon Tetrachloride	1.0	Not Detected	6.6	Not Detected
2,2,4-Trimethylpentane	1.0	1.4	4.9	6.6
Benzene	1.0	1.7	3.4	5.5
1,2-Dichloroethane	1.0	Not Detected	4.3	Not Detected
Heptane	1.0	Not Detected	4.3	Not Detected
Trichloroethene	1.0	Not Detected	5.7	Not Detected
1,2-Dichloropropane	1.0	Not Detected	4.9	Not Detected
1,4-Dioxane	4.2	Not Detected	15	Not Detected
Bromodichloromethane	1.0	Not Detected	7.1	Not Detected
cis-1,3-Dichloropropene	1.0	Not Detected	4.8	Not Detected
4-Methyl-2-pentanone	1.0	Not Detected	4.3	Not Detected
Toluene	1.0	10	4.0	39
trans-1,3-Dichloropropene	1.0	Not Detected	4.8	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.8	Not Detected
Tetrachloroethene	1.0	Not Detected	7.2	Not Detected
2-Hexanone	4.2	Not Detected	17	Not Detected



Air Toxics

Client Sample ID: SS-SV-1

Lab ID#: 1402239A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022517	Date of Collection:	2/13/14 10:30:00 AM
Dil. Factor:	2.11	Date of Analysis:	2/25/14 04:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.0	Not Detected	9.0	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	8.1	Not Detected
Chlorobenzene	1.0	Not Detected	4.8	Not Detected
Ethyl Benzene	1.0	Not Detected	4.6	Not Detected
m,p-Xylene	1.0	2.3	4.6	10
o-Xylene	1.0	Not Detected	4.6	Not Detected
Styrene	1.0	Not Detected	4.5	Not Detected
Bromoform	1.0	Not Detected	11	Not Detected
Cumene	1.0	Not Detected	5.2	Not Detected
1,1,2,2-Tetrachloroethane	1.0	Not Detected	7.2	Not Detected
Propylbenzene	1.0	Not Detected	5.2	Not Detected
4-Ethyltoluene	1.0	Not Detected	5.2	Not Detected
1,3,5-Trimethylbenzene	1.0	Not Detected	5.2	Not Detected
1,2,4-Trimethylbenzene	1.0	Not Detected	5.2	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected	6.3	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected	6.3	Not Detected
alpha-Chlorotoluene	1.0	Not Detected	5.5	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.3	Not Detected
1,2,4-Trichlorobenzene	4.2	Not Detected	31	Not Detected
Hexachlorobutadiene	4.2	Not Detected	45	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: VW-6

Lab ID#: 1402239A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022518	Date of Collection:	2/13/14 12:00:00 PM
Dil. Factor:	2.57	Date of Analysis:	2/25/14 04:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	13	Not Detected	26	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	13	Not Detected	50	Not Detected
Chloroethane	5.1	Not Detected	14	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Ethanol	5.1	Not Detected	9.7	Not Detected
Freon 113	1.3	Not Detected	9.8	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	13	24	30	57
2-Propanol	5.1	Not Detected	13	Not Detected
Carbon Disulfide	5.1	Not Detected	16	Not Detected
3-Chloropropene	5.1	Not Detected	16	Not Detected
Methylene Chloride	13	Not Detected	45	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.6	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Hexane	1.3	Not Detected	4.5	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.1	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.8	Not Detected
Chloroform	1.3	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Cyclohexane	1.3	Not Detected	4.4	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.0	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Heptane	1.3	Not Detected	5.3	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
1,2-Dichloropropane	1.3	Not Detected	5.9	Not Detected
1,4-Dioxane	5.1	Not Detected	18	Not Detected
Bromodichloromethane	1.3	Not Detected	8.6	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.3	Not Detected
Toluene	1.3	9.1	4.8	34
trans-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Tetrachloroethene	1.3	Not Detected	8.7	Not Detected
2-Hexanone	5.1	Not Detected	21	Not Detected



Client Sample ID: VW-6

Lab ID#: 1402239A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022518	Date of Collection:	2/13/14 12:00:00 PM
Dil. Factor:	2.57	Date of Analysis:	2/25/14 04:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	Not Detected	5.5	Not Detected
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.3	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	8.8	Not Detected
Propylbenzene	1.3	Not Detected	6.3	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.3	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.3	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.3	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.7	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.7	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.6	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.7	Not Detected
1,2,4-Trichlorobenzene	5.1	Not Detected	38	Not Detected
Hexachlorobutadiene	5.1	Not Detected	55	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VW-5

Lab ID#: 1402239A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022519	Date of Collection:	2/13/14 1:50:00 PM
Dil. Factor:	2.48	Date of Analysis:	2/25/14 05:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.1	Not Detected
Freon 114	1.2	Not Detected	8.7	Not Detected
Chloromethane	12	Not Detected	26	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	12	Not Detected	48	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	7.0	Not Detected
Ethanol	5.0	23	9.3	44
Freon 113	1.2	Not Detected	9.5	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Acetone	12	170	29	410
2-Propanol	5.0	Not Detected	12	Not Detected
Carbon Disulfide	5.0	Not Detected	15	Not Detected
3-Chloropropene	5.0	Not Detected	16	Not Detected
Methylene Chloride	12	Not Detected	43	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.5	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Hexane	1.2	1.4	4.4	4.9
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Cyclohexane	1.2	Not Detected	4.3	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.8	Not Detected
2,2,4-Trimethylpentane	1.2	1.7	5.8	7.8
Benzene	1.2	2.0	4.0	6.3
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	Not Detected	5.1	Not Detected
Trichloroethene	1.2	Not Detected	6.7	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.7	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.3	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.1	Not Detected
Toluene	1.2	11	4.7	40
trans-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Tetrachloroethene	1.2	Not Detected	8.4	Not Detected
2-Hexanone	5.0	Not Detected	20	Not Detected



Client Sample ID: VW-5

Lab ID#: 1402239A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022519	Date of Collection:	2/13/14 1:50:00 PM
Dil. Factor:	2.48	Date of Analysis:	2/25/14 05:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.5	Not Detected
Chlorobenzene	1.2	Not Detected	5.7	Not Detected
Ethyl Benzene	1.2	Not Detected	5.4	Not Detected
m,p-Xylene	1.2	Not Detected	5.4	Not Detected
o-Xylene	1.2	Not Detected	5.4	Not Detected
Styrene	1.2	Not Detected	5.3	Not Detected
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.1	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.5	Not Detected
Propylbenzene	1.2	Not Detected	6.1	Not Detected
4-Ethyltoluene	1.2	Not Detected	6.1	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.1	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	6.1	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.4	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	5.0	Not Detected	53	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: SS-SV-4

Lab ID#: 1402239A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022520	Date of Collection:	2/17/14 9:10:00 AM
Dil. Factor:	2.45	Date of Analysis:	2/25/14 05:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Freon 114	1.2	Not Detected	8.6	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	12	Not Detected	48	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.9	Not Detected
Ethanol	4.9	15	9.2	28
Freon 113	1.2	Not Detected	9.4	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	49	29	120
2-Propanol	4.9	Not Detected	12	Not Detected
Carbon Disulfide	4.9	Not Detected	15	Not Detected
3-Chloropropene	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.4	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Cyclohexane	1.2	Not Detected	4.2	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.7	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.7	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.2	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	3.4	4.6	13
trans-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Tetrachloroethene	1.2	Not Detected	8.3	Not Detected
2-Hexanone	4.9	Not Detected	20	Not Detected



Air Toxics

Client Sample ID: SS-SV-4

Lab ID#: 1402239A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022520	Date of Collection:	2/17/14 9:10:00 AM
Dil. Factor:	2.45	Date of Analysis:	2/25/14 05:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.4	Not Detected
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	Not Detected	5.3	Not Detected
m,p-Xylene	1.2	Not Detected	5.3	Not Detected
o-Xylene	1.2	Not Detected	5.3	Not Detected
Styrene	1.2	Not Detected	5.2	Not Detected
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.0	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.4	Not Detected
Propylbenzene	1.2	Not Detected	6.0	Not Detected
4-Ethyltoluene	1.2	Not Detected	6.0	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.0	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	6.0	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,2,4-Trichlorobenzene	4.9	Not Detected	36	Not Detected
Hexachlorobutadiene	4.9	Not Detected	52	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VW-4

Lab ID#: 1402239A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022521	Date of Collection:	2/17/14 8:20:00 AM
Dil. Factor:	2.32	Date of Analysis:	2/25/14 05:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.7	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.6	21	8.7	39
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	12	28	28
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	Not Detected	14	Not Detected
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.6	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	2.2	4.4	8.3
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected



Client Sample ID: VW-4

Lab ID#: 1402239A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022521	Date of Collection:	2/17/14 8:20:00 AM
Dil. Factor:	2.32	Date of Analysis:	2/25/14 05:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	8.9	Not Detected
Chlorobenzene	1.2	Not Detected	5.3	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	Not Detected	5.0	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
Styrene	1.2	Not Detected	4.9	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: SS-SV-5

Lab ID#: 1402239A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022522	Date of Collection:	2/17/14 9:55:00 AM
Dil. Factor:	2.51	Date of Analysis:	2/25/14 06:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.2	Not Detected
Freon 114	1.2	Not Detected	8.8	Not Detected
Chloromethane	12	Not Detected	26	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,3-Butadiene	1.2	Not Detected	2.8	Not Detected
Bromomethane	12	Not Detected	49	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	7.0	Not Detected
Ethanol	5.0	87	9.4	160
Freon 113	1.2	Not Detected	9.6	Not Detected
1,1-Dichloroethene	1.2	Not Detected	5.0	Not Detected
Acetone	12	160	30	370
2-Propanol	5.0	Not Detected	12	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	5.0	Not Detected	16	Not Detected
Methylene Chloride	12	Not Detected	44	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.5	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	5.0	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	5.0	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.7	Not Detected
Chloroform	1.2	Not Detected	6.1	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Cyclohexane	1.2	Not Detected	4.3	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.9	Not Detected
2,2,4-Trimethylpentane	1.2	1.3	5.9	6.1
Benzene	1.2	1.4	4.0	4.4
1,2-Dichloroethane	1.2	Not Detected	5.1	Not Detected
Heptane	1.2	Not Detected	5.1	Not Detected
Trichloroethene	1.2	Not Detected	6.7	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.8	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.4	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.7	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.1	Not Detected
Toluene	1.2	12	4.7	46
trans-1,3-Dichloropropene	1.2	Not Detected	5.7	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Tetrachloroethene	1.2	Not Detected	8.5	Not Detected
2-Hexanone	5.0	Not Detected	20	Not Detected



Air Toxics

Client Sample ID: SS-SV-5

Lab ID#: 1402239A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022522	Date of Collection:	2/17/14 9:55:00 AM
Dil. Factor:	2.51	Date of Analysis:	2/25/14 06:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.6	Not Detected
Chlorobenzene	1.2	Not Detected	5.8	Not Detected
Ethyl Benzene	1.2	Not Detected	5.4	Not Detected
m,p-Xylene	1.2	2.5	5.4	11
o-Xylene	1.2	Not Detected	5.4	Not Detected
Styrene	1.2	Not Detected	5.3	Not Detected
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.2	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.6	Not Detected
Propylbenzene	1.2	Not Detected	6.2	Not Detected
4-Ethyltoluene	1.2	Not Detected	6.2	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.2	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	6.2	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.5	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.5	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.5	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.5	Not Detected
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	5.0	Not Detected	54	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: SS-SV-3

Lab ID#: 1402239A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022523	Date of Collection:	2/13/14 9:20:00 AM
Dil. Factor:	2.52	Date of Analysis:	2/25/14 06:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.2	Not Detected
Freon 114	1.3	Not Detected	8.8	Not Detected
Chloromethane	13	Not Detected	26	Not Detected
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	13	Not Detected	49	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	1.3	Not Detected	7.1	Not Detected
Ethanol	5.0	59	9.5	110
Freon 113	1.3	Not Detected	9.6	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Acetone	13	230	30	540
2-Propanol	5.0	Not Detected	12	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	5.0	Not Detected	16	Not Detected
Methylene Chloride	13	Not Detected	44	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.5	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Hexane	1.3	1.5	4.4	5.4
1,1-Dichloroethane	1.3	Not Detected	5.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.7	Not Detected
Chloroform	1.3	Not Detected	6.2	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Cyclohexane	1.3	Not Detected	4.3	Not Detected
Carbon Tetrachloride	1.3	Not Detected	7.9	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	5.9	Not Detected
Benzene	1.3	Not Detected	4.0	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.1	Not Detected
Heptane	1.3	Not Detected	5.2	Not Detected
Trichloroethene	1.3	Not Detected	6.8	Not Detected
1,2-Dichloropropane	1.3	Not Detected	5.8	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Bromodichloromethane	1.3	Not Detected	8.4	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	5.7	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.2	Not Detected
Toluene	1.3	17	4.7	63
trans-1,3-Dichloropropene	1.3	Not Detected	5.7	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Tetrachloroethene	1.3	Not Detected	8.5	Not Detected
2-Hexanone	5.0	Not Detected	21	Not Detected



Air Toxics

Client Sample ID: SS-SV-3

Lab ID#: 1402239A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022523	Date of Collection:	2/13/14 9:20:00 AM
Dil. Factor:	2.52	Date of Analysis:	2/25/14 06:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.7	Not Detected
Chlorobenzene	1.3	Not Detected	5.8	Not Detected
Ethyl Benzene	1.3	Not Detected	5.5	Not Detected
m,p-Xylene	1.3	1.3	5.5	5.6
o-Xylene	1.3	Not Detected	5.5	Not Detected
Styrene	1.3	Not Detected	5.4	Not Detected
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.2	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	8.6	Not Detected
Propylbenzene	1.3	Not Detected	6.2	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.2	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.2	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.2	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.5	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	5.0	Not Detected	54	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402239A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022505	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/25/14 09:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1402239A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022505	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/25/14 09:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 1402239A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/25/14 08:39 AM

Compound	%Recovery
Freon 12	95
Freon 114	105
Chloromethane	91
Vinyl Chloride	102
1,3-Butadiene	92
Bromomethane	100
Chloroethane	102
Freon 11	95
Ethanol	76
Freon 113	106
1,1-Dichloroethene	97
Acetone	94
2-Propanol	81
Carbon Disulfide	104
3-Chloropropene	99
Methylene Chloride	90
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	99
Hexane	92
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	87
Tetrahydrofuran	84
Chloroform	97
1,1,1-Trichloroethane	89
Cyclohexane	92
Carbon Tetrachloride	93
2,2,4-Trimethylpentane	95
Benzene	100
1,2-Dichloroethane	87
Heptane	92
Trichloroethene	94
1,2-Dichloropropane	97
1,4-Dioxane	104
Bromodichloromethane	96
cis-1,3-Dichloropropene	94
4-Methyl-2-pentanone	89
Toluene	97
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	102
Tetrachloroethene	109
2-Hexanone	94

Client Sample ID: CCV

Lab ID#: 1402239A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/25/14 08:39 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	106
Chlorobenzene	102
Ethyl Benzene	102
m,p-Xylene	101
o-Xylene	99
Styrene	101
Bromoform	108
Cumene	98
1,1,2,2-Tetrachloroethane	102
Propylbenzene	98
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	87
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	107
Hexachlorobutadiene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1402239A-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/25/14 09:01 AM

Compound	%Recovery	Method Limits
Freon 12	84	70-130
Freon 114	92	70-130
Chloromethane	74	70-130
Vinyl Chloride	88	70-130
1,3-Butadiene	78	70-130
Bromomethane	85	70-130
Chloroethane	89	70-130
Freon 11	84	70-130
Ethanol	70	70-130
Freon 113	104	70-130
1,1-Dichloroethene	94	70-130
Acetone	87	70-130
2-Propanol	70	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	85	70-130
Methylene Chloride	85	70-130
Methyl tert-butyl ether	76	70-130
trans-1,2-Dichloroethene	74	70-130
Hexane	80	70-130
1,1-Dichloroethane	83	70-130
2-Butanone (Methyl Ethyl Ketone)	81	70-130
cis-1,2-Dichloroethene	85	70-130
Tetrahydrofuran	71	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	79	70-130
Cyclohexane	81	70-130
Carbon Tetrachloride	79	70-130
2,2,4-Trimethylpentane	84	70-130
Benzene	84	70-130
1,2-Dichloroethane	74	70-130
Heptane	80	70-130
Trichloroethene	81	70-130
1,2-Dichloropropane	81	70-130
1,4-Dioxane	88	70-130
Bromodichloromethane	84	70-130
cis-1,3-Dichloropropene	82	70-130
4-Methyl-2-pentanone	74	70-130
Toluene	83	70-130
trans-1,3-Dichloropropene	73	70-130
1,1,2-Trichloroethane	85	70-130
Tetrachloroethene	92	70-130
2-Hexanone	72	70-130

Client Sample ID: LCS

Lab ID#: 1402239A-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/25/14 09:01 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	90	70-130
1,2-Dibromoethane (EDB)	87	70-130
Chlorobenzene	85	70-130
Ethyl Benzene	83	70-130
m,p-Xylene	84	70-130
o-Xylene	80	70-130
Styrene	78	70-130
Bromoform	94	70-130
Cumene	83	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	84	70-130
4-Ethyltoluene	79	70-130
1,3,5-Trimethylbenzene	77	70-130
1,2,4-Trimethylbenzene	75	70-130
1,3-Dichlorobenzene	87	70-130
1,4-Dichlorobenzene	86	70-130
alpha-Chlorotoluene	70	70-130
1,2-Dichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	98	70-130
Hexachlorobutadiene	99	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1402239A-11AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/25/14 09:22 AM

Compound	%Recovery	Method Limits
Freon 12	78	70-130
Freon 114	88	70-130
Chloromethane	72	70-130
Vinyl Chloride	83	70-130
1,3-Butadiene	75	70-130
Bromomethane	81	70-130
Chloroethane	86	70-130
Freon 11	80	70-130
Ethanol	69 Q	70-130
Freon 113	100	70-130
1,1-Dichloroethene	91	70-130
Acetone	83	70-130
2-Propanol	65 Q	70-130
Carbon Disulfide	81	70-130
3-Chloropropene	81	70-130
Methylene Chloride	82	70-130
Methyl tert-butyl ether	73	70-130
trans-1,2-Dichloroethene	72	70-130
Hexane	78	70-130
1,1-Dichloroethane	80	70-130
2-Butanone (Methyl Ethyl Ketone)	77	70-130
cis-1,2-Dichloroethene	84	70-130
Tetrahydrofuran	69 Q	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	76	70-130
Cyclohexane	80	70-130
Carbon Tetrachloride	77	70-130
2,2,4-Trimethylpentane	81	70-130
Benzene	86	70-130
1,2-Dichloroethane	75	70-130
Heptane	80	70-130
Trichloroethene	83	70-130
1,2-Dichloropropane	82	70-130
1,4-Dioxane	89	70-130
Bromodichloromethane	84	70-130
cis-1,3-Dichloropropene	82	70-130
4-Methyl-2-pentanone	74	70-130
Toluene	81	70-130
trans-1,3-Dichloropropene	70	70-130
1,1,2-Trichloroethane	81	70-130
Tetrachloroethene	87	70-130
2-Hexanone	70	70-130

Client Sample ID: LCSD

Lab ID#: 1402239A-11AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17022504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/25/14 09:22 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	87	70-130
1,2-Dibromoethane (EDB)	85	70-130
Chlorobenzene	82	70-130
Ethyl Benzene	80	70-130
m,p-Xylene	81	70-130
o-Xylene	77	70-130
Styrene	75	70-130
Bromoform	91	70-130
Cumene	81	70-130
1,1,2,2-Tetrachloroethane	83	70-130
Propylbenzene	82	70-130
4-Ethyltoluene	79	70-130
1,3,5-Trimethylbenzene	75	70-130
1,2,4-Trimethylbenzene	73	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	84	70-130
alpha-Chlorotoluene	67 Q	70-130
1,2-Dichlorobenzene	87	70-130
1,2,4-Trichlorobenzene	98	70-130
Hexachlorobutadiene	101	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	98	70-130

3/4/2014

Mr. Arpen Shah
Arcadis U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco CA 94104

Project Name: VW Oakland
Project #: EM001048.0001
Workorder #: 1402239B

Dear Mr. Arpen Shah

The following report includes the data for the above referenced project for sample(s) received on 2/18/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1402239B

Work Order Summary

CLIENT:	Mr. Arpen Shah Arcadis U.S., Inc. 100 Montgomery Street Suite 300 San Francisco, CA 94104	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	415-432-6916	P.O. #	VW-WA-01142014
FAX:	415-374-2745	PROJECT #	EM001048.0001 VW Oakland
DATE RECEIVED:	02/18/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	03/04/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SS-SV-2	Modified TO-3	7.3 "Hg	15.1 psi
02A	SS-SV-1	Modified TO-3	1 "Hg	15.3 psi
03A	VW-6	Modified TO-3	6.5 "Hg	14.9 psi
04A	VW-5	Modified TO-3	5.5 "Hg	15 psi
05A	SS-SV-4	Modified TO-3	5.3 "Hg	15 psi
06A	VW-4	Modified TO-3	3.9 "Hg	15 psi
07A	SS-SV-5	Modified TO-3	5.7 "Hg	15.2 psi
08A	SS-SV-3	Modified TO-3	5.9 "Hg	15.1 psi
09A	Lab Blank	Modified TO-3	NA	NA
10A	LCS	Modified TO-3	NA	NA
10AA	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 03/04/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



LABORATORY NARRATIVE
Modified TO-3
Arcadis U.S., Inc.
Workorder# 1402239B

Eight 1 Liter Summa Canister samples were received on February 18, 2014. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-3</i>	<i>ATL Modifications</i>
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation $DL = A + 3.3S$, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A signature and date were not provided by the field sampler.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B - Compound present in laboratory blank greater than reporting limit.
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the detection limit.
- M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

Summary of Detected Compounds MODIFIED EPA METHOD TO-3 GC/FID

Client Sample ID: SS-SV-2

Lab ID#: 1402239B-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.067	0.27	0.12	0.49

Client Sample ID: SS-SV-1

Lab ID#: 1402239B-02A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.053	0.22	0.21	0.87

Client Sample ID: VW-6

Lab ID#: 1402239B-03A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.064	0.26	0.070	0.29

Client Sample ID: VW-5

Lab ID#: 1402239B-04A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.062	0.25	0.23	0.93

Client Sample ID: SS-SV-4

Lab ID#: 1402239B-05A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.061	0.25	0.088	0.36

Client Sample ID: VW-4

Lab ID#: 1402239B-06A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	0.095	0.39

Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/FID

Client Sample ID: SS-SV-5

Lab ID#: 1402239B-07A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.063	0.26	0.25	1.0

Client Sample ID: SS-SV-3

Lab ID#: 1402239B-08A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.063	0.26	0.29	1.2



Air Toxics

Client Sample ID: SS-SV-2

Lab ID#: 1402239B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022409	Date of Collection:	2/13/14 8:45:00 AM	
Dil. Factor:	2.68	Date of Analysis:	2/24/14 12:09 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.067	0.27	0.12	0.49

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	89	75-150



Air Toxics

Client Sample ID: SS-SV-1

Lab ID#: 1402239B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022410	Date of Collection:	2/13/14 10:30:00 AM	
Dil. Factor:	2.11	Date of Analysis:	2/24/14 12:42 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.053	0.22	0.21	0.87

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	89	75-150



Air Toxics

Client Sample ID: VW-6

Lab ID#: 1402239B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022411	Date of Collection:	2/13/14 12:00:00 PM	
Dil. Factor:	2.57	Date of Analysis:	2/24/14 01:23 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.064	0.26	0.070	0.29

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	90	75-150



Air Toxics

Client Sample ID: VW-5

Lab ID#: 1402239B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022412	Date of Collection:	2/13/14 1:50:00 PM	
Dil. Factor:	2.48	Date of Analysis:	2/24/14 01:58 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.062	0.25	0.23	0.93

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	89	75-150



Air Toxics

Client Sample ID: SS-SV-4

Lab ID#: 1402239B-05A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022413	Date of Collection:	2/17/14 9:10:00 AM	
Dil. Factor:	2.45	Date of Analysis:	2/24/14 02:31 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.061	0.25	0.088	0.36

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	90	75-150



Air Toxics

Client Sample ID: VW-4

Lab ID#: 1402239B-06A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022414	Date of Collection:	2/17/14 8:20:00 AM	
Dil. Factor:	2.32	Date of Analysis:	2/24/14 03:28 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	0.095	0.39

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	91	75-150



Air Toxics

Client Sample ID: SS-SV-5

Lab ID#: 1402239B-07A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022415	Date of Collection:	2/17/14 9:55:00 AM	
Dil. Factor:	2.51	Date of Analysis:	2/24/14 05:38 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.063	0.26	0.25	1.0

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150



Air Toxics

Client Sample ID: SS-SV-3

Lab ID#: 1402239B-08A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022416	Date of Collection:	2/13/14 9:20:00 AM	
Dil. Factor:	2.52	Date of Analysis:	2/24/14 06:15 PM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.063	0.26	0.29	1.2

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	94	75-150



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402239B-09A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022404	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	2/24/14 08:24 AM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	95	75-150



Air Toxics

Client Sample ID: LCS

Lab ID#: 1402239B-10A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/24/14 06:59 AM

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	99	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	89	75-150



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1402239B-10AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d022403	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/24/14 07:36 AM

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	99	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150

3/3/2014

Mr. Arpen Shah
Arcadis U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco CA 94104

Project Name: VW Oakland
Project #: EM001048.0001
Workorder #: 1402239C

Dear Mr. Arpen Shah

The following report includes the data for the above referenced project for sample(s) received on 2/18/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1402239C

Work Order Summary

CLIENT:	Mr. Arpen Shah Arcadis U.S., Inc. 100 Montgomery Street Suite 300 San Francisco, CA 94104	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	415-432-6916	P.O. #	VW-WA-01142014
FAX:	415-374-2745	PROJECT #	EM001048.0001 VW Oakland
DATE RECEIVED:	02/18/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	03/03/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SS-SV-2	Modified ASTM D-1946	7.3 "Hg	15.1 psi
02A	SS-SV-1	Modified ASTM D-1946	1 "Hg	15.3 psi
03A	VW-6	Modified ASTM D-1946	6.5 "Hg	14.9 psi
04A	VW-5	Modified ASTM D-1946	5.5 "Hg	15 psi
05A	SS-SV-4	Modified ASTM D-1946	5.3 "Hg	15 psi
06A	VW-4	Modified ASTM D-1946	3.9 "Hg	15 psi
07A	SS-SV-5	Modified ASTM D-1946	5.7 "Hg	15.2 psi
08A	SS-SV-3	Modified ASTM D-1946	5.9 "Hg	15.1 psi
09A	Lab Blank	Modified ASTM D-1946	NA	NA
09B	Lab Blank	Modified ASTM D-1946	NA	NA
10A	LCS	Modified ASTM D-1946	NA	NA
10AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 03/03/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



LABORATORY NARRATIVE
Modified ASTM D-1946
Arcadis U.S., Inc.
Workorder# 1402239C

Eight 1 Liter Summa Canister samples were received on February 18, 2014. The laboratory performed analysis via Modified ASTM Method D-1946 for Oxygen and Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 X$'s the RL.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A signature and date were not provided by the field sampler.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SS-SV-2

Lab ID#: 1402239C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	22

Client Sample ID: SS-SV-1

Lab ID#: 1402239C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	22

Client Sample ID: VW-6

Lab ID#: 1402239C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	18

Client Sample ID: VW-5

Lab ID#: 1402239C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	21

Client Sample ID: SS-SV-4

Lab ID#: 1402239C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21

Client Sample ID: VW-4

Lab ID#: 1402239C-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	22

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SS-SV-5

Lab ID#: 1402239C-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	22

Client Sample ID: SS-SV-3

Lab ID#: 1402239C-08A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	21



Air Toxics

Client Sample ID: SS-SV-2

Lab ID#: 1402239C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022406b	Date of Collection:	2/13/14 8:45:00 AM
Dil. Factor:	2.68	Date of Analysis:	2/24/14 10:58 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	22
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SS-SV-1

Lab ID#: 1402239C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022407b	Date of Collection:	2/13/14 10:30:00 AM
Dil. Factor:	2.11	Date of Analysis:	2/24/14 11:26 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	22
Helium	0.10	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: VW-6

Lab ID#: 1402239C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022408b	Date of Collection:	2/13/14 12:00:00 PM
Dil. Factor:	2.57	Date of Analysis:	2/24/14 11:48 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	18
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: VW-5

Lab ID#: 1402239C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022409b	Date of Collection:	2/13/14 1:50:00 PM
Dil. Factor:	2.48	Date of Analysis:	2/24/14 12:12 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	21
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SS-SV-4

Lab ID#: 1402239C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022410b	Date of Collection:	2/17/14 9:10:00 AM
Dil. Factor:	2.45	Date of Analysis:	2/24/14 12:35 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: VW-4

Lab ID#: 1402239C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022411b	Date of Collection:	2/17/14 8:20:00 AM
Dil. Factor:	2.32	Date of Analysis:	2/24/14 01:06 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	22
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SS-SV-5

Lab ID#: 1402239C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022412b	Date of Collection:	2/17/14 9:55:00 AM
Dil. Factor:	2.51	Date of Analysis:	2/24/14 01:31 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	22
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SS-SV-3

Lab ID#: 1402239C-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022413b	Date of Collection: 2/13/14 9:20:00 AM
Dil. Factor:	2.52	Date of Analysis: 2/24/14 01:55 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	21
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402239C-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022405b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/24/14 10:22 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402239C-09B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022404c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/24/14 09:56 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1402239C-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022402b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/24/14 09:05 AM

Compound	%Recovery	Method Limits
Oxygen	101	85-115
Helium	99	85-115

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1402239C-10AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10022427b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/24/14 10:15 PM

Compound	%Recovery	Method Limits
Oxygen	101	85-115
Helium	99	85-115

Container Type: NA - Not Applicable



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





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

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

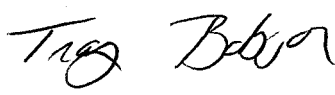
Laboratory Job Number 251498
ANALYTICAL REPORT

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>
MW-1	251498-001
MW-3	251498-002
MW-7	251498-003
MW-8	251498-004
MW-9	251498-005
VW-1	251498-006
VW-2	251498-007
VW-3	251498-008
EB	251498-009
DUP	251498-010
TB	251498-011

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: 
Tracy Babjar
Project Manager
tracy.babjar@ctberk.com
(510) 204-2226

Date: 12/19/2013

CASE NARRATIVE

Laboratory number: 251498
Client: Arcadis
Project: EM001048.0001-0001
Location: VW Dealership, Oakland
Request Date: 12/10/13
Samples Received: 12/10/13

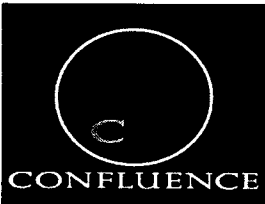
This data package contains sample and QC results for nine water samples, requested for the above referenced project on 12/10/13. The samples were received cold and intact. All data were e-mailed to Ron Goloubow on 12/19/13.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

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

Low recoveries were observed for benzene in the MS/MSD of MW-9 (lab # 251498-005); the LCS was within limits, and the associated RPD was within limits. No other 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

251498

Page 1 of 2
ARC

Project Name: VW Dealership, Oakland

Job Number: F1-131210

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.: <u>TQ6001002227</u>	Phone / Fax: 916-760-7641 / 916-473-8617
Contact:	Include EDF w/ Report: <u>Yes</u> No	Confluence Log Code: CESS
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	TPH-G, BTEX (8260)	TPH-D & MO (8015)		
1	MW-1	1040	12/10/13	X			5	2			3			X	X	
2	MW-3	0950					5	2			3			X	X	
3	MW-7	0845					5	2			3			X	X	
4	MW-8	0850					5	2			3			X	X	
5	MW-9	1105					5	2			3			X	X	
6	VW-1	0920					5	2			3			X	X	
7	VW-2	1015					5	2			3			X	X	
8	VW-3	1130					5	2			3			X	X	
9	EB	1135					5	2			3			X	X	
10	DUP	0830					5	2			3			X	X	

Sampler's Name: <u>A. Feeney</u>	Relinquished By / Affiliation: <u>AJ / Confluence</u>	Date: <u>12/10/13</u>	Time: <u>1330</u>	Accepted By / Affiliation: <u>[Signature] / C&T</u>	Date: <u>12/10/13</u>	Time: <u>1330</u>
Sampler's Company: Confluence Environmental	Shipment Date:		Shipment Method:			

Special Instructions:



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 251498

Project Name: VW Dealership, Oakland

Job Number: F1-131210

TAT: STANDARD 5 DAY 2 DAY 24 HOUR OTHER:

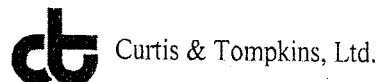
Lab: Curtis & Tompkins	Site Address: 2740 Broadway, Oakland	Confluence PM: Jason Brown
Address: 2323 Fifth St, Berkeley, CA	California Global ID No.: TO6001002227	Phone / Fax: 916-760-7641 / 916-473-8617
Contact:	Include EDF w/ Report: <u>Yes</u> No	Confluence Log Code: CESS
Phone/ Fax: 510-486-0900	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	TPH-G, BTEX (8260)	TPH-D & MO (8015)					
44 TB	-	12/10/13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		3													

Sampler's Name: <u>A. Feeney</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Confluence Environmental	<u>Adam [Signature] / Confluence</u>	12/10/13	1330	<u>[Signature] CAT</u>	12/10/13	1320
Shipment Date:						
Shipment Method:						

Special Instructions:

COOLER RECEIPT CHECKLIST



Login # 251498 Date Received 10/10/13 Number of coolers 1
Client CONFLUENCE (ARCADIS) Project VW DEALERSHIP, OAKLAND

Date Opened 12/10/13 By (print) JR (sign) Tina Rankin
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, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, 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? By Date:

COMMENTS

Blank lines for handwritten comments.

Subject: RE: EM001048.0001-0001 - C&T Login Summary (251498)
From: "Goloubow, Ron" <Ron.Goloubow@arcadis-us.com>
Date: 12/10/2013 5:02 PM
To: Tracy Babjar <tracy.babjar@ctberk.com>, "Bell, Caitlin" <Caitlin.Bell@arcadis-us.com>

Also Please report the entire list of 8260B compounds.

Thanks

Ron Goloubow, P.G. | Principal Geologist | ron.goloubow@arcadis-us.com

New Contact Information

ARCADIS U.S., Inc. | 100 Montgomery Street, Suite 300 | San Francisco, CA 94104
T: 415 432 6942 | M: 510 501 1789

Connect with us! www.arcadis-us.com | [LinkedIn](#) | [Twitter](#) | [Facebook](#)

ARCADIS, imagine the result

Please consider the environment before printing this email.

From: Tracy Babjar [mailto:tracy.babjar@ctberk.com]
Sent: Tuesday, December 10, 2013 4:54 PM
To: Bell, Caitlin; Goloubow, Ron
Subject: EM001048.0001-0001 - C&T Login Summary (251498)

C&T Login Summary for 251498

Project: EM001048.0001-0001

Site: VW Dealership, Oakland

Lab Login #: 251498

Report Level: II

Report Due: 12/17/13

PO#:

C&T Proj Mgr: Tracy Babjar

Report To: Arcadis

2000 Powell St.

7th Floor

Emeryville, CA 94608

ATTN: Ron Goloubow

(510) 652-4500

Bill To: Arcadis

630 Plaza Drive

Suite 600

Highlands Ranch, CO 80129

ATTN: Accounts Payable

(720) 344-3500

Client ID Lab ID Sampled Received Matrix Analyses COC # Comments

MW-1	001	12/10	12/10						Water TEHM Water TVH/BTXE
MW-3	002	12/10	12/10						Water TEHM Water TVH/BTXE
MW-7	003	12/10	12/10						Water TEHM Water TVH/BTXE
MW-8	004	12/10	12/10						Water TEHM Water TVH/BTXE
MW-9	005	12/10	12/10						Water TEHM

Subject: RE: EM001048.0001-0001 - C&T Login Summary (251498)
From: "Goloubow, Ron" <Ron.Goloubow@arcadis-us.com>
Date: 12/10/2013 4:56 PM
To: Tracy Babjar <tracy.babjar@ctberk.com>, "Bell, Caitlin" <Caitlin.Bell@arcadis-us.com>

Please put the trip & equipment blanks on hold

Ron Goloubow, P.G. | Principal Geologist | ron.goloubow@arcadis-us.com

New Contact Information

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ARCADIS, Imagine the result

Please consider the environment before printing this email.

From: Tracy Babjar [mailto:tracy.babjar@ctberk.com]
Sent: Tuesday, December 10, 2013 4:54 PM
To: Bell, Caitlin; Goloubow, Ron
Subject: EM001048.0001-0001 - C&T Login Summary (251498)

C&T Login Summary for 251498

Project: EM001048.0001-0001	Report To: Arcadis	Bill To: Arcadis
Site: VW Dealership, Oakland	2000 Powell St.	630 Plaza Drive
Lab Login #: 251498	7th Floor	Suite 600
Report Level: II	Emeryville, CA 94608	Highlands Ranch, CO 80129
Report Due: 12/17/13	ATTN: Ron Goloubow	ATTN: Accounts Payable
PO#:	(510) 652-4500	(720) 344-3500
C&T Proj Mgr: Tracy Babjar		

Client ID	Lab ID	Sampled	Received	Matrix	Analyses	COC #	Comments
MW-1	001	12/10	12/10		Water TEHM		
					Water TVH/BTXE		
MW-3	002	12/10	12/10		Water TEHM		
					Water TVH/BTXE		
MW-7	003	12/10	12/10		Water TEHM		
					Water TVH/BTXE		
MW-8	004	12/10	12/10		Water TEHM		
					Water TVH/BTXE		
MW-9	005	12/10	12/10		Water TEHM		
					Water TVH/BTXE		

Total Extractable Hydrocarbons			
Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/10/13
Units:	ug/L	Received:	12/10/13
Diln Fac:	1.000	Prepared:	12/11/13
Batch#:	206030		

Field ID: MW-1 Lab ID: 251498-001
 Type: SAMPLE Analyzed: 12/12/13

Analyte	Result	RL
Diesel C10-C24	220 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	88	66-129

Field ID: MW-3 Lab ID: 251498-002
 Type: SAMPLE Analyzed: 12/12/13

Analyte	Result	RL
Diesel C10-C24	ND	51
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	96	66-129

Field ID: MW-7 Lab ID: 251498-003
 Type: SAMPLE Analyzed: 12/12/13

Analyte	Result	RL
Diesel C10-C24	ND	51
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	93	66-129

Field ID: MW-8 Lab ID: 251498-004
 Type: SAMPLE Analyzed: 12/12/13

Analyte	Result	RL
Diesel C10-C24	550	57
Motor Oil C24-C36	ND	340

Surrogate	%REC	Limits
o-Terphenyl	95	66-129

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

Total Extractable Hydrocarbons

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/10/13
Units:	ug/L	Received:	12/10/13
Diln Fac:	1.000	Prepared:	12/11/13
Batch#:	206030		

Field ID:	DUP	Lab ID:	251498-010
Type:	SAMPLE	Analyzed:	12/13/13

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

Surrogate	%REC	Limits
o-Terphenyl	96	66-129

Type:	BLANK	Analyzed:	12/12/13
Lab ID:	QC720000		

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

Surrogate	%REC	Limits
o-Terphenyl	98	66-129

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

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC720001	Batch#:	206030
Matrix:	Water	Prepared:	12/11/13
Units:	ug/L	Analyzed:	12/12/13

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,038	82	61-120

Surrogate	%REC	Limits
o-Terphenyl	103	66-129

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	EM001048.0001-0001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	206030
MSS Lab ID:	251400-005	Sampled:	12/03/13
Matrix:	Water	Received:	12/06/13
Units:	ug/L	Prepared:	12/11/13
Diln Fac:	1.000	Analyzed:	12/12/13

Type: MS Lab ID: QC720003

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	46.06	2,577	1,993	76	65-120

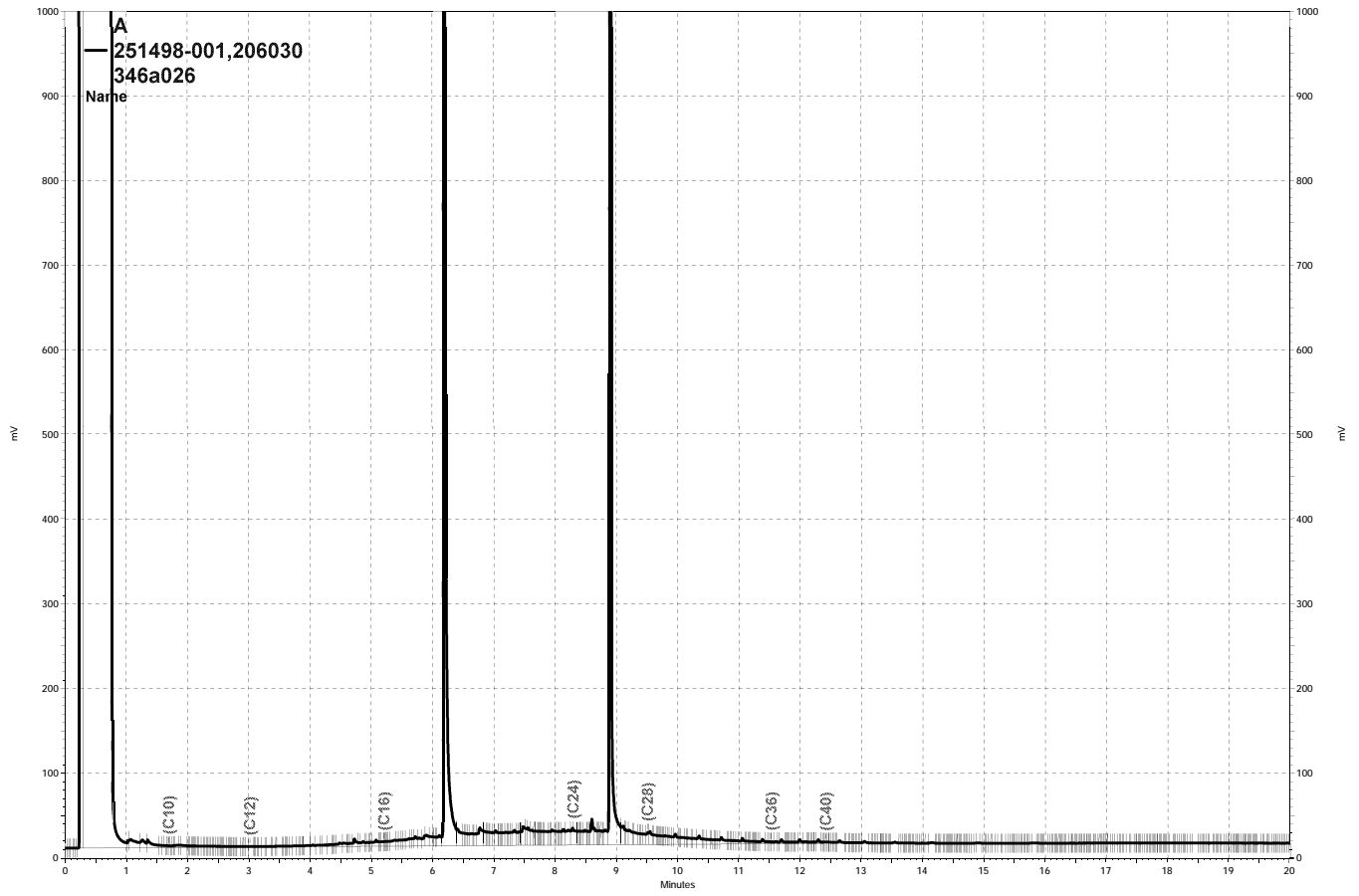
Surrogate	%REC	Limits
o-Terphenyl	93	66-129

Type: MSD Lab ID: QC720004

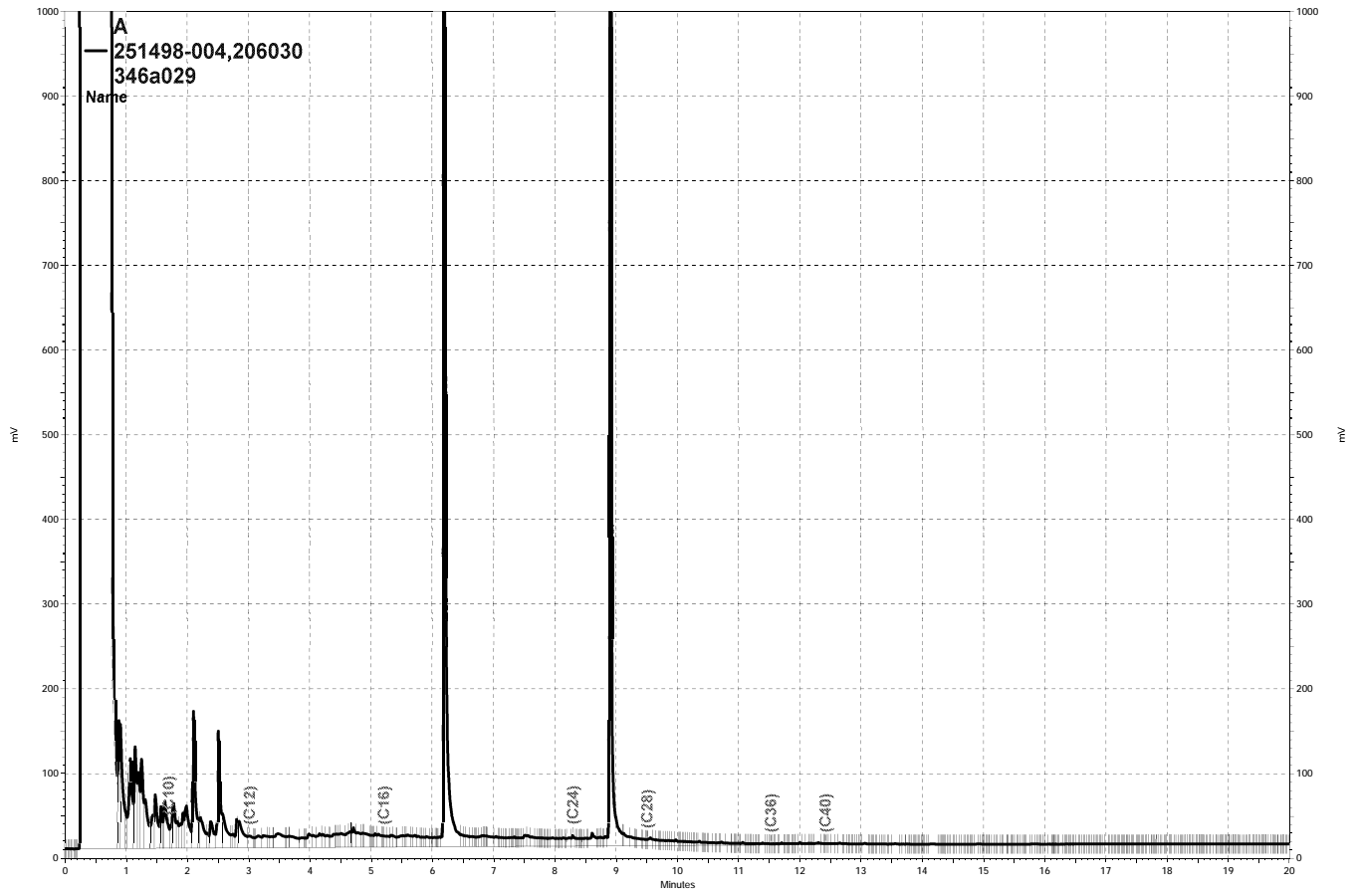
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,551	1,991	76	65-120	1	26

Surrogate	%REC	Limits
o-Terphenyl	93	66-129

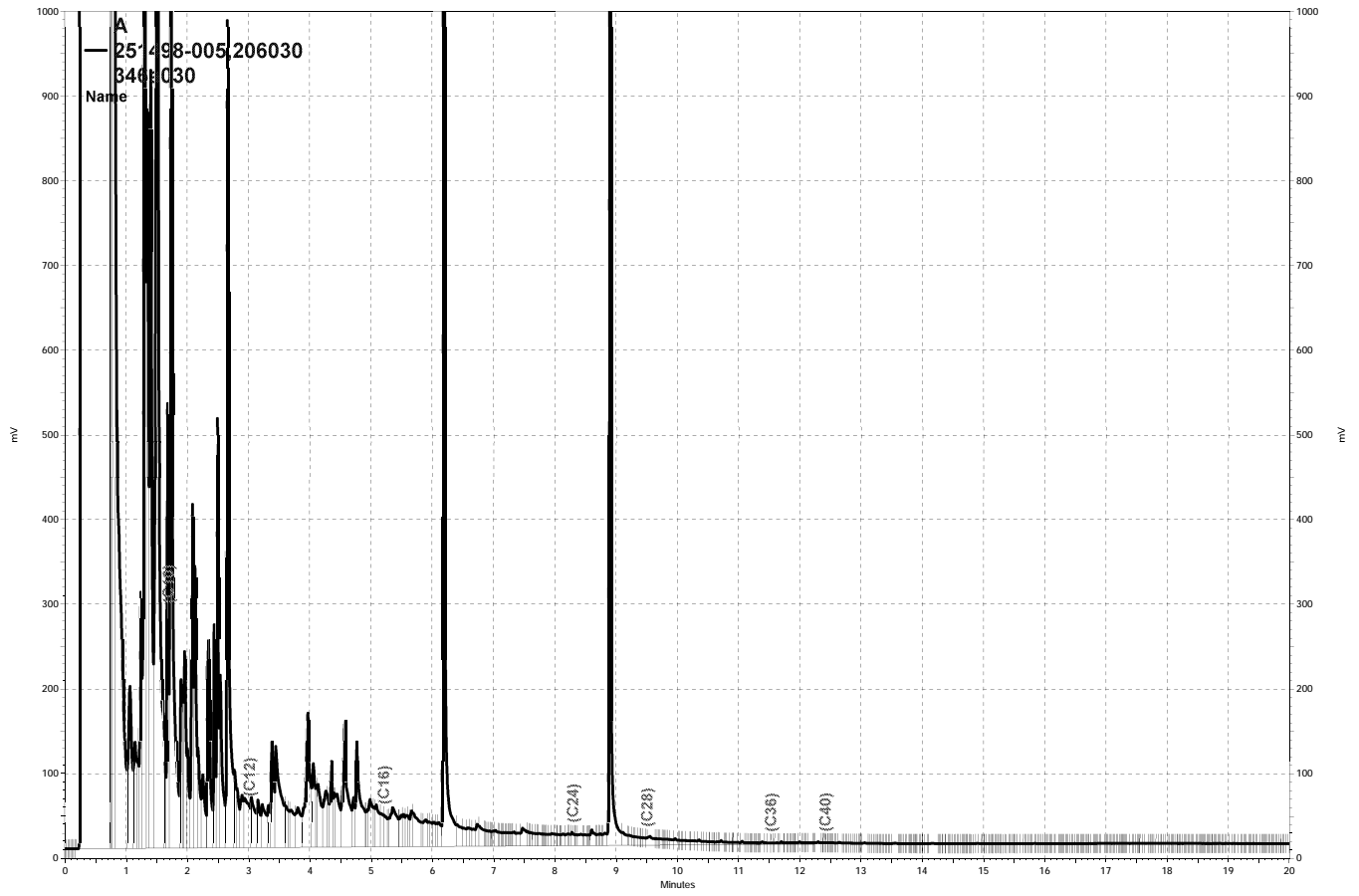
RPD= Relative Percent Difference



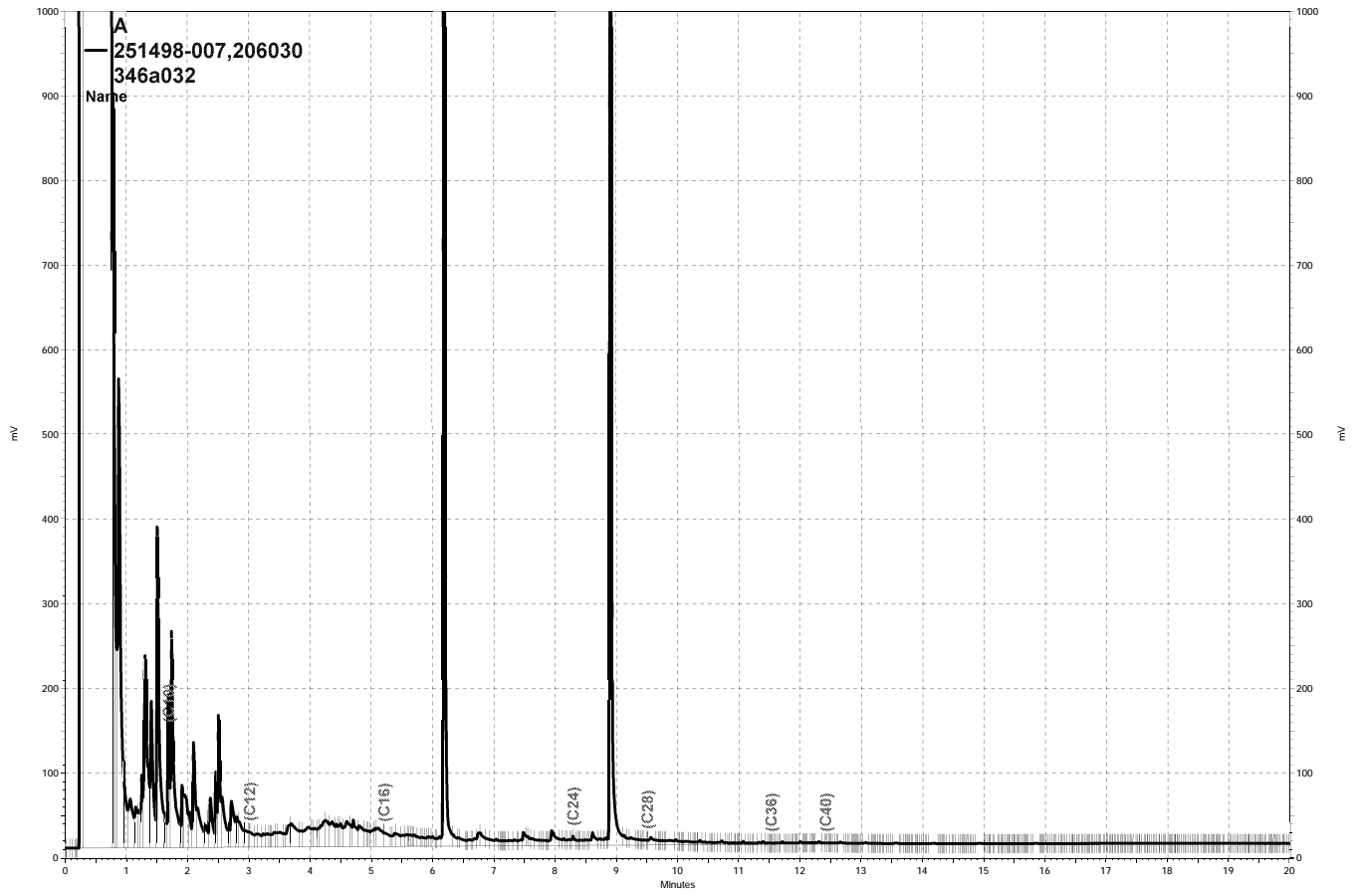
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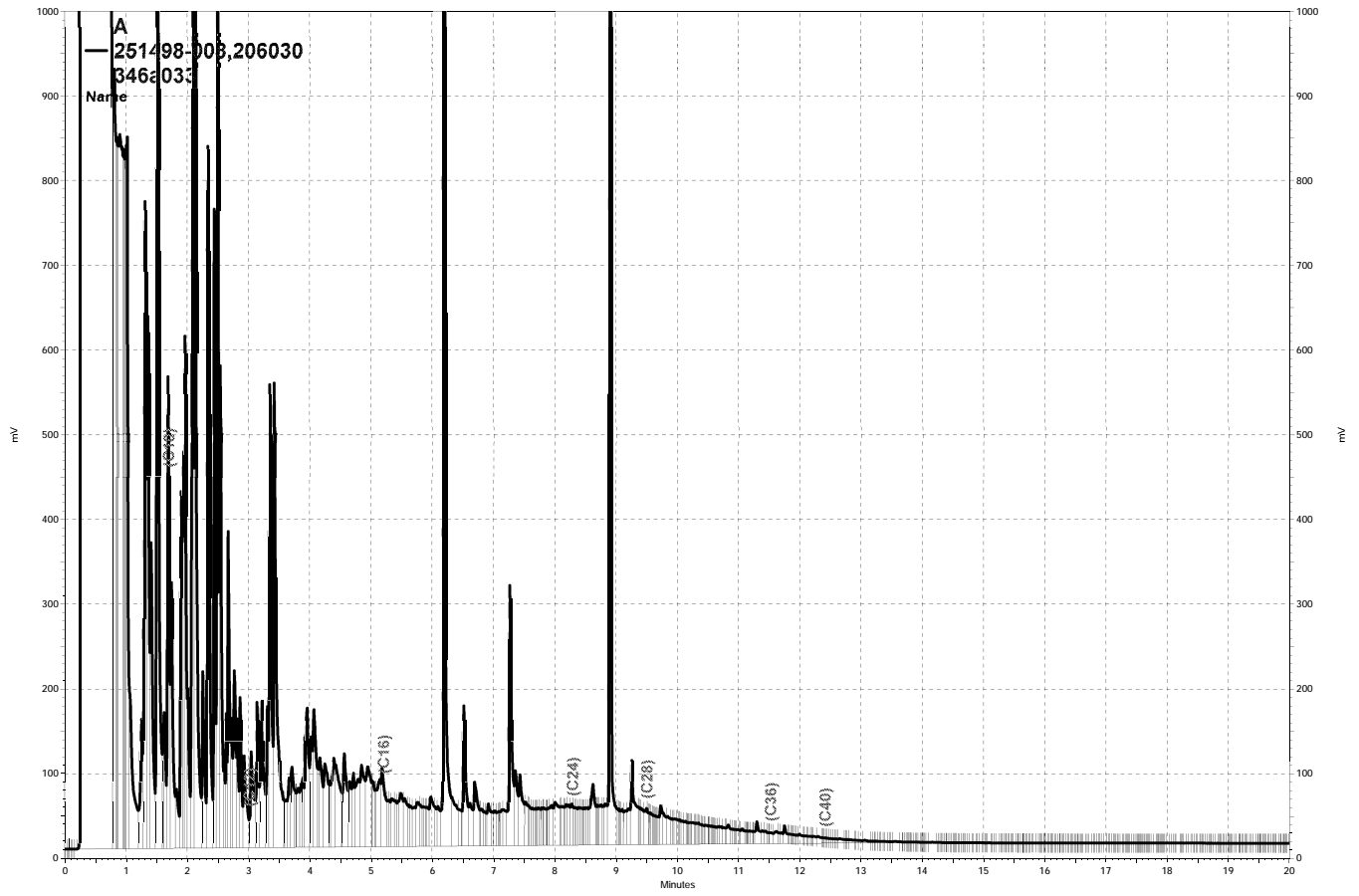
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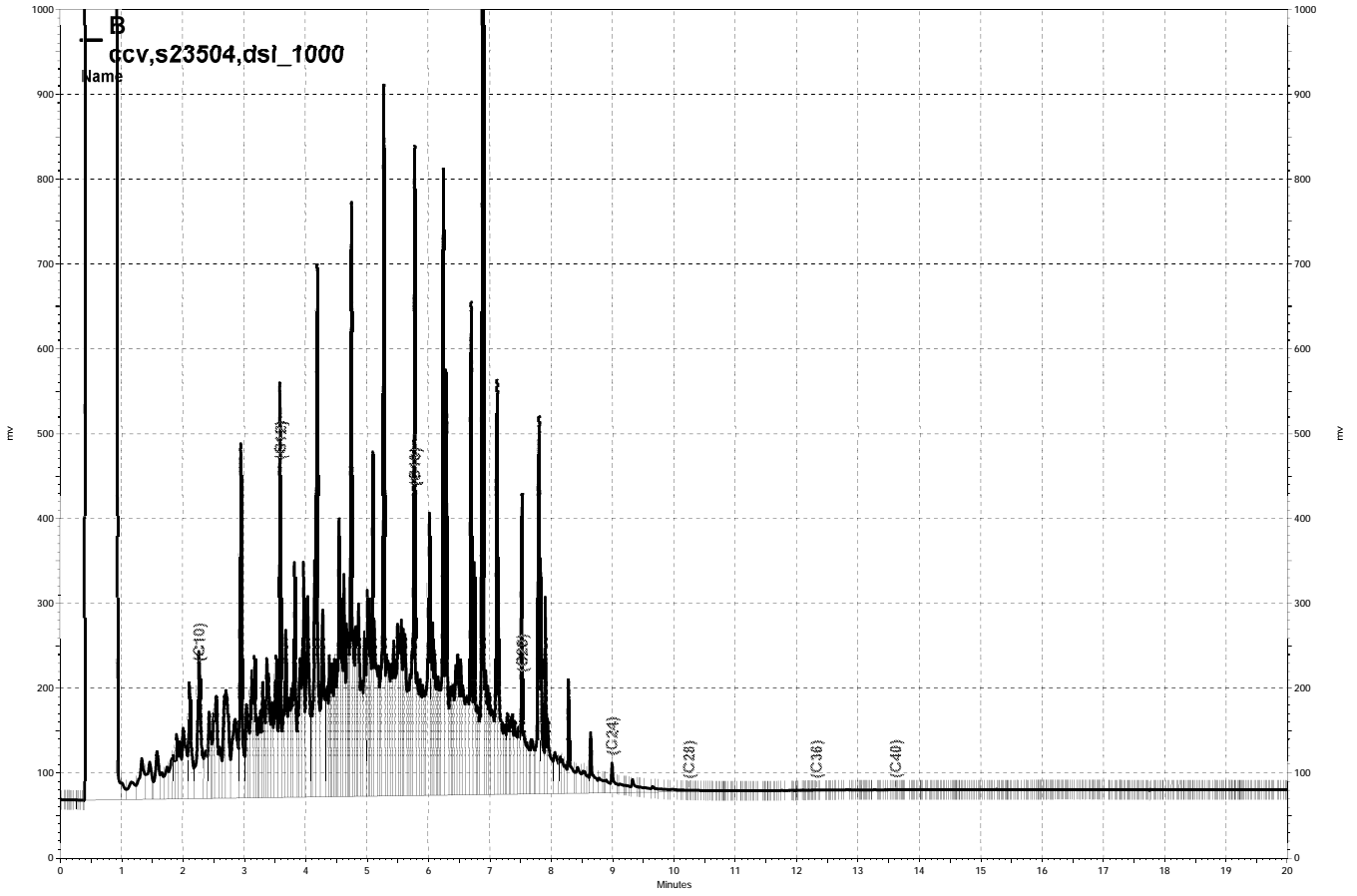
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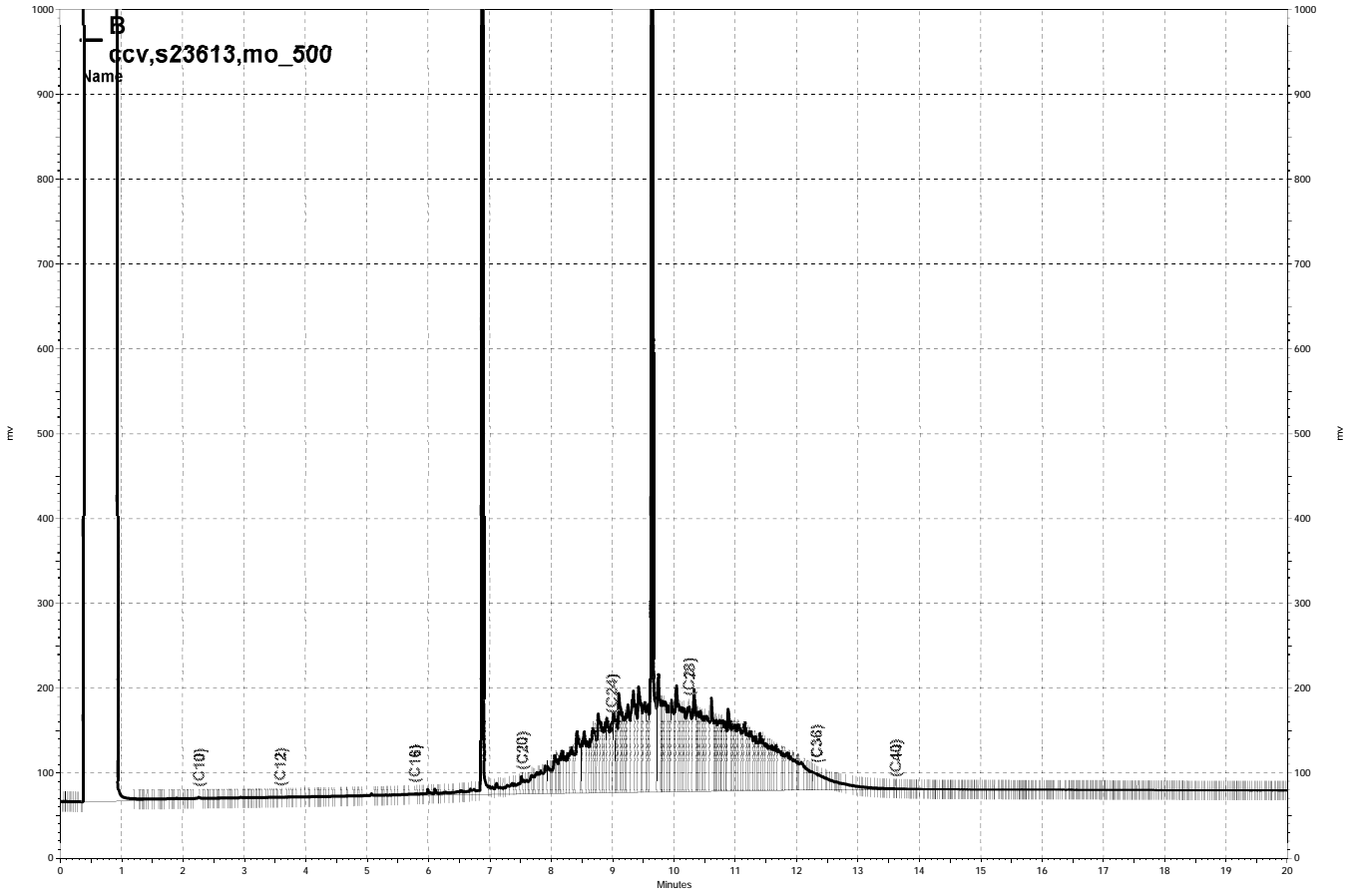
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Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	206101
Lab ID:	251498-001	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	85 Z	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	0.7	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	0.8	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	52	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
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	206101
Lab ID:	251498-001	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
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	104	77-136
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	104	80-120

Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	206101
Lab ID:	251498-002	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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	28	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

ND= Not Detected

RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	206101
Lab ID:	251498-002	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
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	0.5	0.5
o-Xylene	0.6	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	0.9	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
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	1.1	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	104	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-7	Batch#:	206101
Lab ID:	251498-003	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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	3.8	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

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-7	Batch#:	206101
Lab ID:	251498-003	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
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
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	106	77-136
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	206101
Lab ID:	251498-004	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/14/13
Diln Fac:	4.000		

Analyte	Result	RL
Gasoline C7-C12	1,200	200
Freon 12	ND	4.0
Chloromethane	ND	4.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	4.0
Chloroethane	ND	4.0
Trichlorofluoromethane	ND	4.0
Acetone	ND	40
Freon 113	ND	8.0
1,1-Dichloroethene	ND	2.0
Methylene Chloride	ND	40
Carbon Disulfide	ND	2.0
MTBE	5.0	2.0
trans-1,2-Dichloroethene	ND	2.0
Vinyl Acetate	ND	40
1,1-Dichloroethane	ND	2.0
2-Butanone	ND	40
cis-1,2-Dichloroethene	120	2.0
2,2-Dichloropropane	ND	2.0
Chloroform	ND	2.0
Bromochloromethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
1,1-Dichloropropene	ND	2.0
Carbon Tetrachloride	ND	2.0
1,2-Dichloroethane	2.7	2.0
Benzene	310	2.0
Trichloroethene	4.3	2.0
1,2-Dichloropropane	ND	2.0
Bromodichloromethane	ND	2.0
Dibromomethane	ND	2.0
4-Methyl-2-Pentanone	ND	40
cis-1,3-Dichloropropene	ND	2.0
Toluene	5.7	2.0
trans-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
2-Hexanone	ND	40
1,3-Dichloropropane	ND	2.0

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	206101
Lab ID:	251498-004	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/14/13
Diln Fac:	4.000		

Analyte	Result	RL
Tetrachloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,2-Dibromoethane	ND	2.0
Chlorobenzene	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Ethylbenzene	88	2.0
m,p-Xylenes	14	2.0
o-Xylene	ND	2.0
Styrene	ND	2.0
Bromoform	ND	4.0
Isopropylbenzene	23	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
1,2,3-Trichloropropane	ND	2.0
Propylbenzene	26	2.0
Bromobenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
4-Chlorotoluene	ND	2.0
tert-Butylbenzene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
sec-Butylbenzene	8.2	2.0
para-Isopropyl Toluene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
n-Butylbenzene	7.0	2.0
1,2-Dichlorobenzene	ND	2.0
1,2-Dibromo-3-Chloropropane	ND	8.0
1,2,4-Trichlorobenzene	ND	2.0
Hexachlorobutadiene	ND	8.0
Naphthalene	ND	8.0
1,2,3-Trichlorobenzene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-9	Batch#:	206172
Lab ID:	251498-005	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/16/13
Diln Fac:	12.50		

Analyte	Result	RL
Gasoline C7-C12	12,000	630
Freon 12	ND	13
Chloromethane	ND	13
Vinyl Chloride	ND	6.3
Bromomethane	ND	13
Chloroethane	ND	13
Trichlorofluoromethane	ND	13
Acetone	ND	130
Freon 113	ND	25
1,1-Dichloroethene	ND	6.3
Methylene Chloride	ND	130
Carbon Disulfide	ND	6.3
MTBE	ND	6.3
trans-1,2-Dichloroethene	ND	6.3
Vinyl Acetate	ND	130
1,1-Dichloroethane	ND	6.3
2-Butanone	ND	130
cis-1,2-Dichloroethene	7.5	6.3
2,2-Dichloropropane	ND	6.3
Chloroform	ND	6.3
Bromochloromethane	ND	6.3
1,1,1-Trichloroethane	ND	6.3
1,1-Dichloropropene	ND	6.3
Carbon Tetrachloride	ND	6.3
1,2-Dichloroethane	ND	6.3
Benzene	500	6.3
Trichloroethene	ND	6.3
1,2-Dichloropropane	ND	6.3
Bromodichloromethane	ND	6.3
Dibromomethane	ND	6.3
4-Methyl-2-Pentanone	ND	130
cis-1,3-Dichloropropene	ND	6.3
Toluene	ND	6.3
trans-1,3-Dichloropropene	ND	6.3
1,1,2-Trichloroethane	ND	6.3
2-Hexanone	ND	130
1,3-Dichloropropane	ND	6.3

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-9	Batch#:	206172
Lab ID:	251498-005	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/16/13
Diln Fac:	12.50		

Analyte	Result	RL
Tetrachloroethene	ND	6.3
Dibromochloromethane	ND	6.3
1,2-Dibromoethane	ND	6.3
Chlorobenzene	ND	6.3
1,1,1,2-Tetrachloroethane	ND	6.3
Ethylbenzene	890	6.3
m,p-Xylenes	1,200	6.3
o-Xylene	9.1	6.3
Styrene	ND	6.3
Bromoform	ND	13
Isopropylbenzene	53	6.3
1,1,2,2-Tetrachloroethane	ND	6.3
1,2,3-Trichloropropane	ND	6.3
Propylbenzene	120	6.3
Bromobenzene	ND	6.3
1,3,5-Trimethylbenzene	210	6.3
2-Chlorotoluene	ND	6.3
4-Chlorotoluene	ND	6.3
tert-Butylbenzene	ND	6.3
1,2,4-Trimethylbenzene	750	6.3
sec-Butylbenzene	10	6.3
para-Isopropyl Toluene	ND	6.3
1,3-Dichlorobenzene	ND	6.3
1,4-Dichlorobenzene	ND	6.3
n-Butylbenzene	ND	6.3
1,2-Dichlorobenzene	ND	6.3
1,2-Dibromo-3-Chloropropane	ND	25
1,2,4-Trichlorobenzene	ND	6.3
Hexachlorobutadiene	ND	25
Naphthalene	240	25
1,2,3-Trichlorobenzene	ND	6.3

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW-1	Batch#:	206048
Lab ID:	251498-006	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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

ND= Not Detected

RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW-1	Batch#:	206048
Lab ID:	251498-006	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
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
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	90	77-136
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	86	80-120

ND= Not Detected

RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW-2	Units:	ug/L
Lab ID:	251498-007	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	3,900	170	3.333	206259	12/17/13
Freon 12	ND	1.0	1.000	206048	12/13/13
Chloromethane	ND	1.0	1.000	206048	12/13/13
Vinyl Chloride	ND	0.5	1.000	206048	12/13/13
Bromomethane	ND	1.0	1.000	206048	12/13/13
Chloroethane	ND	1.0	1.000	206048	12/13/13
Trichlorofluoromethane	ND	1.0	1.000	206048	12/13/13
Acetone	ND	10	1.000	206048	12/13/13
Freon 113	ND	2.0	1.000	206048	12/13/13
1,1-Dichloroethene	ND	0.5	1.000	206048	12/13/13
Methylene Chloride	ND	10	1.000	206048	12/13/13
Carbon Disulfide	ND	0.5	1.000	206048	12/13/13
MTBE	ND	0.5	1.000	206048	12/13/13
trans-1,2-Dichloroethene	ND	0.5	1.000	206048	12/13/13
Vinyl Acetate	ND	10	1.000	206048	12/13/13
1,1-Dichloroethane	ND	0.5	1.000	206048	12/13/13
2-Butanone	ND	10	1.000	206048	12/13/13
cis-1,2-Dichloroethene	0.5	0.5	1.000	206048	12/13/13
2,2-Dichloropropane	ND	0.5	1.000	206048	12/13/13
Chloroform	ND	0.5	1.000	206048	12/13/13
Bromochloromethane	ND	0.5	1.000	206048	12/13/13
1,1,1-Trichloroethane	ND	0.5	1.000	206048	12/13/13
1,1-Dichloropropene	ND	0.5	1.000	206048	12/13/13
Carbon Tetrachloride	ND	0.5	1.000	206048	12/13/13
1,2-Dichloroethane	1.3	0.5	1.000	206048	12/13/13
Benzene	300	1.7	3.333	206259	12/17/13
Trichloroethene	ND	0.5	1.000	206048	12/13/13
1,2-Dichloropropane	ND	0.5	1.000	206048	12/13/13
Bromodichloromethane	ND	0.5	1.000	206048	12/13/13
Dibromomethane	ND	0.5	1.000	206048	12/13/13
4-Methyl-2-Pentanone	ND	10	1.000	206048	12/13/13
cis-1,3-Dichloropropene	ND	0.5	1.000	206048	12/13/13
Toluene	260	1.7	3.333	206259	12/17/13
trans-1,3-Dichloropropene	ND	0.5	1.000	206048	12/13/13
1,1,2-Trichloroethane	ND	0.5	1.000	206048	12/13/13
2-Hexanone	ND	10	1.000	206048	12/13/13
1,3-Dichloropropane	ND	0.5	1.000	206048	12/13/13
Tetrachloroethene	ND	0.5	1.000	206048	12/13/13
Dibromochloromethane	ND	0.5	1.000	206048	12/13/13

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW-2	Units:	ug/L
Lab ID:	251498-007	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	1.000	206048	12/13/13
Chlorobenzene	ND	0.5	1.000	206048	12/13/13
1,1,1,2-Tetrachloroethane	ND	0.5	1.000	206048	12/13/13
Ethylbenzene	210	1.7	3.333	206259	12/17/13
m,p-Xylenes	310	1.7	3.333	206259	12/17/13
o-Xylene	180	1.7	3.333	206259	12/17/13
Styrene	ND	0.5	1.000	206048	12/13/13
Bromoform	ND	1.0	1.000	206048	12/13/13
Isopropylbenzene	11	0.5	1.000	206048	12/13/13
1,1,2,2-Tetrachloroethane	ND	0.5	1.000	206048	12/13/13
1,2,3-Trichloropropane	ND	0.5	1.000	206048	12/13/13
Propylbenzene	25	0.5	1.000	206048	12/13/13
Bromobenzene	ND	0.5	1.000	206048	12/13/13
1,3,5-Trimethylbenzene	18	0.5	1.000	206048	12/13/13
2-Chlorotoluene	ND	0.5	1.000	206048	12/13/13
4-Chlorotoluene	ND	0.5	1.000	206048	12/13/13
tert-Butylbenzene	ND	0.5	1.000	206048	12/13/13
1,2,4-Trimethylbenzene	110	1.7	3.333	206259	12/17/13
sec-Butylbenzene	3.9	0.5	1.000	206048	12/13/13
para-Isopropyl Toluene	2.5	0.5	1.000	206048	12/13/13
1,3-Dichlorobenzene	ND	0.5	1.000	206048	12/13/13
1,4-Dichlorobenzene	ND	0.5	1.000	206048	12/13/13
n-Butylbenzene	ND	0.5	1.000	206048	12/13/13
1,2-Dichlorobenzene	ND	0.5	1.000	206048	12/13/13
1,2-Dibromo-3-Chloropropane	ND	2.0	1.000	206048	12/13/13
1,2,4-Trichlorobenzene	ND	0.5	1.000	206048	12/13/13
Hexachlorobutadiene	ND	2.0	1.000	206048	12/13/13
Naphthalene	37	2.0	1.000	206048	12/13/13
1,2,3-Trichlorobenzene	ND	0.5	1.000	206048	12/13/13

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	88	77-136	1.000	206048	12/13/13
1,2-Dichloroethane-d4	85	75-139	1.000	206048	12/13/13
Toluene-d8	99	80-120	1.000	206048	12/13/13
Bromofluorobenzene	90	80-120	1.000	206048	12/13/13

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW-3	Units:	ug/L
Lab ID:	251498-008	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	6,500	130	2.500	206151	12/16/13
Freon 12	ND	2.5	2.500	206151	12/16/13
Chloromethane	ND	2.5	2.500	206151	12/16/13
Vinyl Chloride	ND	1.3	2.500	206151	12/16/13
Bromomethane	ND	2.5	2.500	206151	12/16/13
Chloroethane	ND	2.5	2.500	206151	12/16/13
Trichlorofluoromethane	ND	2.5	2.500	206151	12/16/13
Acetone	ND	25	2.500	206151	12/16/13
Freon 113	ND	5.0	2.500	206151	12/16/13
1,1-Dichloroethene	ND	1.3	2.500	206151	12/16/13
Methylene Chloride	ND	25	2.500	206151	12/16/13
Carbon Disulfide	ND	1.3	2.500	206151	12/16/13
MTBE	ND	1.3	2.500	206151	12/16/13
trans-1,2-Dichloroethene	ND	1.3	2.500	206151	12/16/13
Vinyl Acetate	ND	25	2.500	206151	12/16/13
1,1-Dichloroethane	ND	1.3	2.500	206151	12/16/13
2-Butanone	ND	25	2.500	206151	12/16/13
cis-1,2-Dichloroethene	ND	1.3	2.500	206151	12/16/13
2,2-Dichloropropane	ND	1.3	2.500	206151	12/16/13
Chloroform	ND	1.3	2.500	206151	12/16/13
Bromochloromethane	ND	1.3	2.500	206151	12/16/13
1,1,1-Trichloroethane	ND	1.3	2.500	206151	12/16/13
1,1-Dichloropropene	ND	1.3	2.500	206151	12/16/13
Carbon Tetrachloride	ND	1.3	2.500	206151	12/16/13
1,2-Dichloroethane	ND	1.3	2.500	206151	12/16/13
Benzene	120	1.3	2.500	206151	12/16/13
Trichloroethene	ND	1.3	2.500	206151	12/16/13
1,2-Dichloropropane	ND	1.3	2.500	206151	12/16/13
Bromodichloromethane	ND	1.3	2.500	206151	12/16/13
Dibromomethane	ND	1.3	2.500	206151	12/16/13
4-Methyl-2-Pentanone	ND	25	2.500	206151	12/16/13
cis-1,3-Dichloropropene	ND	1.3	2.500	206151	12/16/13
Toluene	1.7	1.3	2.500	206151	12/16/13
trans-1,3-Dichloropropene	ND	1.3	2.500	206151	12/16/13
1,1,2-Trichloroethane	ND	1.3	2.500	206151	12/16/13
2-Hexanone	ND	25	2.500	206151	12/16/13
1,3-Dichloropropane	ND	1.3	2.500	206151	12/16/13
Tetrachloroethene	ND	1.3	2.500	206151	12/16/13
Dibromochloromethane	ND	1.3	2.500	206151	12/16/13

ND= Not Detected

RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	VW-3	Units:	ug/L
Lab ID:	251498-008	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	1.3	2.500	206151	12/16/13
Chlorobenzene	ND	1.3	2.500	206151	12/16/13
1,1,1,2-Tetrachloroethane	ND	1.3	2.500	206151	12/16/13
Ethylbenzene	11	1.3	2.500	206151	12/16/13
m,p-Xylenes	44	1.3	2.500	206151	12/16/13
o-Xylene	5.6	1.3	2.500	206151	12/16/13
Styrene	ND	1.3	2.500	206151	12/16/13
Bromoform	ND	2.5	2.500	206151	12/16/13
Isopropylbenzene	44	1.3	2.500	206151	12/16/13
1,1,2,2-Tetrachloroethane	ND	1.3	2.500	206151	12/16/13
1,2,3-Trichloropropane	ND	1.3	2.500	206151	12/16/13
Propylbenzene	130	1.3	2.500	206151	12/16/13
Bromobenzene	ND	1.3	2.500	206151	12/16/13
1,3,5-Trimethylbenzene	170	1.3	2.500	206151	12/16/13
2-Chlorotoluene	ND	1.3	2.500	206151	12/16/13
4-Chlorotoluene	ND	1.3	2.500	206151	12/16/13
tert-Butylbenzene	ND	1.3	2.500	206151	12/16/13
1,2,4-Trimethylbenzene	410	5.0	10.00	206259	12/17/13
sec-Butylbenzene	26	1.3	2.500	206151	12/16/13
para-Isopropyl Toluene	8.5	1.3	2.500	206151	12/16/13
1,3-Dichlorobenzene	ND	1.3	2.500	206151	12/16/13
1,4-Dichlorobenzene	ND	1.3	2.500	206151	12/16/13
n-Butylbenzene	64	1.3	2.500	206151	12/16/13
1,2-Dichlorobenzene	ND	1.3	2.500	206151	12/16/13
1,2-Dibromo-3-Chloropropane	ND	5.0	2.500	206151	12/16/13
1,2,4-Trichlorobenzene	ND	1.3	2.500	206151	12/16/13
Hexachlorobutadiene	ND	5.0	2.500	206151	12/16/13
Naphthalene	81	5.0	2.500	206151	12/16/13
1,2,3-Trichlorobenzene	ND	1.3	2.500	206151	12/16/13

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	101	77-136	2.500	206151	12/16/13
1,2-Dichloroethane-d4	103	75-139	2.500	206151	12/16/13
Toluene-d8	98	80-120	2.500	206151	12/16/13
Bromofluorobenzene	95	80-120	2.500	206151	12/16/13

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	DUP	Batch#:	206172
Lab ID:	251498-010	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/16/13
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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	3.4	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

ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	DUP	Batch#:	206172
Lab ID:	251498-010	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/16/13
Diln Fac:	1.000		

Analyte	Result	RL
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
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	105	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC720062	Batch#:	206048
Matrix:	Water	Analyzed:	12/12/13
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	18.75	18.42	98	65-134
Benzene	18.75	17.69	94	80-124
Trichloroethene	18.75	19.65	105	80-120
Toluene	18.75	19.21	102	80-122
Chlorobenzene	18.75	21.55	115	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	90	77-136
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	87	80-120

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720063	Batch#:	206048
Matrix:	Water	Analyzed:	12/12/13
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720063	Batch#:	206048
Matrix:	Water	Analyzed:	12/12/13
Units:	ug/L		

Analyte	Result	RL
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
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	88	77-136
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	87	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206048
Units:	ug/L	Analyzed:	12/12/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720064

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,136	114	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	88	77-136
1,2-Dichloroethane-d4	88	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	87	80-120

Type: BSD Lab ID: QC720065

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	985.2	99	70-130	14	20

Surrogate	%REC	Limits
Dibromofluoromethane	88	77-136
1,2-Dichloroethane-d4	91	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	88	80-120

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Field ID:	MW-9	Batch#:	206048
MSS Lab ID:	251498-005	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	12.50		

Type: MS Lab ID: QC720206

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<1.899	156.3	131.3	84	69-129
Benzene	467.9	156.3	566.7	63 *	80-127
Trichloroethene	1.343	156.3	142.2	90	70-127
Toluene	6.291	156.3	153.3	94	80-123
Chlorobenzene	<1.620	156.3	169.1	108	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	88	77-136
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	85	80-120

Type: MSD Lab ID: QC720207

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	156.3	141.9	91	69-129	8	26
Benzene	156.3	591.0	79 *	80-127	4	23
Trichloroethene	156.3	153.2	97	70-127	7	21
Toluene	156.3	159.2	98	80-123	4	22
Chlorobenzene	156.3	184.6	118	80-120	9	22

Surrogate	%REC	Limits
Dibromofluoromethane	89	77-136
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	86	80-120

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206101
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720275

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.22	101	65-134
Benzene	25.00	26.48	106	80-124
Trichloroethene	25.00	26.09	104	80-120
Toluene	25.00	25.14	101	80-122
Chlorobenzene	25.00	26.00	104	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC720276

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	22.50	90	65-134	11	20
Benzene	25.00	25.28	101	80-124	5	20
Trichloroethene	25.00	24.20	97	80-120	8	20
Toluene	25.00	24.32	97	80-122	3	20
Chlorobenzene	25.00	25.18	101	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	99	80-120

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206101
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720277

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,073	107	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC720278

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,023	102	70-130	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-120

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720279	Batch#:	206101
Matrix:	Water	Analyzed:	12/13/13
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720279	Batch#:	206101
Matrix:	Water	Analyzed:	12/13/13
Units:	ug/L		

Analyte	Result	RL
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
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	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206151
Units:	ug/L	Analyzed:	12/15/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720502

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.26	106	65-134
Benzene	12.50	13.64	109	80-124
Trichloroethene	12.50	13.79	110	80-120
Toluene	12.50	13.72	110	80-122
Chlorobenzene	12.50	13.68	109	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC720503

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	13.18	105	65-134	1	20
Benzene	12.50	13.69	110	80-124	0	20
Trichloroethene	12.50	13.72	110	80-120	1	20
Toluene	12.50	13.12	105	80-122	5	20
Chlorobenzene	12.50	13.37	107	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720504	Batch#:	206151
Matrix:	Water	Analyzed:	12/15/13
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720504	Batch#:	206151
Matrix:	Water	Analyzed:	12/15/13
Units:	ug/L		

Analyte	Result	RL
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
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	104	77-136
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206151
Units:	ug/L	Analyzed:	12/15/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720505

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,005	100	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC720506

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,020	102	70-130	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720586	Batch#:	206172
Matrix:	Water	Analyzed:	12/16/13
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720586	Batch#:	206172
Matrix:	Water	Analyzed:	12/16/13
Units:	ug/L		

Analyte	Result	RL
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
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	102	77-136
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206172
Units:	ug/L	Analyzed:	12/16/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720587

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	19.69	98	65-134
Benzene	20.00	20.96	105	80-124
Trichloroethene	20.00	21.03	105	80-120
Toluene	20.00	20.78	104	80-122
Chlorobenzene	20.00	21.06	105	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC720588

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	18.13	91	65-134	8	20
Benzene	20.00	19.80	99	80-124	6	20
Trichloroethene	20.00	20.00	100	80-120	5	20
Toluene	20.00	19.71	99	80-122	5	20
Chlorobenzene	20.00	20.14	101	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206172
Units:	ug/L	Analyzed:	12/16/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720589

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	900.0	908.3	101	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC720590

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	900.0	866.9	96	70-130	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720896	Batch#:	206259
Matrix:	Water	Analyzed:	12/17/13
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
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

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720896	Batch#:	206259
Matrix:	Water	Analyzed:	12/17/13
Units:	ug/L		

Analyte	Result	RL
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
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	77-136
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report
Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206259
Units:	ug/L	Analyzed:	12/17/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720897

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	17.50	17.62	101	65-134
Benzene	17.50	17.98	103	80-124
Trichloroethene	17.50	18.10	103	80-120
Toluene	17.50	17.74	101	80-122
Chlorobenzene	17.50	17.87	102	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC720898

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	17.50	17.21	98	65-134	2	20
Benzene	17.50	18.42	105	80-124	2	20
Trichloroethene	17.50	18.77	107	80-120	4	20
Toluene	17.50	18.10	103	80-122	2	20
Chlorobenzene	17.50	18.38	105	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	251498	Location:	VW Dealership, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM001048.0001-0001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	206259
Units:	ug/L	Analyzed:	12/17/13
Diln Fac:	1.000		

Type: BS Lab ID: QC720899

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	700.0	699.2	100	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC720900

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	700.0	658.4	94	70-130	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

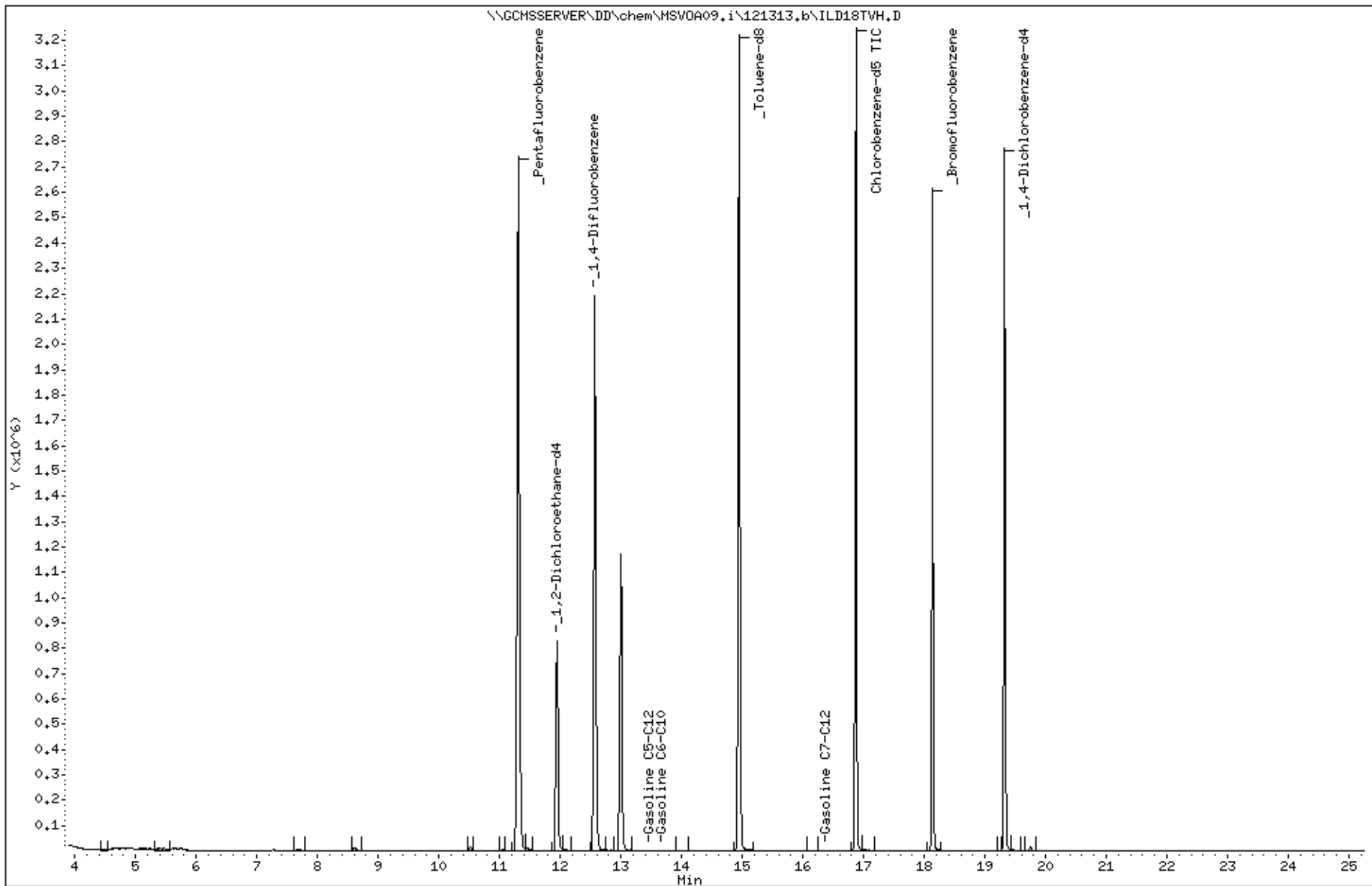
RPD= Relative Percent Difference

Date : 13-DEC-2013 20:57
Client ID: DYNA P&T
Sample Info: S,251498-001

Instrument: MSV0A09.i

Operator: VOC
Column diameter: 2.00

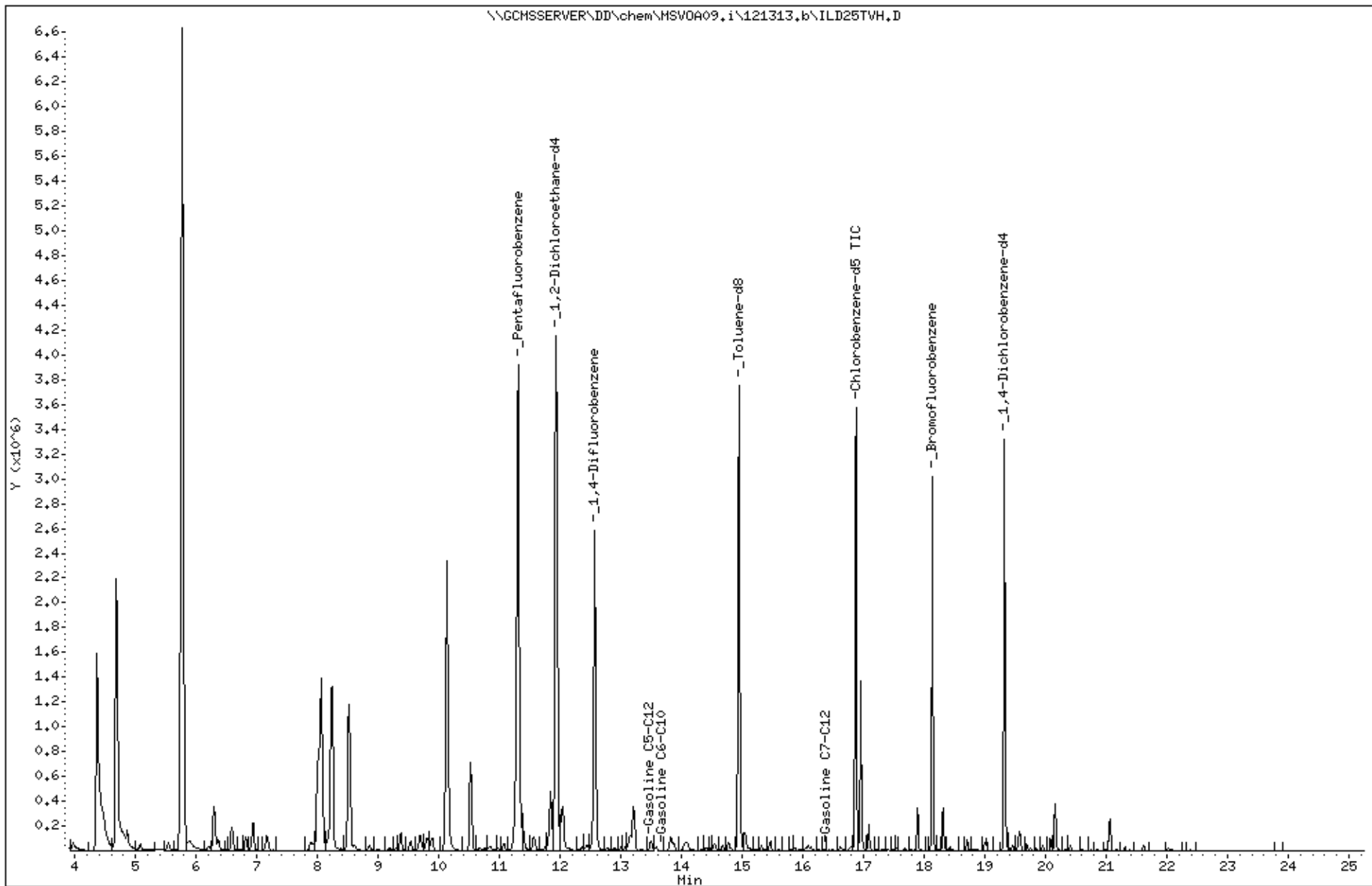
Column phase:



Date : 14-DEC-2013 00:55
Client ID: DYNA P&T
Sample Info: S,251498-004

Instrument: MSV0A09.i
Operator: VOC
Column diameter: 2.00

Column phase:



Date : 16-DEC-2013 22:28

Client ID: DYNA P&T

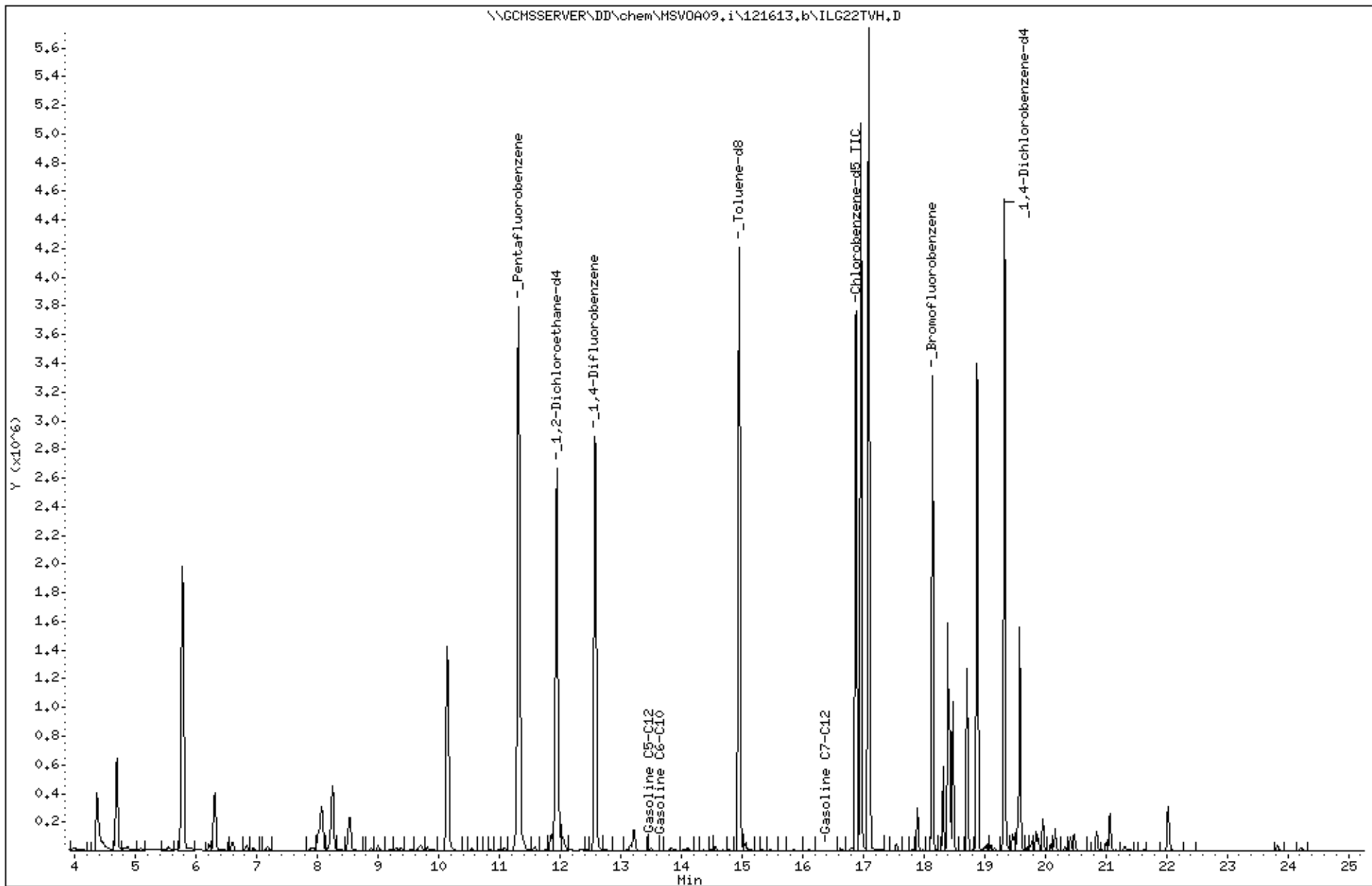
Sample Info: S,251498-005

Instrument: MSV0A09.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 17-DEC-2013 22:02

Client ID: DYNA P&T

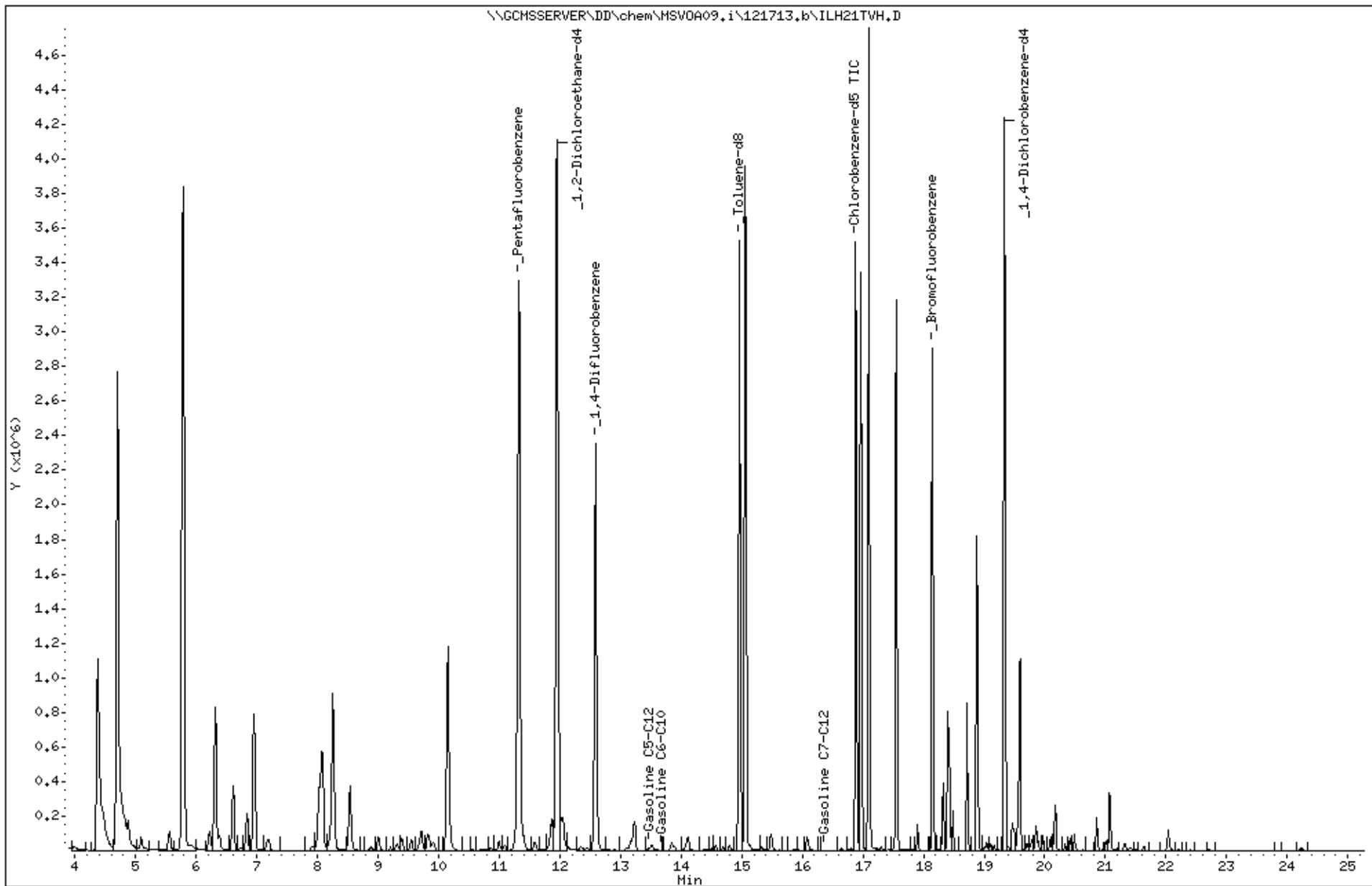
Sample Info: S,251498-007

Instrument: MSV0A09.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 16-DEC-2013 01:24

Client ID: DYNA P&T

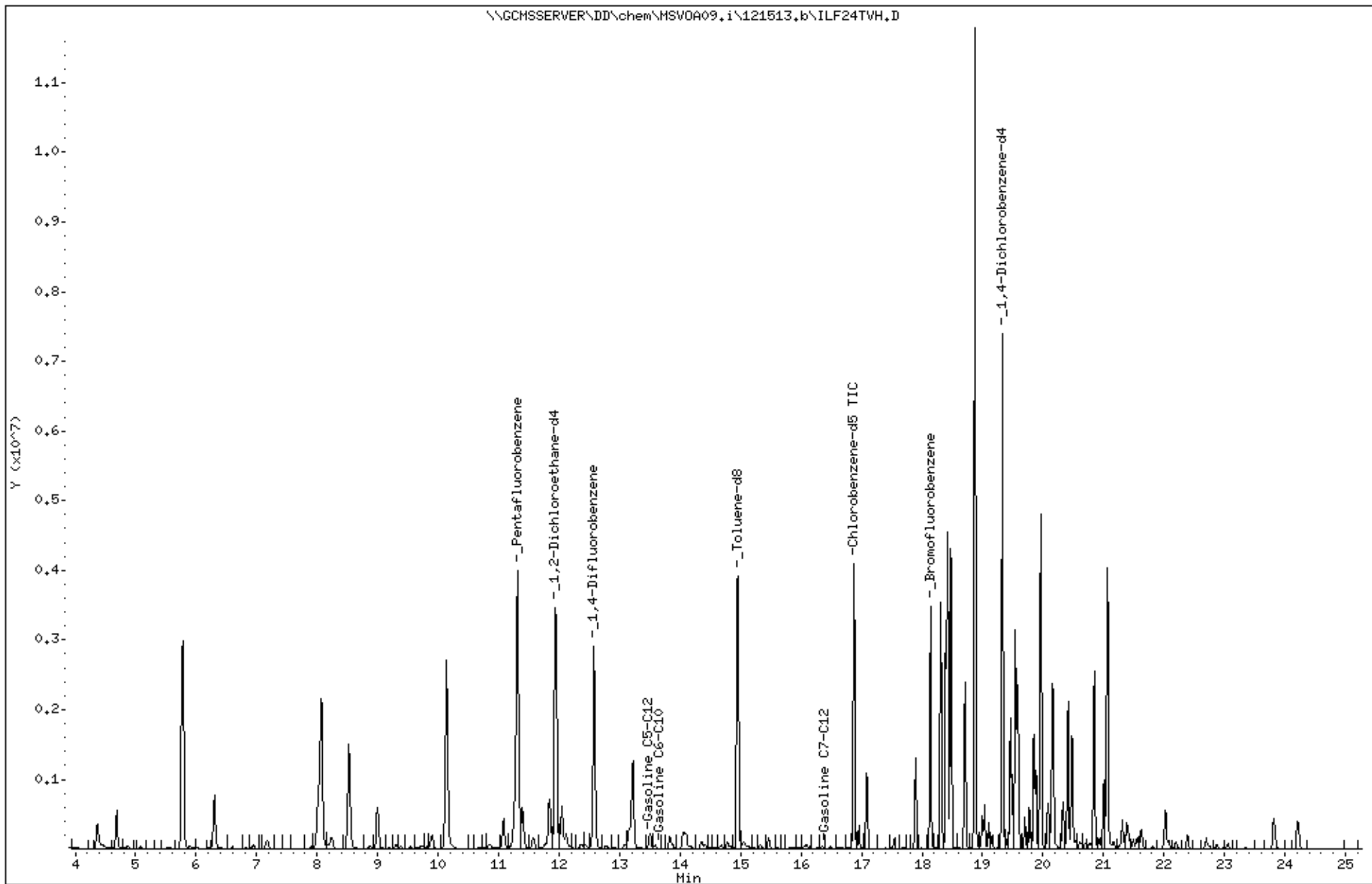
Sample Info: S,251498-008

Instrument: MSV0A09.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 12-DEC-2013 18:43

Client ID: DYNA P&T

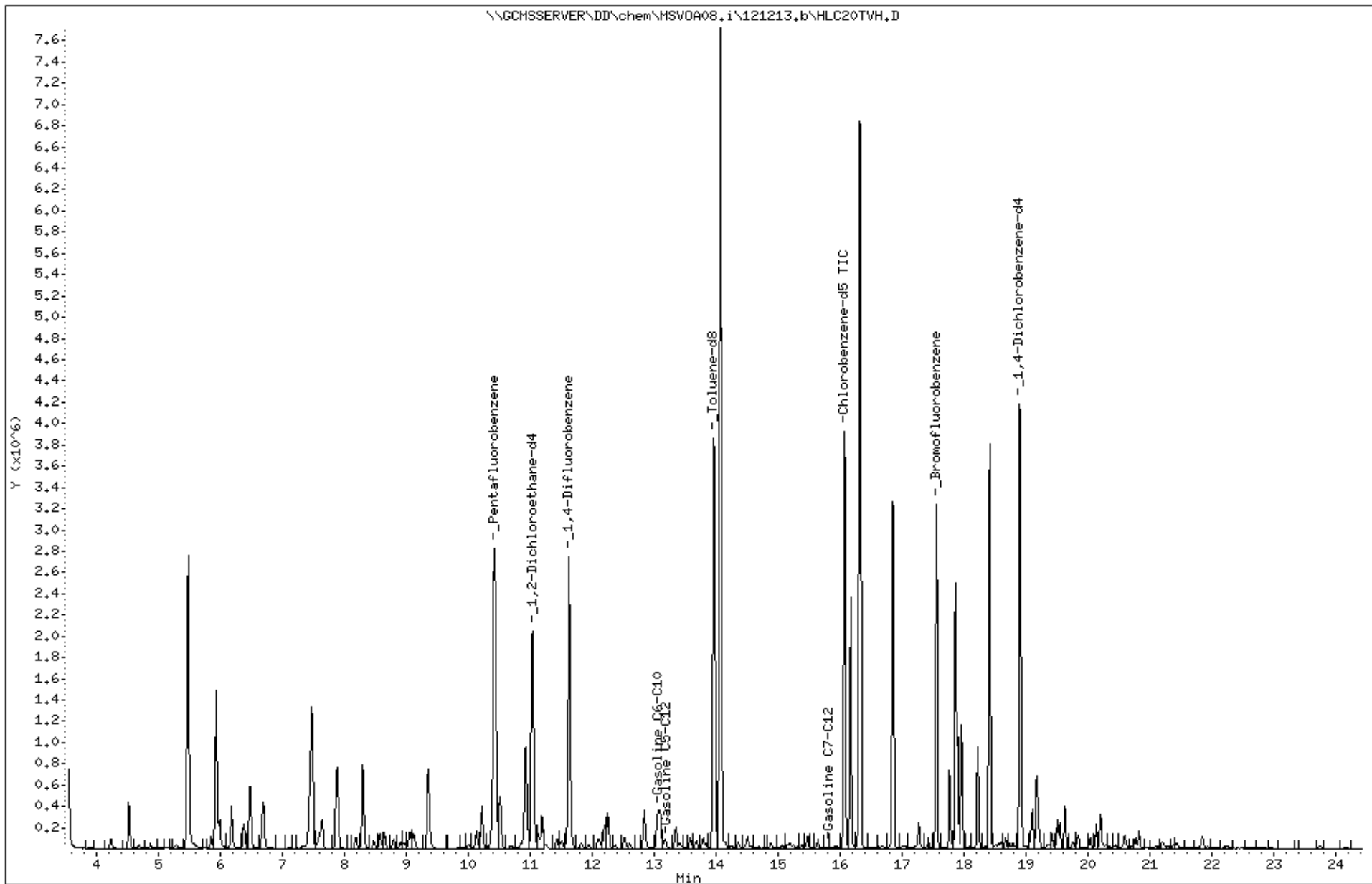
Sample Info: CCV/BS,QC720064,206048,S23229,,01/100

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2,00

Column phase:





Appendix C

Soil Vapor Well Installation Logs



Project/Client: VW, Oakland, CA EM001048.0001

Start Date: 2-11-14 End Date: 2-11-14 Total Depth: 5.5' Hole Diameter: 3" Depth to 1st Water: -

Sampling Device: _____ Length: _____ Diameter: _____ Sampling Interval: _____

Hammer Weight: _____ Hammer Drop: _____ Drilling Contractor: Confluence

Drilling Rig: _____ Drilling Method: Hand Auger Drilling Fluid Used: _____

Driller: Jason / Tony Helper(s): _____

Logged By: A. Shah Reviewed By: _____ Date Reviewed: _____

Depth (ft)	Drive Interval	Blows per 6"	Recovery (in.)	Time	Sample ID	Description	PID Reading
						Depth: Principal Components, (angularity, plasticity, dilatency); Minor Components, (angularity, plasticity, dilatency); Sorting, Moisture Content, Consistency/Density, Color (Munsell Chart), Additional Comments.	
0'						0-9" - Concrete slab (3 slabs)	
1'						9"-12" - Sandy silt	
2'						2'-2' - SAA	
3'						2'-3' - SAA	
4'						3'-4' - SAA	
5'						4'-5' - SAA sandy silt and fill, some gravel	
6'						5'-5.5' - SAA, terminate at 5.5'	

Remarks/Notes:



Project/Client: VW, Oakland, CA EMOD1048.0001

Start Date: 2-11-14 End Date: 2-11-14 Total Depth: 5.5' Hole Diameter: 3'' Depth to 1st Water: -

Sampling Device: _____ Length: _____ Diameter: _____ Sampling Interval: _____

Hammer Weight: _____ Hammer Drop: _____ Drilling Contractor: Confluence

Drilling Rig: _____ Drilling Method: Hand Auger Drilling Fluid Used: _____

Driller: Jason / Tony Helper(s): _____

Logged By: A. Shah Reviewed By: _____ Date Reviewed: _____

Depth (ft)	Drive Interval	Blows per 6"	Recovery (in.)	Time	Sample ID	Description	PID Reading
						Depth: Principal Components, (angularity, plasticity, dilatency); Minor Components, (angularity, plasticity, dilatency); Sorting, Moisture Content, Consistency/Density, Color (Munsel Chart), Additional Comments.	
0'-3"						concrete slab	
3"-12"						dark clay	
1'-2'						dark clay	
2'-3'						light brown/orange silty sand	
3'-4'						light brown sandy silt	
4'-5'						orange sandy silt	
5'-5.5'						orange sandy silt, terminate @ 5.5'	

Remarks/Notes:



Boring/Well ID: VW-6 Page 3 of 3

Project/Client: VW, Oakland, CA EM001048.0001

Start Date: 2-11-14 End Date: 2-11-14 Total Depth: 5.5' Hole Diameter: 3'' Depth to 1st Water: -

Sampling Device: _____ Length: _____ Diameter: _____ Sampling Interval: _____

Hammer Weight: _____ Hammer Drop: _____ Drilling Contractor: Confluence

Drilling Rig: _____ Drilling Method: Hand Auger Drilling Fluid Used: _____

Driller: Jason/ Tony Helper(s): _____

Logged By: F. Nguyen Reviewed By: _____ Date Reviewed: _____

Depth (ft)	Drive Interval	Blows per 6'	Recovery (in.)	Time	Sample ID	Description <small>Depth: Principal Components, (angularity, plasticity, dilatency); Minor Components, (angularity, plasticity, dilatency); Sorting, Moisture Content, Consistency/Density, Color (Munsel Chart), Additional Comments.</small>	PID Reading
0'						0-4" - concrete slab	
1'						4"-12" - dark clay	
2'						2'-2' - dark clay	
3'						2-3' dark clay	
4'						3'-3.5' - tight brown clay	
5'						3.5'-4' - silty sand, light brown	
6'						4'-5' - light brown silty sand terminate @ 5.5'	

Remarks/Notes:



Appendix D

Photo Log



Photograph #1

Description of Photograph:
VW-6 (Christy box) and SS-SV-1
(small dot right of Christy box),
facing west inside service garage.

Site Location:
2740 Broadway Avenue
Oakland, CA

Photograph Taken By:
Arpen Shah

Date of Photograph:
12 February 2014



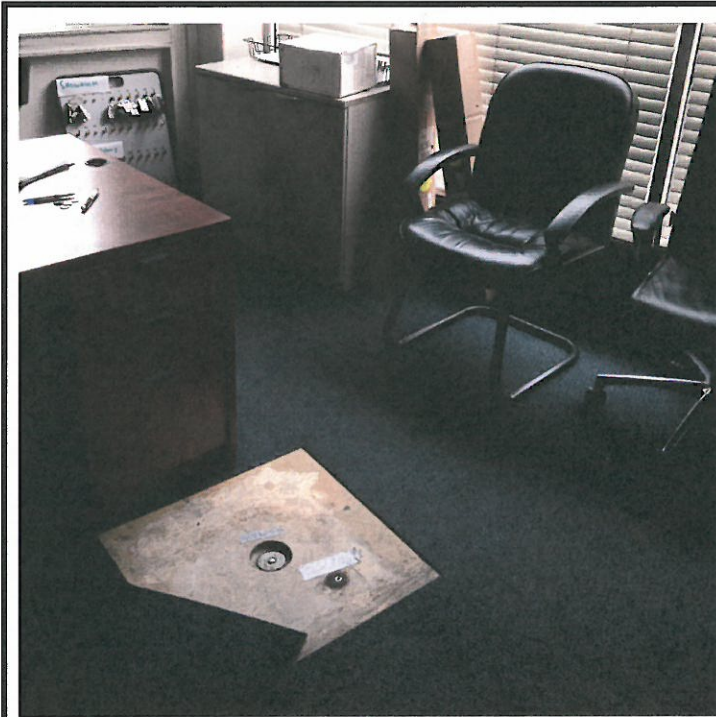
Photograph #2

Description of Photograph:
VW-6 (Christy box) and SS-SV-1
(small dot in top right corner),
facing north inside service garage.

Site Location:
2740 Broadway Avenue
Oakland, CA

Photograph Taken By:
Arpen Shah

Date of Photograph:
12 February 2014



Photograph #3

Description of Photograph:

VW-4 (Christy box) and SS-SV-2 (small dot right of Christy box), facing northwest inside office adjacent to showroom.

Site Location:

2740 Broadway Avenue
Oakland, CA

Photograph Taken By:

Arpen Shah

Date of Photograph:

12 February 2014



Photograph #4

Description of Photograph:

VW-4 and SS-SV-2, facing northwest inside office adjacent to showroom.

Site Location:

2740 Broadway Avenue
Oakland, CA

Photograph Taken By:

Arpen Shah

Date of Photograph:

12 February 2014