January 15, 2015

Ms. Karel Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: **Perjury Statement and Report Transmittal**
3635 13th Avenue
Oakland, California
AEI Project No. 270852
ACEH RO#0000159

Dear Ms. Detterman:

I declare under penalty of perjury, that the information and/or recommendations contained in the attached report for the above-referenced site are true and correct to the best of my knowledge.

If you have any questions or need additional information, please do not hesitate to call me or Mr. Peter McIntyre at AEI Consultants, (925) 746-6004.

Sincerely,

Kia Sumner
Property Owner

Attachment: AEI Consultants, *Monitoring Well Installation Report*

cc: Mr. Peter McIntyre, AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597

January 15, 2015

MONITORING WELL INSTALLATION REPORT

Property Identification:
3635 13th Avenue
Oakland, California

AEI Project No. 270852
ACHCSA Case No. RO0000159

Prepared for:
Mr. Kia Sumner
1069 Oak Hills Road
Lafayette, California 94549

Prepared by:
AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
(925) 746-6000

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AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

January 15, 2015

Mr. Kia Sumner
1069 Oak Hills Road
Lafayette, California 94549

Subject: **Monitoring Well Installation Report**
3635 13th Avenue
Oakland, California
AEI Project No. 270852
ACHCSA Case No. RO0000159

Dear Mr. Sumner:

This Monitoring Well Installation Report has been prepared by AEI Consultants for the property located at 3635 13th Avenue, Oakland California (Figure 1: Site Location Map). In 2008, AEI was retained by Mr. John Williamson to perform environmental engineering and consulting activities including the installation of well MW-7. While these services were partially performed by AEI, prior to finalization of the activities, AEI's contract was terminated. The contract was re-engaged in 2013 by Mr. John Williamson, which again, was terminated after only a portion of the work was completed.

In a letter dated October 17, 2014, the Alameda County Health Care Services Agency (ACHCSA) requested submittal of the well installation report for MW-7. This report has been prepared as requested by the ACHCSA to document environmental investigation activities which were completed in 2008 and 2013. The completed activities which were performed prior to the termination(s) of the contract and are documented in this report include:

- permitting and advancing boring MW-7 at the subject site and converting the boring into a groundwater monitoring well (2008);
- permitting and completing three nested soil vapor monitoring points, SG-1 through SG-3, with a vapor point at 5 feet below ground surface (bgs) and 10 feet bgs at each point (2008);
- developing the entire monitoring well network (2013); and
- sampling the entire monitoring well and soil gas network (2013).

1.0 Drilling Activities

The completed scope of work was proposed in AEI's Site Investigation Report and Pilot Test Work Plan prepared by AEI and dated February 20, 2008. The work was approved in a letter dated July 8, 2008 from the ACHCSA. Prior to initiating drilling activities, drilling permits were obtained for the MW-7 (permit number W2008-0748) and soil gas wells (W2008-0749 to

W2008-0751) from the Alameda County Public Works Department (ACPWD). Following permit approval, drilling activities were scheduled and Underground Service Alert-North (USA North) was notified to locate possible underground utilities in the area and a private utility locator cleared each of the borings for utilities. Subsequently, on November 3, 2008, AEI installed monitoring well MW-7 and soil gas probes SG-1 to SG-3.

1.1 Monitoring Well and Soil Gas Probe Installation

On November 3, 2008, AEI advanced four soil borings (MW-7 and SG-1 through SG-3) at the site, and converted the borings into either a groundwater monitoring well (MW-7) or a nested soil vapor probe (SG-1 to SG-3). The boreholes were drilled and sampled with a combo drilling rig, capable of running 8¼-inch diameter hollow stem augers. Soil samples were continuously collected with acrylic liners using direct push technology. Soil samples were examined and logged using the Unified Soil Classification System (USCS) and screened in the field using a PID. At approximately 5 foot intervals, AEI personnel cut a soil sample from the liner, sealed it with Teflon tape and plastic caps, and placed it in a cooler filled with water ice. The samples were transported under appropriate chain-of-custody documentation for potential analysis to McCampell Analytical Inc., (DOHS Certification Number 1644) of Pittsburg, California. Field observations and screening data is presented on the borings logs in Appendix A.

Following sampling activities, MW-7 was converted into a groundwater monitoring well by overdrilling the borehole with 8¼ diameter augers to a depth of 22 feet bgs and placing 2" diameter, schedule 40 PVC casing with 5' of factory slotted 0.010-inch well screen through the augers to the total depth. An annular sand pack was installed through the augers to approximately 1 foot above the screened interval (16 feet bgs). A 1 foot bentonite seal was placed above the sand and hydrated with water while the remainder of each boring was sealed with neat cement grout. A flush mounted traffic rated well box was installed over the casing, and an expanding, locking inner cap was placed on the casing top.

Following sampling activities, SG-1 through SG-3 were completed as nested soil vapor probes with a sampling probe at approximately 5 feet bgs and 10 feet bgs. Each probe was inserted into the 2" borehole and consisted of 0.25-inch diameter kynar tubing with a stainless steel mesh tip from 4.5 to 5 feet bgs (shallow probe) and 9.5 to 10 feet bgs (deep). The probes were placed in the middle of an annular filter pack composed of #2/12 sand placed 6 inches above and 6 inches below the mesh tip. The probe was then sealed with granular bentonite from 5.5 feet bgs to 9 feet bgs and 2 to 4 feet bgs which was hydrated. Portland type I/II neat cement was placed from just below ground surface to 2 feet bgs.

DWR well registration forms (DWR Form 188) have been completed for the well and soil vapor probes and have been forwarded to the ACPWD for distribution to the DWR. Refer to Appendix A for construction details.

1.2 Monitoring Well Development and Sampling

Following installation, as directed by the client, the well and soil vapor probes were not sampled as AEI's contract was terminated. However, AEI was re-engaged by the client in January 2013 to resume work at the site, and on January 28, 2013, AEI mobilized to the site to develop the

entire monitoring well network (MW-1 through MW-7). The wells were developed by surging, bailing, and purging the wells to remove accumulated fines from the casing and stabilize the sand pack. The wells were developed with the attempt to purge each well until water had cleared up and measurements including pH, conductivity, and temperature had stabilized. Several of the wells went dry during development activities. A copy of the well development logs are included in Appendix B.

Subsequently, AEI completed well monitoring and sampling activities on January 29, 2013. Prior to sampling, the cap was removed from each well and the well was allowed to equilibrate with the atmosphere. The depth to water from the top of the well casing was then measured with an electric water level indicator. The wells were purged with a submersible electric pump, and groundwater samples were collected using disposable plastic bailers. The groundwater parameters temperature, pH, specific conductivity and oxidation-reduction potential (ORP) were measured during the purging of the well and visual turbidity was recorded on the Field Data Sheets. At least three well volumes were purged from the well. Once the well recharged to 90% of its original volume, a water sample was collected with clean disposable bailers. Field forms of the groundwater sampling event are included in Appendix B.

The water collected was placed in 40 ml VOA vials and 1-Liter amber jars, and capped so that neither headspace nor air bubbles were visible within the sample containers. Samples were transported on ice under proper chain of custody protocol to McCampbell Analytical. Groundwater samples from the wells were submitted for chemical analysis. These samples were analyzed for total petroleum hydrocarbons as motor oil (TPHmo), diesel (TPHd), and TPH as gasoline (TPHg) using EPA Method 8015 and benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), tertiary butyl alcohol (TBA), 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (1,2-DCA), ethanol, and methanol using EPA Method 8260B. The wells were additionally analyzed for CAM 17 dissolved metals using EPA Method E200.8.

1.3 Soil Vapor Sampling

On February 15, 2013, AEI mobilized to the site to collect soil vapor samples from the existing vapor probes (SG-1 to SG-3). Prior to sampling, three system-volumes of air were purged from the probe. The soil vapor samples were collected using 1-liter Summa canisters equipped with laboratory-supplied flow regulators set at 150 millimeters per minute. Each canister was individually checked, tested and certified by the laboratory for purity, air tightness, and proper vacuum prior to shipping. A vacuum gauge was used to measure the vacuum pressure in the Summa canister prior to and at the end of sample collection. A leak check was performed by placing an isopropyl alcohol soaked sponge next to the connections for the duration of the test. Following collection of the sample, the Summa canister was sealed with a slight vacuum remaining in the canister using a gas-tight fitting.

During sampling activities, water was observed to be present in SG-3 at 10 feet bgs; therefore, a sample was not collected from this vapor probe. The remaining five samples were submitted under proper chain of custody to McCampbell and analyzed for TPHg, BTEX, and MTBE using TO15.

2.0 FIELD RESULTS

During the 2008 sampling, silt and clay was observed to a depth of approximately 12 feet bgs. Beneath the silty clay, fine to medium grained sand was observed to the maximum depth explored, 22 feet bgs. A detailed description of encountered soils is included on the boring logs in Appendix A.

2.1 Soil Analytical Results

One soil sample was analyzed for hydrocarbons from each of the soil vapor borings at a depth of 10 feet bgs. Hydrocarbons were not detected at or above the laboratory detection limit in the samples collected from SG-1 or SG-2. TPHg, TPHd, and benzene were detected in SG-3 at a concentration of 1,700 milligrams per kilogram (mg/kg), 1,200 mg/kg, and 3.1 mg/kg, respectively.

Complete soil sample analytical data from this sampling events is included in Table 1. Laboratory results and chain of custody documents are included in Appendix C.

2.2 Groundwater Analytical Results

Hydrocarbons were detected in wells MW-1 to MW-6 at generally lower concentrations than during previous sampling events. Newly installed well MW-7 was reported to contain TPHg, TPHd, and benzene at a concentration of 42,000 micrograms per liter (µg/L), 2,300 µg/L, and 14,000 µg/L, respectively.

Complete groundwater sample analytical data from this event is included in Table 2. Field forms are included in Appendix B. Laboratory results and chain of custody documents are included in Appendix C.

2.3 Soil Vapor Analytical Results

A soil vapor sample was collected from SG-1 and SG-2 at both 5 feet bgs and 10 feet bgs and from SG-3 at 5 feet bgs only. Hydrocarbons were not detected in the soil vapor samples collected from SG-1 at 5 feet bgs or from SG-2 at 5 or 10 feet bgs. Elevated hydrocarbons in the soil vapor was reported in SG-1 at 10 feet bgs and SG-3 at 5 feet bgs with the highest concentrations in SG-3. TPHg and benzene were reported in SG-3 at 5 feet bgs at 6,400,000 micrograms per cubic meter (µg/m^3) and 6,400 µg/m^3, respectively.

Complete soil vapor sample analytical data from this event is included in Table 3. Field forms are included in Appendix B. Laboratory results and chain of custody documents are included in Appendix C.

3.0 SUMMARY

In November 2008, AEI installed one monitoring well (MW-7) and three nested soil vapor probes (SG-1 to SG-3) with a screen at approximately 5 feet bgs and 10 feet bgs in each probe. Soil sampling activities reported hydrocarbons in SG-3 at a depth of 10 feet bgs. Soil vapor and groundwater samples were not collected following installation.

The entire monitoring well network (MW-1 to MW-7) was re-developed and sampled in January 2013, and the soil vapor probes were initially sampled in February 2013.

4.0 Report Limitations and Signatures

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the requested information, subject to scope of work for which AEI was retained and limitations inherent in this type of work, but it cannot be assumed that they are representative of areas not sampled. This report should not be regarded as a guarantee that no further contamination beyond that which could have been detected within the scope of this investigation is present beneath the subject property. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation.

Any conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work. No other warranty, either expressed or implied, has been made.

If there are any questions regarding our investigation, please do not hesitate to contact AEI at 925-746-6000.

Sincerely,
AEI Consultants

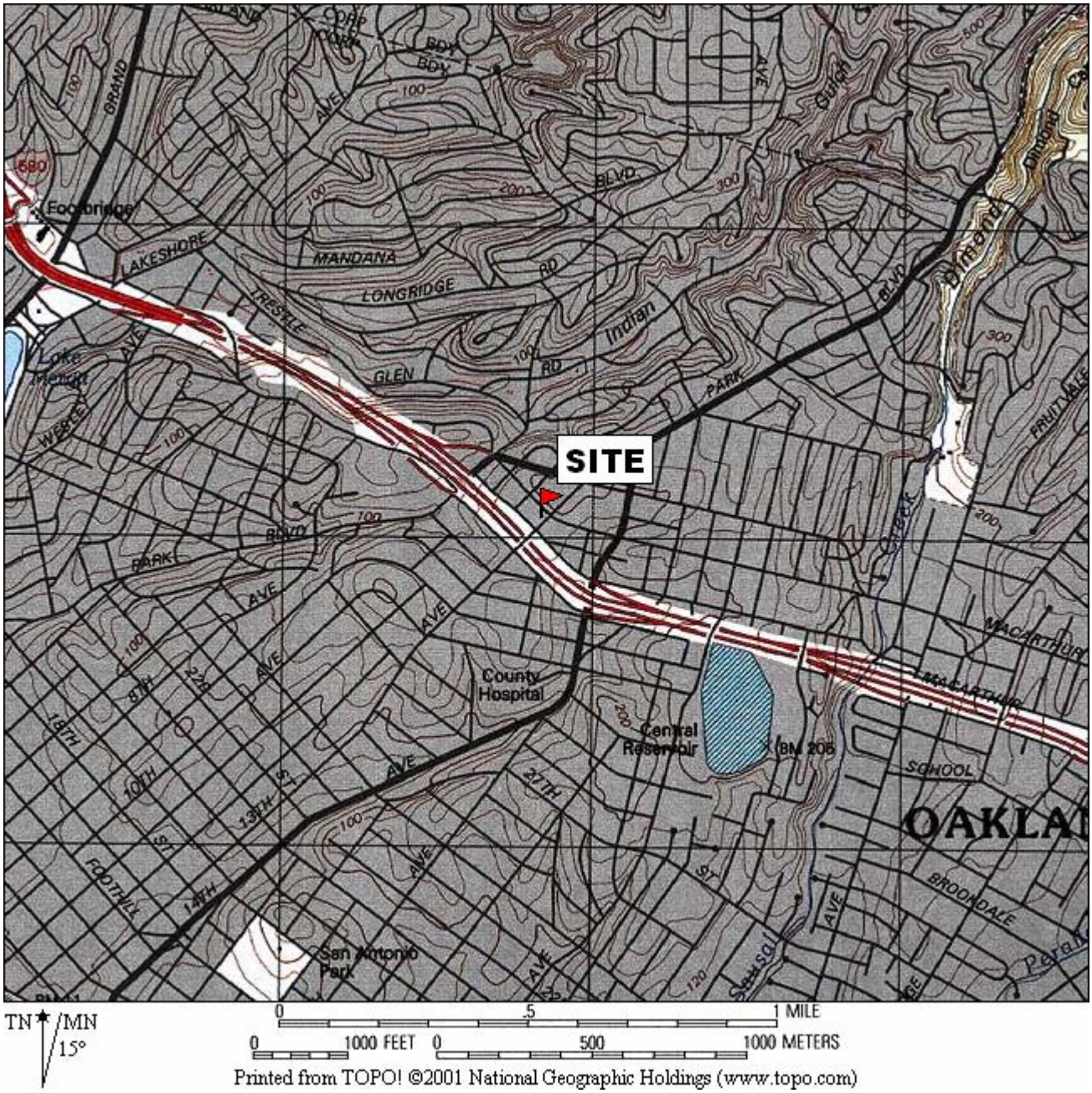
Jeremy Smith
Senior Project Manager

Peter McIntyre, PG
Executive Vice President

REGISTERED GEOLOGIST
PETER J. MCINTYRE
Exp. 5/31/16
No. 7702
STATE OF CALIFORNIA

Distribution :
Ms. Karel Detterman, ACHCS (Electronic Submittal)

FIGURES



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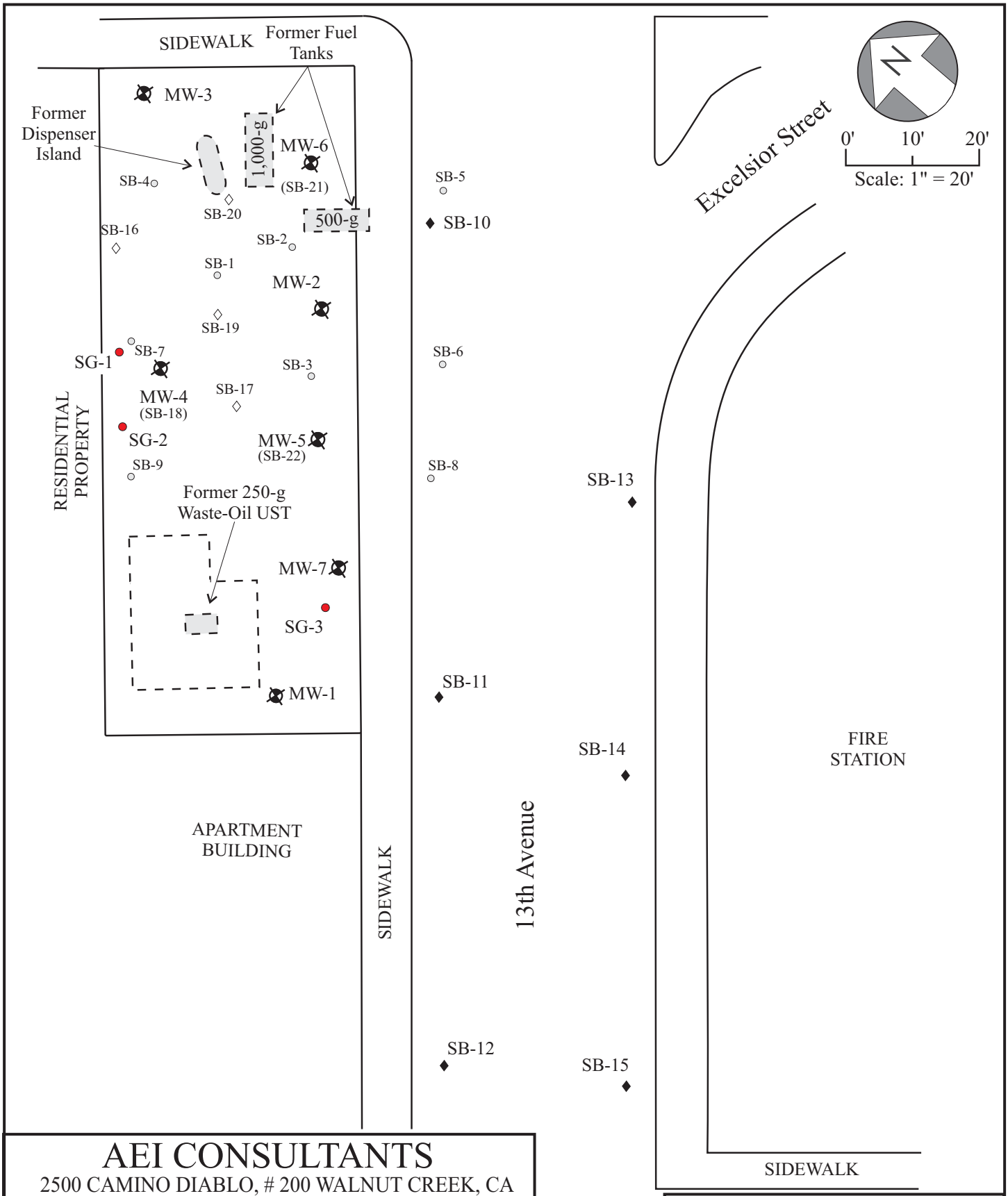
AEI CONSULTANTS	
SITE LOCATION MAP	
3635 13th AVENUE OAKLAND, CALIFORNIA	**FIGURE 1** PROJECT NO. 8499



AEI CONSULTANTS

2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

SITE PLAN

3635 13th Avenue
Oakland, California

FIGURE 2
AEI Project # 270852

TABLES

Table 1
3635 13th Avenue, Oakland, CA
Soil Sample Analytical Data

Sample ID	Date	TPH-g mg/kg	TPH-d mg/kg	TPH-mo mg/kg	Benzene mg/kg	Toluene mg/kg	EB mg/kg	Xylenes mg/kg	MTBE mg/kg	TBA mg/kg	Other Fuel Additives mg/kg
		EPA Method 8015			*EPA Method 8020/8021 or 8260B*						
SB1-10'	8/97-1/98	8.2	15	--	0.17	0.031	0.097	0.069	<2.0	-	-
SB2-10'	8/97-1/98	1.3	<1.0	--	0.061	0.016	0.03	0.014	<0.05	-	-
SB3-5'	8/97-1/98	1.6	-	--	0.048	0.044	0.016	0.046	<0.05	-	-
SB3-10'	8/97-1/98	590	160	--	8.6	15	10	48	<6.0	-	-
SB3-15'	8/97-1/98	1,000	-	--	8.3	8.8	15	52	<10	-	-
SB3-20'	8/97-1/98	<1.0	-	--	0.006	0.009	<0.005	0.017	<0.05	-	-
SB3-25'	8/97-1/98	<1.0	-	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB4-10'	8/97-1/98	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB5-15'	8/97-1/98	2.0	4.9	--	0.08	<0.005	0.045	0.012	<0.05	-	-
SB6-15'	8/97-1/98	2.2	<1.0	--	0.058	0.008	0.007	0.073	<0.05	-	-
SB7-15'	8/97-1/98	7.9	2.3	--	<0.005	0.016	<0.005	0.073	<0.05	-	-
SB8-10'	8/97-1/98	33	11	--	0.25	0.089	0.30	0.29	<0.23	-	-
SB9-10'	8/97-1/98	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-10 12'	8/21/2003	100	38	--	0.39	<0.10	0.88	1.4	<1.0	-	-
SB-10 19'	8/21/2003	66	6.3	--	<0.005	0.075	0.047	0.13	<0.05	-	-
SB-11 8'	8/21/2003	1.8	1.1	--	0.10	0.012	<0.005	<0.005	<0.05	-	-
SB-11 12'	8/21/2003	1.3	2.1	--	0.05	<0.005	<0.005	<0.005	<0.05	-	-
SB-11 19'	8/21/2003	150	27	--	0.13	0.11	0.25	0.18	<0.50	-	-
SB-12 12'	10/9/2003	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-12 18'	10/9/2003	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-13 20'	10/10/2003	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-14 16'	10/10/2003	74	98	--	<0.050	<0.005	<0.050	0.12	<0.50	-	-
SB-14 23'	10/10/2003	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-15 15'	10/10/2003	660	100	--	<0.20	5.6	1.3	1.9	<2.0	-	-
SB-15 19'	10/10/2003	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-16-10'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-16-16'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-16-20'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-16-24'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL

Table 1
3635 13th Avenue, Oakland, CA
Soil Sample Analytical Data

Sample ID	Date	TPH-g mg/kg	TPH-d mg/kg	TPH-mo mg/kg	Benzene mg/kg	Toluene mg/kg	EB mg/kg	Xylenes mg/kg	MTBE mg/kg	TBA mg/kg	Other Fuel Additives mg/kg
		EPA Method 8015			*EPA Method 8020/8021 or 8260B*						
SB-17-10'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-17-15'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-17-20'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.0052	<0.05	<MDL
SB-18-10'	4/23/2007	27	17	--	0.068	<0.005	0.018	<0.005	<0.005	<0.05	<MDL
SB-18-15'	4/23/2007	2.7	<1.0	--	0.078	<0.005	0.014	<0.005	<0.005	<0.05	<MDL
SB-18-19'	4/23/2007	<1.0	<1.0	--	0.013	<0.005	<0.005	<0.005	0.022	0.052	<MDL
SB-18-25'	4/23/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.011	<0.05	<MDL
SB-19-9'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-9-15'	4/20/2007	12	9.8	--	0.085	<0.010	0.26	0.020	<0.010	<0.10	<MDL
SB-19-20'	4/20/2007	160	40	--	0.12	<0.010	0.28	0.082	0.061	<0.10	<MDL
SB-20-14'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.0085	<0.05	<MDL
SB-20-18'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.0095	<0.05	<MDL
SB-20-25'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-20-30'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-21-6'	4/20/2007	<1.0	4.7	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-21-10'	4/20/2007	1,300	300	--	<0.20	<0.20	5.2	1.0	<0.20	<2.0	<MDL
SB-21-15'	4/20/2007	3.8	<1.0	--	0.56	<0.025	0.086	0.056	<0.025	<0.025	<MDL
SB-21-26'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-21-35'	4/20/2007	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-22-11'	4/20/2007	4,900	1,400	--	78	280	150	830	<10	<100	<MDL
SB-22-16'	4/20/2007	200	1.20	--	1.4	0.28	0.27	1.2	<0.10	<1.0	<MDL
SB-22-20'	4/20/2007	4.4	<1.0	--	1.5	<0.10	<0.10	<0.10	<0.10	<1.0	<MDL
SB-23-7'	4/20/2007	<1.0	210	--	<0.20	<0.20	4.8	11	<0.20	<2.0	<MDL
SB-23-11'	4/20/2007	1,800	350	--	3.4	1.2	11	56	<0.50	<5.0	<MDL
SB-23-15'	4/20/2007	520	210	--	7.3	6.5	10	53	<0.50	<5.0	<MDL
SB-23-21'	4/20/2007	6.9	31	--	1.2	<0.10	0.12	<0.10	<0.10	<1.0	<MDL
SG-1-10'	11/3/2008	<1.0	<1.0	<5.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
SG-2-10'	11/3/2008	<1.0	<1.0	<5.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
SG-3-10'	11/3/2008	1,700	1,200	<100	3.1	<1.0	17	44	<10	--	--

mg/kg - milligrams per kilogram
MDL - method detection limit with no sample dilution
- = sample not analyzed by this method
TPH-g - Total Petroleum Hydrocarbons as gasoline
TPH-d - Total Petroleum Hydrocarbons as diesel
MTBE - methyl tertiary butyl ether
EB ethylbenzene
TBA = t-butyl alcohol
< - less than
*Method 8260 performed for BTEX and Fuel Additives for samples collected on and after 4/20/07

Table 2
Groundwater Monitoring Data

Well ID	Date	Well Elevation	Depth to Water	Water Table Elevation	TPH-g (ug/L)	TPH-d (ug/L)	TOG (ug/L)	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	E-benzene (ug/L)	Xylenes (ug/L)
					EPA 8015M		EPA 5520			EPA 8020 / 8021		
MW - 1	11/22/94	194.75	10.92	183.83	210	<50	<0.5	-	<0.5	<0.5	<0.5	2.3
	02/23/95	194.75	10.58	184.17	140	<50	1.2	-	<0.5	<0.5	0.6	1.5
	05/24/95	194.75	10.94	183.81	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5
	08/18/95	194.75	14.52	180.23	2800	<50	<0.5	-	25	6.2	22	30
	02/07/96	194.75	4.43	190.32	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5
	09/06/96	194.75	13.60	181.15	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	06/19/97	194.75	13.07	181.68	630	400	<5.0	15	25	9.7	100	14
	01/24/02	194.75	9.53	185.22	60	<50	-	<5.0	3.3	2.8	2.0	6.0
	07/15/03	194.75	12.85	181.90	87	<50	-	<5.0	15	4.9	3.3	9.2
	10/10/03	194.75	14.58	180.17	81	110	-	<5.0	<0.5	0.62	0.57	0.5
	04/06/04	194.75	10.92	183.83	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/09/04	194.75	14.34	180.41	130	80	-	<35	<0.5	<0.5	2.8	0.78
	10/08/04	194.75	15.30	179.45	260	120	-	24	3.0	2.9	8.3	10
	04/02/07	194.75	12.19	182.56	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/02/07	194.75	13.28	181.47	150	79	-	<25	<0.5	1.0	<0.5	<0.5
	10/03/07	194.75	17.05	177.70	<50	<50		5.8	<0.5	<0.5	<0.5	<0.5
	01/09/08	197.28	6.74	190.54	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/08	197.28	13.16	184.12	130	-	-	<10	<0.5	1.2	22	0.93
	07/07/08	197.28	15.84	181.44	<50	<50	-	11	<0.5	<0.5	<0.5	<0.5
	10/16/08	197.28	17.54	179.74	70	<50	-	6.3	<0.5	<0.5	<0.5	<0.5
	1/29/2013 [1]	**197.28**	**11.36**	**185.92**	**<50**	**<50**	**-**	**<5.0**	**3.6**	**<0.5**	**<0.5**	**<0.5**
MW - 2	11/22/94	196.44	12.54	183.90	11,000	<50	<0.5	-	35	21	7	50
	02/23/95	196.44	12.35	184.09	4,000	<50	2	-	<0.5	<0.5	3	6
	05/24/95	196.44	12.11	184.33	8,600	<50	<0.5	-	95	37	37	70
	08/18/95	196.44	16.25	180.19	7,200	<50	<0.5	-	43	21	21	71
	02/07/96	196.44	9.34	187.10	11,000	<50	1	-	17	9	9	25
	09/06/96	196.44	15.22	181.22	15,000	1,900	<5.0	ND	4,300	920	460	1,600
	06/19/97	196.44	13.33	183.11	26,000	2,900	<5.0	<200	5,300	1,500	910	3,200
	01/24/02	196.44	9.72	186.72	34,000	5,300	-	<200	3,100	1,100	1,100	2,900
	07/15/03	196.44	12.42	184.02	18,000	6,600	-	<1000	2,300	310	690	1,600
	10/10/03	196.44	13.79	182.65	19,000	1,800	-	<500	2,700	460	850	1,800
	04/06/04	196.44	10.55	185.89	6,900	1,300	-	<200	1,100	100	380	780
	07/09/04	196.44	13.78	182.66	17,000	4,400	-	<450	2,800	240	710	1,300
	10/08/04	196.44	14.78	181.66	6,900	890	-	<150	1,500	240	340	670
	04/02/07	196.44	11.32	185.12	21,000	4,300	-	<450	2,000	300	1,000	1,700
	07/02/07	196.44	13.18	183.26	5,100	750	-	<180	260	21	320	370
	10/03/07	196.44	16.71	179.73	8,600	1,500	-	<300	1,700	140	520	790
	01/09/08	198.93	8.48	190.45	38,000	48,000	-	<400	3,000	380	1,200	1,900
	04/04/08	198.93	12.60	186.33	5,100	-	-	<130	1,000	72	120	330
	07/07/08	198.93	15.49	183.44	5,600	920	-	<130	930	52	250	320
	10/16/08	198.93	17.22	181.71	12,000	770	-	<250	1,400	110	400	470
	1/29/2013 [1]	**198.93**	**12.89**	**186.04**	**6,600**	**1,100**	**-**	**<250**	**540**	**110**	**430**	**460**
MW - 3	11/22/94	198.93	11.53	187.40	200	<50	3	-	<0.5	<0.5	<0.5	2
	02/23/95	198.93	11.89	187.04	1500	<50	0.9	-	6.6	6.4	4.2	13
	05/24/95	198.93	12.71	186.22	710	<50	<0.5	-	2.5	3.2	3.1	16
	08/18/95	198.93	16.14	182.79	310	<50	<0.5	-	3.1	2.1	2.2	11
	02/07/96	198.93	6.22	192.71	400	<50	2.2	-	1.4	2.5	2.2	7
	09/06/96	198.93	13.51	185.42	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	06/19/97	198.93	12.46	186.47	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	01/24/02	198.93	10.08	188.85	58	<50	-	<5.0	4	2.7	2.3	6.7
	07/15/03	198.93	12.45	186.48	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/10/03	198.93	14.00	184.93	350	75	-	<5.0	14	16	23	60
	04/06/04	198.93	10.78	188.15	<50	<50	-	<5.0	<0.5	1.7	<0.5	1.7
	07/09/04	198.93	14.14	184.79	260	<50	-	<5.0	12	13	14	36
	10/08/04	198.93	14.99	183.94	450	76	-	<5.0	21	22	30	86
	04/02/07	198.93	11.87	187.06	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/02/07	198.93	14.45	184.48	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/03/07	198.93	17.10	181.83	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	01/09/08	201.46	9.42	192.04	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/08	201.46	15.16	186.30	<50	-	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/07/08	201.46	15.63	185.83	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/16/08	201.46	17.53	183.93	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	1/29/2013 [1]	**201.46**	**12.15**	**189.31**	**63**	**<50**	**-**	**<5.0**	**7.8**	**<0.5**	**3.1**	**2.1**
MW-4	10/03/07	200.23	17.21	183.02	11,000	2,000	-	<1,500	1,100	87	<17	1,300
	01/09/08	200.23	9.20	191.03	17,000	2,600	-	<900	1,300	120	580	790
	04/04/08	200.23	13.63	186.60	17,000	-	-	<1,500	1,600	200	500	1,300
	07/07/08	200.23	16.18	184.05	18,000	3,100	-	<1,200	1,400	190	930	1,200
	10/16/08	200.23	17.81	182.42	25,000	2,000	-	<1,500	1,200	110	490	890
	1/29/2013 [1]	**200.23**	**11.66**	**188.57**	**18,000**	**3,200**	**-**	**<700**	**1,500**	**170**	**1,100**	**1,100**
MW-5	10/03/07	198.52	17.44	181.08	8,800	680	-	<250	2,800	74	100	190
	01/09/08	198.52	10.01	188.51	7,400	580	-	<350	2,000	5.6	93	29
	04/04/08	198.52	11.78	186.74	43,000	-	-	<500	12,000	2,800	670	2,500
	07/07/08	198.52	15.53	182.99	20,000	1,000	-	<500	6,800	190	280	380
	10/16/08	198.52	17.89	180.63	13,000	490	-	<250	3,500	10	93	30
	1/29/2013 [1]	**198.52**	**13.21**	**185.31**	**5,300**	**470**	**-**	**<130**	**1,300**	**11**	**170**	**14**
MW-6	10/03/07	200.20	18.46	181.74	11,000	1,400	-	<1,200	1,400	64	74	320
	01/09/08	200.20	11.93	188.27	8,400	1,300	-	<400	790	17	210	51
	04/04/08	200.20	15.69	184.51	6,100	-	-	<500	630	52	430	130
	07/07/08	200.20	14.84	185.36	6,200	1,200	-	<300	500	11	250	53
	10/16/08	200.20	18.95	181.25	3,700	600	-	180	220	4.4	93	15
	1/29/2013 [1]	**200.20**	**17.62**	**182.58**	**2,300**	**440**	**-**	**<130**	**180**	**18**	**79**	**40**
MW-7	**1/29/2013** [1]	**NA**	**19.07**	**NA**	**42,000**	**2,300**	**-**	**<900**	**14,000**	**140**	**1,100**	**800**

Well Elevation in feet above mean sea level (msl)
Depth to water in feet below the tops of the well casings
TPH-g - Total petroleum hydrocarbons (TPH) as gasoline
ND = non detect (detection limit not known)
*Monitoring Well elevation for MW-1 through MW-3 was resurveyed on 11/7/08

TOG - Total oil and grease
MTBE - Methyl tertiary butyl ether
E-benzene: Ethyl-benzene
TPH-d - TPH as diesel

mg/L - milligrams per liter
ug/L - micrograms per liter
- = sample not analyzed by this method

Table 3
3635 13th Avenue, Oakland, CA
Soil Gas Sample Analytical Data

Sample ID	Date	TPH-g µg/m^3	Benzene µg/m^3	Toluene µg/m^3	EB µg/m^3	Xylenes µg/m^3	MTBE µg/m^3	IPA µg/m^3
SG-1-5'	2/15/2013	<1,800	<6.5	<7.7	<8.8	<27	<7.3	ND
SG-1-10'	2/15/2013	4,600	<6.5	<7.7	<8.8	<27	13	ND
SG-2-5'	2/15/2013	<1,800	<6.5	<7.7	<8.8	<27	<7.3	ND
SG-2-10'	2/15/2013	<1,800	<6.5	<7.7	<8.8	<27	<7.3	ND
SG-3-5'	2/15/2013	6,400,000	6,400	<2,000	<2,000	<2,000	<2,000	ND

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µg/m^3 - micrograms per cubic meter
ND = Non detect
MDL - method detection limit with no sample dilution
- = sample not analyzed by this method
TPH-g - Total Petroleum Hydrocarbons as gasoline
TPH-d - Total Petroleum Hydrocarbons as diesel
MTBE - methyl tertiary butyl ether
EB ethylbenzene
IPA - Isopropyl Alcohol used as leak check compound
< - less than

APPENDIX A

BORING LOGS

BORING NUMBER MW-7

AEI Consultants

Environmental & Engineering Services

CLIENT John Williamson
PROJECT NAME
PROJECT NUMBER 270852
PROJECT LOCATION 3635 13th Avenue, Oakland, California
DATE STARTED 11/3/08 **COMPLETED** 11/3/08
GROUND ELEVATION **HOLE SIZE** 8 inches
DRILLING CONTRACTOR RSI Drilling
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY Adrian Angel **CHECKED BY** Peter McIntyre
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					(CL) Silty Clay, black, low plasticity, stiff	Casing Type: PVC
12.0					(SW) Fine to medium grained sand, greenish brown.	
22.0					Bottom of borehole at 22.0 feet.	

Type I/II Neat Cement
2" PVC Blank
Bentonite
Sand Pack
0.010 Slotted PVC Screen

BORING NUMBER SG-1

AEI Consultants

Environmental & Engineering Services

CLIENT John Williamson
PROJECT NAME
PROJECT NUMBER 270852
PROJECT LOCATION 3635 13th Avenue, Oakland, California
DATE STARTED 11/3/08 **COMPLETED** 11/3/08
GROUND ELEVATION **HOLE SIZE** 3 inches
DRILLING CONTRACTOR RSI Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY Adrian Angel **CHECKED BY** Peter McIntyre
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					(CL) Silty Clay, black to dark olive brown, low plasticity, minor silt increasing incontent with depth	Type I/II Neat Cement
5						Bentonite SS Implant #2/10 Sand
10					10.0	Bentonite #2/10 Sand SS Implant

Bottom of borehole at 10.0 feet.

BORING NUMBER SG-2

AEI Consultants

Environmental & Engineering Services

CLIENT John Williamson **PROJECT NAME**

PROJECT NUMBER 270852 **PROJECT LOCATION** 3635 13th Avenue, Oakland, California

DATE STARTED 11/3/08 **COMPLETED** 11/3/08 **GROUND ELEVATION** **HOLE SIZE** 3 inches

DRILLING CONTRACTOR RSI Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Direct Push **AT TIME OF DRILLING** ---

LOGGED BY Adrian Angel **CHECKED BY** Peter McIntyre **AT END OF DRILLING** ---

NOTES **AFTER DRILLING** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					(CL) Silty Clay, black to dark olive brown, low plasticity, minor silt increasing incontent with depth	Type I/II Neat Cement
5						Bentonite SS Implant #2/10 Sand
10					10.0	Bentonite #2/10 Sand SS Implant

Bottom of borehole at 10.0 feet.

BORING NUMBER SG-3

AEI Consultants

Environmental & Engineering Services

CLIENT John Williamson
PROJECT NAME
PROJECT NUMBER 270852
PROJECT LOCATION 3635 13th Avenue, Oakland, California
DATE STARTED 11/3/08 **COMPLETED** 11/3/08
GROUND ELEVATION **HOLE SIZE** 3 inches
DRILLING CONTRACTOR RSI Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY Adrian Angel **CHECKED BY** Peter McIntyre
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					(CL) Silty Clay, black to dark olive brown, low plasticity, minor silt increasing incontent with depth	Type I/II Neat Cement
5						Bentonite SS Implant #2/10 Sand
10					10.0	Bentonite #2/10 Sand SS Implant

Bottom of borehole at 10.0 feet.

APPENDIX B

FIELD FORMS

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: 1 OF: 1

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 10:00 End Time: 10:45

Technician: J. Sigg
Project Manager:
Conditions:
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW1
Well Diameter:
Constructed Depth of Well:
Screened Interval:
Slot Size:
Filter Pack Material/Size:
Depth to Water: 11.34
Height of Water Column:

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft) 20.544

Actual Well Volumes Removed:
Surge Start Time 1010 Surge Stop Time 1020
Free Product Present? NO
Well Depth Before Development: 24.17
Well Depth After Development: 24.19

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
1030	1	18.02	6.74	1503	3.69	-102.3	Cloudy
	2	17.90	7.22	1494	2.93	-97.4	"
	3	17.93	7.28	1490	2.44	-88.6	"
	4	18.11	7.32	1489	2.07	-73.2	Clear
	5	18.19	7.30	1501	1.83	-65.1	"
	6	18.40	7.27	1515	1.74	-55.4	"
	7	18.49	7.25	1518	1.41	-50.2	"
1040	8	18.56	7.25	1521	1.35	-47.3	"
		Dry @		9 gallons			
		No	Odors				

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: 1 OF: 1

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 1200 End Time: 1245

Technician: J. Sigg
Project Manager:
Conditions:
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW2
Well Diameter:
Constructed Depth of Well:
Screened Interval:
Slot Size:
Filter Pack Material/Size:
Depth to Water: 12.89
Height of Water Column:

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft) 40.144

Actual Well Volumes Removed:
Surge Start Time 1210 Surge Stop Time 1220
Free Product Present? NO
Well Depth Before Development: 37.97
Well Depth After Development: 37.98

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
1230	2	19.73	7.45	1305	1.34	-262.5	Grey
	4	19.88	7.30	1311	1.23	-260.1	Clear
	6	19.92	7.25	1319	1.07	-258.3	"
	8	19.98	7.20	1327	1.01	-250.4	"
	10	20.07	7.16	1330	0.98	-247.3	"
	12	20.10	7.12	1332	1.10	-242.8	"
1245	16	DRY					

STRONG HYDROCARBON ODOR

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: 1 OF: 1

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 0900 End Time: 0945

Technician: J. Sigg
Project Manager:
Conditions:
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW3
Well Diameter:
Constructed Depth of Well:
Screened Interval:
Slot Size:
Filter Pack Material/Size:
Depth to Water: 12.15
Height of Water Column:

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft) 37.42

Actual Well Volumes Removed:
Surge Start Time 0910 Surge Stop Time 0920
Free Product Present?
Well Depth Before Development: 35.55
Well Depth After Development: 35.57

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
0930	2	19.10	8.25	604	2.50	-50.2	CLOUDY
	4	19.20	8.20	632	1.17	-58.1	CLEAR
	6	19.26	8.13	638	1.01	-60.7	"
	8	19.32	8.10	660	.90	-61.8	"
	10	19.38	8.08	693	.73	-63.4	"
	12	19.40	8.08	718	.65	-65.3	"
	14	19.45	8.07	738	0.60	-68.4	"
0945	16	DRY					
		NO	ODOR				

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: 1 OF: 1

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 1300 End Time: 1345

Technician: J. Sigg
Project Manager:
Conditions:
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW4
Well Diameter:
Constructed Depth of Well:
Screened Interval:
Slot Size:
Filter Pack Material/Size:
Depth to Water: 11.66
Height of Water Column:

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft) 16.88

Actual Well Volumes Removed:
Surge Start Time 1310 Surge Stop Time 1320
Free Product Present?
Well Depth Before Development: 22.19
Well Depth After Development: 22.21

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
1330	1	18.85	7.62	1143	3.97	-222.8	clear
	2	18.87	7.58	1188	2.13	-218.4	"
	3	18.92	7.50	1221	1.62	-211.7	"
	4	18.95	7.49	1246	1.38	-206.0	"
	5	18.97	7.47	1282	1.20	-202.4	"
1335	6	Dry					
		Strong Hydrocarbon Odor					

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: ____ OF: ____

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 1100 End Time: 1145

Technician: J. Sigg
Project Manager:
Conditions:
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW5
Well Diameter:
Constructed Depth of Well:
Screened Interval:
Slot Size:
Filter Pack Material/Size:
Depth to Water: 13.21
Height of Water Column:

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft) 14.032

Actual Well Volumes Removed:
Surge Start Time 1110 Surge Stop Time 1120
Free Product Present?
Well Depth Before Development: 21.97
Well Depth After Development: 21.98

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
1130	1	19.40	6.24	3907	3.22	-162.8	LT Brn
	2	19.38	6.29	3952	2.97	-160.4	Clear
	3	19.36	6.32	3968	2.08	-158.3	"
	4	19.35	6.32	3994	1.07	-152.6	"
1135	5	DRY					
		Slight Hydrocarbon Odor					

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: ____ OF: ____

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 1400 End Time: 1445

Technician: J. Sigg
Project Manager:
Conditions:
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW6
Well Diameter:
Constructed Depth of Well:
Screened Interval:
Slot Size:
Filter Pack Material/Size:
Depth to Water: 17.62
Height of Water Column:

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft) 7.344

Actual Well Volumes Removed:
Surge Start Time 1410 Surge Stop Time 1420
Free Product Present?
Well Depth Before Development: 22.29
Well Depth After Development: 22.21

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
1430	1	19.74	6.90	1347	2.71	-232	grey
	2	19.97	6.84	1310	1.12	-215.2	cleard
	3	19.97	6.83	1312	0.90	-211.7	"
	4	19.86	6.82	1315	0.80	-207.0	"
	5	19.78	6.76	1325	0.70	-191.5	"
	6	19.78	6.74	1331	0.66	-184.8	"
1440	7	19.66	6.73	1326	0.67	-181.9	"
		Strong Hydrocarbon Odor					

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging Hydrocarbon odor

DATE: 1-28-13

AEI CONSULTANTS
MONITORING WELL DEVELOPMENT LOG

PAGE: ____ OF: ____

Project Name: Williamson
Location: 3635 13th Avenue, Oakland, CA
Project No.: 270852
Start Time: 1500 End Time: ____

Technician: J. Sigg
Project Manager: ____
Conditions: ____
Development Method: Surge block w/ submersible pump

MONITORING WELL DATA

Well ID: MW7
Well Diameter: ____
Constructed Depth of Well: ____
Screened Interval: ____
Slot Size: ____
Filter Pack Material/Size: ____
Depth to Water: 19.07
Height of Water Column: ____

Calculated Gallons Purged:
2" (0.16 gal/ft) <or> 4" (0.65 gal/ft): 3.2

Actual Well Volumes Removed: 10
Surge Start Time 1510 Surge Stop Time 1520
Free Product Present? ____
Well Depth Before Development: 21.07
Well Depth After Development: 21.09

FIELD PARAMETERS MEASURED

Time	Volume Removed (gallons)	Temp (deg C)	pH	Conductivity (µsec/cm)	DO (mg/L)	ORP (meV)	Appearance of Purge Water
1530	1	19.79	6.85	1403	1.18	-220.8	clean
	2	19.78	6.85	1397	1.01	-231.4	"
1535	3	19.76	6.80	1362	.62	-210.4	"
		Strong Hydrocarbon Odor					

COMMENTS (i.e., pumped dry, sample odor, well recharge time & percent, etc.)

1) Take Total Well Depth and DTW Measurements 2) Remove any sediment from bottom with Heavy plastic bailer
3) Surge well along well screen for 10 minutes
4)Remove water from well with Pump until dry / clear/ 10 well volumes
5) Collect TWD measurement after purging

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	197.28		
Depth of Well	23.50		
Depth to Water (from top of casing)	11.36		
Water Elevation (feet above msl)			
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	5.82		
Actual Volume Purged (gallons)	6		
Appearance of Purge Water	Clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1010	1	17.92	7.31	1487	2.37	-87.1	
	2	18.09	7.30	1493	1.92	-94.5	
	3	18.22	7.28	1509	1.67	-96.5	
	4	18.43	7.25	1522	1.34	-95.4	
	5	18.51	7.24	1523	1.35	-72.0	
1015	6	18.58	7.26	1522	1.37	-43.0	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No Odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	198.93		
Depth of Well	36.00		
Depth to Water (from top of casing)	12.89		
Water Elevation (feet above msl)			
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	11.09		
Actual Volume Purged (gallons)	11		
Appearance of Purge Water	Clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1135	3	19.99	7.47	1277	1.18	-249.7	
	6	20.08	7.25	1332	1.01	-243.1	
	9	20.18	7.10	1401	0.90	-240.6	
1145	11	20.07	7.10	1313	0.80	-257.3	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong Hydrocarbon odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	201.46		
Depth of Well	35.50		
Depth to Water (from top of casing)	12.15		
Water Elevation (feet above msl)			
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	11.02		
Actual Volume Purged (gallons)	11		
Appearance of Purge Water	Cloudy/clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
0920	3	19.13	8.23	573	2.18	-19.4	Cloudy
	6	19.32	8.18	592	1.21	-30.8	"
	9	19.60	8.13	682	0.72	-55.6	Clear
0930	11	19.43	8.01	733	0.51	-61.3	"

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	200.23		
Depth of Well	22.00		
Depth to Water (from top of casing)	11.66		
Water Elevation (feet above msl)			
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.96		
Actual Volume Purged (gallons)	5		
Appearance of Purge Water	Clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1225	1	18.89	7.54	1165	3.64	-212.3	
	2	18.90	7.50	1170	3.17	-213.1	
	3	18.91	7.47	1181	2.21	-214.8	
	4	18.93	7.46	1226	1.85	-211.0	
1230	5	19.01	7.43	1295	1.17	-201.9	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

STRONG HYDROCARBON ODOR

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	198.52		
Depth of Well	22.00		
Depth to Water (from top of casing)	13.21		
Water Elevation (feet above msl)			
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.21		
Actual Volume Purged (gallons)	4		
Appearance of Purge Water	Clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1055	1	19.38	6.26	3941	3.15	-150.0	
	2	19.37	6.29	3982	2.80	-147.6	
	3	19.37	6.31	4005	2.05	-144.9	
1100	4	19.31	6.30	4006	1.37	-140.8	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

SLIGHT HYDROCARBON ODOR

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	200.20		
Depth of Well	22.00		
Depth to Water (from top of casing)			
Water Elevation (feet above msl)	17.62		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	2.10		
Actual Volume Purged (gallons)	2		
Appearance of Purge Water	Clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1310	1	19.70	6.73	1328	1.02	-200.3	
1315	2	19.68	6.73	1331	0.78	-198.1	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong HydroCARBON ODOR

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-7

Project Name:	Williamson	Date of Sampling:	1-29-13
Job Number:	270852	Name of Sampler:	J. Sigg
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK Missing Bolts		
Elevation of Top of Casing (feet above msl)	200.20		
Depth of Well	22.00		
Depth to Water (from top of casing)	19.07		
Water Elevation (feet above msl)			
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	1.04		
Actual Volume Purged (gallons)	2		
Appearance of Purge Water	Clear		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1355	1	19.76	6.82	1303	1.02	-211.1	
1400	2	19.78	6.82	1298	.73	-209.8	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong HYDROCARBON ODOR

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	SG-1-5'

Project Name:	Williamson Site	Date of Sampling:	2-15-13
Job Number:	270852	Start Time:	0813
Project Address:	3635 13th Avenue, Oakland, CA	End Time:	0818
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	29
Ending Vacuum (in-Hg)	5
Flow Controller / Sampling Flow Rate (mL/min)	100 - 200
Tubing Inside Diameter (1/8" or 1/4")	1/8" I.D.
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	good
Depth of Probe (ft bgs)	5
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	7
Number of Purge Volumes (default = 3 purge volumes)	3
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (~2.4 mL/ft), 3/16" I.D. (~5.4 mL/ft), and 1/4" I.D. (~9.6 mL/ft)	**50**
Appreciable Amount of Rain (>1/2") in Last Five Days?	No
Moisture / Water Present in Tubing?	NO

SOIL GAS SAMPLING EQUIPMENT	
Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6203
Sampling Manifold / Flow Controller Number	812
Leak Check Compound	ISOPROPYL ALCOHOL (2-PROPANOL)

NOTES & COMMENTS

HEX	CH4	OXY	CO2
25 ppm	0.0 %	8.6 %	2.9 %

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	SG-1-10'

Project Name:	Williamson Site	Date of Sampling:	2-15-13
Job Number:	270852	Start Time:	0830
Project Address:	3635 13th Avenue, Oakland, CA	End Time:	0837
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	27
Ending Vacuum (in-Hg)	5
Flow Controller / Sampling Flow Rate (mL/min)	100 - 200
Tubing Inside Diameter (1/8" or 1/4")	1/8" I.D.
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	good
Depth of Probe (ft bgs)	10
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	12
Number of Purge Volumes (default = 3 purge volumes)	3
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (~2.4 mL/ft), 3/16" I.D. (~5.4 mL/ft), and 1/4" I.D. (~9.6 mL/ft)	**86**
Appreciable Amount of Rain (>1/2") in Last Five Days?	NO
Moisture / Water Present in Tubing?	NO

SOIL GAS SAMPLING EQUIPMENT	
Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6202
Sampling Manifold / Flow Controller Number	727
Leak Check Compound	ISOPROPYL ALCOHOL (2-PROPANOL)

NOTES & COMMENTS			
HEX	CH4	Ox4	Co2
30 ppm	0.0 %	14.8 %	2.4 %

cc = cubic centimeter
mL = milliliter
1 L = 1000 mL
1 mL = 1 cc
in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	SG-2-5'

Project Name:	Williamson Site	Date of Sampling:	2-15-13
Job Number:	270852	Start Time:	0845
Project Address:	3635 13th Avenue, Oakland, CA	End Time:	0851
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	29
Ending Vacuum (in-Hg)	5
Flow Controller / Sampling Flow Rate (mL/min)	100 - 200
Tubing Inside Diameter (1/8" or 1/4")	1/8" I.D.
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	good
Depth of Probe (ft bgs)	5
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	7
Number of Purge Volumes (default = 3 purge volumes)	3
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (~2.4 mL/ft), 3/16" I.D. (~5.4 mL/ft), and 1/4" I.D. (~9.6 mL/ft)	**50**
Appreciable Amount of Rain (>1/2") in Last Five Days?	No
Moisture / Water Present in Tubing?	NO

SOIL GAS SAMPLING EQUIPMENT	
Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	A7508
Sampling Manifold / Flow Controller Number	666
Leak Check Compound	ISOPROPYL ALCOHOL (2-PROPANOL)

NOTES & COMMENTS

HEA	CH4	OXY	CO2
20 ppm	0.0 %	10.8 %	2.6 %

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	SG-2-10'

Project Name:	Williamson Site	Date of Sampling:	2-15-13
Job Number:	270852	Start Time:	0900
Project Address:	3635 13th Avenue, Oakland, CA	End Time:	0912
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	29
Ending Vacuum (in-Hg)	5
Flow Controller / Sampling Flow Rate (mL/min)	100 - 200
Tubing Inside Diameter (1/8" or 1/4")	1/8" I.D.
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	good
Depth of Probe (ft bgs)	10
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	12
Number of Purge Volumes (default = 3 purge volumes)	3
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (~2.4 mL/ft), 3/16" I.D. (~5.4 mL/ft), and 1/4" I.D. (~9.6 mL/ft)	**86**
Appreciable Amount of Rain (>1/2") in Last Five Days?	NO
Moisture / Water Present in Tubing?	NO

SOIL GAS SAMPLING EQUIPMENT	
Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6303
Sampling Manifold / Flow Controller Number	763
Leak Check Compound	ISOPROPYL ALCOHOL (2-PROPANOL)

NOTES & COMMENTS

HEX	CH4	OXY	CO2
40 ppm	0.0 %	12.7 %	2.4 %

cc = cubic centimeter
mL = milliliter
1 L = 1000 mL
1 mL = 1 cc
in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	SG-3-5'

Project Name:	Williamson Site	Date of Sampling:	2-15-13
Job Number:	270852	Start Time:	0930
Project Address:	3635 13th Avenue, Oakland, CA	End Time:	0935
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	29
Ending Vacuum (in-Hg)	5
Flow Controller / Sampling Flow Rate (mL/min)	100 - 200
Tubing Inside Diameter (1/8" or 1/4")	1/8" I.D.
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	Bolt holes STRIPPED / BOLTS MISSING
Depth of Probe (ft bgs)	5
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	7
Number of Purge Volumes (default = 3 purge volumes)	3
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (~2.4 mL/ft), 3/16" I.D. (~5.4 mL/ft), and 1/4" I.D. (~9.6 mL/ft)	**50**
Appreciable Amount of Rain (>1/2") in Last Five Days?	No
Moisture / Water Present in Tubing?	NO

SOIL GAS SAMPLING EQUIPMENT	
Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6201
Sampling Manifold / Flow Controller Number	678
Leak Check Compound	ISOPROPYL ALCOHOL (2-PROPANOL)

NOTES & COMMENTS			
HEX	CH4	OXY	CO2
200 ppm	1.5 %	1.2 %	8.3 %

cc = cubic centimeter | 1 L = 1000 mL | in-Hg = inches of mercury

mL = milliliter | 1 mL = 1 cc | ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	SG-3-10'

Project Name:	Williamson Site	Date of Sampling:	
Job Number:	270852	Start Time:	
Project Address:	3635 13th Avenue, Oakland, CA	End Time:	
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	
Ending Vacuum (in-Hg)	
Flow Controller / Sampling Flow Rate (mL/min)	100 - 200
Tubing Inside Diameter (1/8" or 1/4")	1/8" I.D.
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	
Depth of Probe (ft bgs)	10
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	12
Number of Purge Volumes (default = 3 purge volumes)	3
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (~2.4 mL/ft), 3/16" I.D. (~5.4 mL/ft), and 1/4" I.D. (~9.6 mL/ft)	**86**
Appreciable Amount of Rain (>1/2") in Last Five Days?	
Moisture / Water Present in Tubing?	

SOIL GAS SAMPLING EQUIPMENT	
Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	
Sampling Manifold / Flow Controller Number	
Leak Check Compound	ISOPROPYL ALCOHOL (2-PROPANOL)

NOTES & COMMENTS
WATER PRESENT - NO SCREENING OR SAMPLING

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

in-Hg = inches of mercury
ft bgs = feet below ground surface

APPENDIX C

LABORATORY ANALYTICAL DATA

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson, 3635 13th Avenue	Date Sampled: 11/03/08
		Date Received: 11/04/08
	Client Contact: Adrian Angel	Date Reported: 11/18/08
	Client P.O.:	Date Completed: 11/18/08

WorkOrder: 0811502

November 18, 2008

Dear Adrian:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#270852; Williamson, 3635 13th Av**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0811502

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No **Email PDF Report:** YES

Report To: Adrian Angel	**Bill To:** Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	**E-Mail:** aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	**Fax:** (925) 944-2895
Project #: 270852	**Project Name:** Williamson
Project Location: 3635 13th Avenue, Oakland, CA	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
SG-1-5'		10/3/08	2:45P	1	Ace		X				X			
SG-1-10'			3:30P		Tube									
SG-2-5'			2:00P											
SG-2-10'			2:25P											
SG-3-5'			1:15P											
SG-3-10'			1:30P											

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015)	TPH as Diesel (8015) w/ silica gel cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI

Other

TPH-multi-range (8015C)	MBTEX (8021B)			
X	X			
X	X			
X	X			

Comments

Silica Gel Cleanup on all TPH-d and TPH-mo analyses!!

Relinquished By:	Date:	Time:	Received By:
	11/4/08	12:00P	1254
Relinquished By:	Date:	Time:	Received By:
	11/4/08	1800	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 5.8
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____

	VOAS	O&G	METALS	OTHER
PRESERVATION				
APPROPRIATE CONTAINERS				

PERSERVED IN LAB_____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0811502 **ClientCode: AEL**

☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(408) 559-7600 FAX (408) 559-7601

Email: aangel@aeiconsultants.com
cc:
PO:
ProjectNo: #270852; Williamson, 3635 13th Avenue

Bill to:
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 1 day

Date Received: **11/04/2008**
Date Printed: **11/17/2008**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
0811502-002	SG-1-10'	Soil	11/3/2008 15:30	☐	A	A										
0811502-004	SG-2-10'	Soil	11/3/2008 14:25	☐	A	A										
0811502-006	SG-3-10'	Soil	11/3/2008 13:30	☐	A	A										

Test Legend:

1	G-MBTEX_S	2	TPH(DMO)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments: Sample received on 11/4/08. 24hr rush on 11/17/08

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **11/4/08 6:00:00 PM**

Project Name: **#270852; Williamson, 3635 13th Avenue**

Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0811502** Matrix Soil

Carrier: Michael Hernandez (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 5.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson, 3635 13th Avenue	Date Sampled: 11/03/08
		Date Received: 11/04/08
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/17/08
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed 11/17/08

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0811502

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
002A	SG-1-10'	S	ND	ND	ND	ND	ND	ND	1	108
004A	SG-2-10'	S	ND	ND	ND	ND	ND	ND	1	100
006A	SG-3-10'	S	1700,d2,d9	ND<10	3.1	ND<1.0	17	44	200	113

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d2) heavier gasoline range compounds are significant (aged gasoline?)
d9) no recognizable pattern

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson, 3635 13th Avenue	Date Sampled: 11/03/08
		Date Received: 11/04/08
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 11/17/08
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 11/17/08-11/18/08

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3550C/3630C Analytical methods: SW8015B Work Order: 0811502

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS
0811502-002A	SG-1-10'	S	ND	ND	1	117
0811502-004A	SG-2-10'	S	ND	ND	1	118
0811502-006A	SG-3-10'	S	1200,e11	ND<100	20	93

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

e11) stoddard solvent/mineral spirit

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil BatchID: 39699 WorkOrder: 0811502

EPA Method SW8021B/8015Cm **Extraction SW5030B** **Spiked Sample ID: 0811502-004A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	94.8	102	6.91	92.6	96.8	4.46	70 - 130	20	70 - 130	20
MTBE	ND	0.10	101	119	15.8	88.1	93.3	5.64	70 - 130	20	70 - 130	20
Benzene	ND	0.10	88.8	91.3	2.77	93.9	95.3	1.50	70 - 130	20	70 - 130	20
Toluene	ND	0.10	100	103	2.69	92.9	95	2.17	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	99.7	103	3.56	99.5	104	4.61	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	110	115	4.20	109	113	3.34	70 - 130	20	70 - 130	20
%SS:	100	0.10	96	97	0.720	98	99	0.990	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 39699 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811502-002A	11/03/08 3:30 PM	11/17/08	11/17/08 5:52 PM	0811502-004A	11/03/08 2:25 PM	11/17/08	11/17/08 5:22 PM
0811502-006A	11/03/08 1:30 PM	11/17/08	11/17/08 4:51 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil QC Matrix: Soil BatchID: 39606 WorkOrder 0811502

EPA Method SW8015B **Extraction SW3550C/3630C** **Spiked Sample ID: 0811385-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	1.3	20	94.4	94.7	0.228	97.9	98	0.113	70 - 130	30	70 - 130	30
%SS:	89	50	107	108	0.437	108	107	0.905	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 39606 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811502-002A	11/03/08 3:30 PM	11/17/08	11/17/08 4:36 PM	0811502-004A	11/03/08 2:25 PM	11/17/08	11/17/08 5:44 PM
0811502-006A	11/03/08 1:30 PM	11/17/08	11/18/08 9:35 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received: 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Reported: 02/05/13
Walnut Creek, CA 94597	Client P.O.:	Date Completed: 02/04/13

WorkOrder: 1301706

February 05, 2013

Dear Adrian:

Enclosed within are:

1) The results of the **7** analyzed samples from your project: **#270852; John Williamson,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1301706

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ■ 5 DAY

EDF Required? ■ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel Bill To: Same
Company: AEI Consultants PO #: WC083934
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com
Tel: (408) 559-7600 Fax: (408) 559-7601
Project #: 270852 Project Name: John Williamson
Project Location: 3635 13th Avenue, Oakland, CA
Sampler Signature: John Sigg

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	MBTEX / 8021	TPH as Diesel (8015) w/ silica gel cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	Pesticides by EPA 8081	BTEX ONLY (EPA 602 / 8020)	Organo-chlorine pesticides EPA 8081	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	Arsenic, copper, lead by EPA 6010 (TTLC)	TPH-d by 8015 with silica gel clean up	MBTEX by EPA (8021)	Other: TPH multi-range (g/d/mo)(8015)	Other: 9 Fuel Additives including ethanol (8260)	Other: Dissolved CAM-17 metals (E200.8) Field Filtered	Other: Dissolved Hexachromium (E218.6)	Comments
MW-1		1-29-13	1030	7							X																		X	X	X	X	Silica gel cleanup on all diesel and motor oil!
MW-2			1200	7							X																		X	X	X	X	
MW-3			0945	7							X																		X	X	X	X	
MW-4			1245	7							X																		X	X	X	X	
MW-5			1115	7							X																		X	X	X	X	
MW-6			1330	7							X																		X	X	X	X	
MW-7			1415	7							X																		X	X	X	X	

TPH(d) ✓ ✓ ✓ ✓

Relinquished By:	Date:	Time:	Received By:
John Sigg	1-30-13	0823	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

OTHER
ICE/t° 1.5
PRESERVATION
GOOD CONDITION yes
HEAD SPACE ABSENT yes
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS yes
PERSERVED IN LAB

VOAS | O&G | METALS

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1301706 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 283-6000 FAX: (925) 944-2895

Email: aangel@aeiconsultants.com
cc:
PO:
ProjectNo: #270852; John Williamson

Bill to:
Sara Guerin
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.co

Requested TAT: 5 days

Date Received: **01/30/2013**
Date Printed: **01/30/2013**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1301706-001	MW-1	Water	1/29/2013 10:30	☐	E	B	D	A	A	C						
1301706-002	MW-2	Water	1/29/2013 12:00	☐	E	B	D	A		C						
1301706-003	MW-3	Water	1/29/2013 9:45	☐	E	B	D	A		C						
1301706-004	MW-4	Water	1/29/2013 12:45	☐	E	B	D	A		C						
1301706-005	MW-5	Water	1/29/2013 11:15	☐	E	B	D	A		C						
1301706-006	MW-6	Water	1/29/2013 13:30	☐	E	B	D	A		C						
1301706-007	MW-7	Water	1/29/2013 14:15	☐	E	B	D	A		C						

Test Legend:

1	218_6_W	2	9-OXYS_W	3	CAM17MS_DISS	4	G-MBTEX_W	5	PREDF REPORT
6	TPH(DMO)WSG_W	7		8		9		10	
11		12							

Prepared by: Rosa Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **AEI Consultants**
Date and Time Received: **1/30/2013 8:41:00 AM**
Project Name: **#270852; John Williamson**
LogIn Reviewed by: Rosa Venegas
WorkOrder N°: **1301706** Matrix: Water
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 1.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

AEI Consultants 2500 Camino Diablo, Ste.#200 Walnut Creek, CA 94597	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received: 01/30/13
	Client Contact: Adrian Angel	Date Extracted: 01/30/13
	Client P.O.:	Date Analyzed: 01/30/13

Hexachrome by IC*

Analytical Method: E218.6 Work Order: 1301706

Lab ID	Client ID	Matrix	Hexachrome	DF	Comments
1301706-001E	MW-1	W	ND	1	
1301706-002E	MW-2	W	ND	1	
1301706-003E	MW-3	W	ND	1	
1301706-004E	MW-4	W	ND	1	
1301706-005E	MW-5	W	ND	1	
1301706-006E	MW-6	W	ND	1	
1301706-007E	MW-7	W	ND	1	

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.2 µg/L	
	S	NA	

* water samples are reported in µg/L.

N/A means surrogate not applicable to this analysis; # means surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received: 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted: 01/30/13-01/31/13
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 01/30/13-01/31/13

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1301706

Lab ID	1301706-001B	1301706-002B	1301706-003B	1301706-004B	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	1	1	1	10	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND<5.0	NA	0.5
t-Butyl alcohol (TBA)	ND	26	ND	28	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND	ND	ND<5.0	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND<5.0	NA	0.5
Diisopropyl ether (DIPE)	ND	ND	ND	ND<5.0	NA	0.5
Ethanol	ND	ND	ND	ND<500	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND<5.0	NA	0.5
Methanol	ND	ND	ND	ND<5000	NA	500
Methyl-t-butyl ether (MTBE)	ND	35	ND	64	NA	0.5
Surrogate Recoveries (%)						
%SS1:	110	103	110	109		
%SS2:	115	112	112	113		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received: 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted: 01/30/13-01/31/13
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 01/30/13-01/31/13

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1301706

Lab ID	1301706-005B	1301706-006B	1301706-007B		Reporting Limit for DF =1	
Client ID	MW-5	MW-6	MW-7			
Matrix	W	W	W			
DF	10	3.3	25		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<5.0	ND<1.7	ND<12		NA	0.5
t-Butyl alcohol (TBA)	620	30	2300		NA	2.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<1.7	ND<12		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0	ND<1.7	ND<12		NA	0.5
Diisopropyl ether (DIPE)	ND<5.0	ND<1.7	13		NA	0.5
Ethanol	ND<500	ND<170	ND<1200		NA	50
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<1.7	ND<12		NA	0.5
Methanol	ND<5000	ND<1700	ND<12,000		NA	500
Methyl-t-butyl ether (MTBE)	97	71	55		NA	0.5
Surrogate Recoveries (%)						
%SS1:	109	108	104			
%SS2:	113	111	113			
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted 01/30/13
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed 02/01/13-02/04/13

CAM / CCR 17 Metals*

Lab ID	1301706-001D	1301706-002D	1301706-003D	1301706-004D	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W	S	W
Extraction Type	DISS.	DISS.	DISS.	DISS.	mg/kg	µg/L

ICP-MS Metals, Concentration*

Analytical Method: E200.8 Extraction Method: E200.8 Work Order: 1301706

Dilution Factor	1	1	1	1	1	1
Antimony	ND	4.8	ND	1.5	NA	0.5
Arsenic	ND	150	4.6	49	NA	0.5
Barium	79	250	47	160	NA	5.0
Beryllium	ND	ND	ND	ND	NA	0.5
Cadmium	ND	0.27	ND	ND	NA	0.25
Chromium	ND	ND	0.57	ND	NA	0.5
Cobalt	ND	22	1.0	4.4	NA	0.5
Copper	7.4	1.8	3.5	0.84	NA	0.5
Lead	ND	0.50	ND	1.3	NA	0.5
Mercury	ND	ND	ND	ND	NA	0.025
Molybdenum	ND	100	3.5	11	NA	0.5
Nickel	0.67	100	3.3	8.9	NA	0.5
Selenium	2.1	ND	ND	ND	NA	0.5
Silver	ND	ND	ND	ND	NA	0.19
Thallium	ND	ND	ND	ND	NA	0.5
Vanadium	ND	24	10	4.2	NA	0.5
Zinc	ND	27	5.1	ND	NA	5.0
%SS:	N/A	N/A	N/A	N/A		

Comments

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit/method detection limit; N/A means not applicable to this sample or instrument; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

TOTAL = Hot acid digestion of a representative sample aliquot.
TRM = Total recoverable metals is the "direct analysis" of a sample aliquot taken from its acid-preserved container.
DISS = Dissolved metals by direct analysis of 0.45 µm filtered and acidified sample.

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AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted 01/30/13
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed 02/01/13-02/04/13

CAM / CCR 17 Metals*

Lab ID	1301706-005D	1301706-006D	1301706-007D		Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	MW-5	MW-6	MW-7			
Matrix	W	W	W		S	W
Extraction Type	DISS.	DISS.	DISS.		mg/kg	µg/L

ICP-MS Metals, Concentration*

Analytical Method: E200.8 Extraction Method: E200.8 Work Order: 1301706

Dilution Factor	1	1	1		1	1
Antimony	ND	ND	ND		NA	0.5
Arsenic	30	43	80		NA	0.5
Barium	370	180	630		NA	5.0
Beryllium	ND	ND	ND		NA	0.5
Cadmium	ND	ND	ND		NA	0.25
Chromium	ND	ND	ND		NA	0.5
Cobalt	1.9	2.5	37		NA	0.5
Copper	ND	1.5	1.3		NA	0.5
Lead	ND	ND	0.78		NA	0.5
Mercury	ND	ND	ND		NA	0.025
Molybdenum	2.7	3.7	3.8		NA	0.5
Nickel	4.7	4.7	43		NA	0.5
Selenium	ND	ND	ND		NA	0.5
Silver	ND	ND	ND		NA	0.19
Thallium	ND	ND	ND		NA	0.5
Vanadium	ND	ND	ND		NA	0.5
Zinc	ND	6.9	9.7		NA	5.0
%SS:	N/A	N/A	N/A			

Comments

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit/method detection limit; N/A means not applicable to this sample or instrument; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

TOTAL = Hot acid digestion of a representative sample aliquot.
TRM = Total recoverable metals is the "direct analysis" of a sample aliquot taken from its acid-preserved container.
DISS = Dissolved metals by direct analysis of 0.45 µm filtered and acidified sample.

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AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received: 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted: 01/30/13-02/01/13
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 01/30/13-02/01/13

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1301706

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	ND	ND	3.6	ND	ND	ND	1	92	
002A	MW-2	W	6600	ND<250	540	110	430	460	10	122	d1
003A	MW-3	W	63	ND	7.8	ND	3.1	2.1	1	97	d1
004A	MW-4	W	18,000	ND<700	1500	170	1100	1100	20	---#	d1
005A	MW-5	W	5300	ND<130	1300	11	170	14	10	---#	d1
006A	MW-6	W	2300	ND<130	180	18	79	40	3.3	---#	d1
007A	MW-7	W	42,000	ND<900	14,000	140	1100	800	20	---#	d1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d1) weakly modified or unmodified gasoline is significant

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AEI Consultants	Client Project ID: #270852; John Williamson	Date Sampled: 01/29/13
		Date Received: 01/30/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted: 01/30/13
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 02/02/13-02/03/13

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1301706

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1301706-001C	MW-1	W	ND	ND	1	94	
1301706-002C	MW-2	W	1100	ND	1	95	e4
1301706-003C	MW-3	W	ND	ND	1	90	
1301706-004C	MW-4	W	3200	ND	1	94	e4
1301706-005C	MW-5	W	470	ND	1	94	e4
1301706-006C	MW-6	W	440	ND	1	98	e4
1301706-007C	MW-7	W	2300	ND	1	92	e4

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	NA	NA	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

#) cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract; &) low or no surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e4) gasoline range compounds are significant.

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QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 74352 | WorkOrder: 1301706

EPA Method: E200.8 **Extraction: E200.8** **Spiked Sample ID: 1301738-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Antimony	2.3	50	104	97.4	5.97	100	85 - 115	20	85 - 115
Arsenic	2.0	50	102	95.5	6.45	99.8	85 - 115	20	85 - 115
Barium	52	500	104	97.8	5.53	101	85 - 115	20	85 - 115
Beryllium	ND	50	106	98.7	7.27	113	85 - 115	20	85 - 115
Cadmium	0.43	50	99.7	94.2	5.58	100	85 - 115	20	85 - 115
Chromium	10	50	105	99.8	4.48	108	85 - 115	20	85 - 115
Cobalt	1.2	50	90.9	85.3	6.25	97	85 - 115	20	85 - 115
Copper	92	50	98.6	92.2	2.29	99.7	85 - 115	20	85 - 115
Lead	2.6	50	102	96.4	5.20	101	85 - 115	20	85 - 115
Mercury	0.047	1.25	108	101	5.99	104	85 - 115	20	85 - 115
Molybdenum	7.9	50	96.1	93	2.76	89.6	85 - 115	20	85 - 115
Nickel	7.8	50	95.3	89.7	5.18	100	85 - 115	20	85 - 115
Selenium	1.3	50	97.5	93.4	4.12	97.1	85 - 115	20	85 - 115
Silver	ND	50	102	96.3	5.61	105	85 - 115	20	85 - 115
Thallium	ND	50	95.6	90	5.98	94.2	85 - 115	20	85 - 115
Vanadium	14	50	110	104	4.00	108	85 - 115	20	85 - 115
Zinc	280	500	97.1	91.3	3.81	100	85 - 115	20	85 - 115
%SS:	103	750	103	99	3.89	98	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74352 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1301706-001D	01/29/13 10:30 AM	01/30/13	02/01/13 5:47 PM	1301706-002D	01/29/13 12:00 PM	01/30/13	02/01/13 5:52 PM
1301706-002D	01/29/13 12:00 PM	01/30/13	02/04/13 5:24 PM	1301706-003D	01/29/13 9:45 AM	01/30/13	02/01/13 5:58 PM
1301706-004D	01/29/13 12:45 PM	01/30/13	02/01/13 6:03 PM	1301706-005D	01/29/13 11:15 AM	01/30/13	02/01/13 6:09 PM
1301706-006D	01/29/13 1:30 PM	01/30/13	02/01/13 6:31 PM	1301706-007D	01/29/13 2:15 PM	01/30/13	02/01/13 6:37 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 74353 | WorkOrder: 1301706

EPA Method: SW8015B | **Extraction: SW3510C/3630C** | **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	106	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	90	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74353 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1301706-001C	01/29/13 10:30 AM	01/30/13	02/03/13 8:48 PM	1301706-002C	01/29/13 12:00 PM	01/30/13	02/03/13 5:14 PM
1301706-003C	01/29/13 9:45 AM	01/30/13	02/02/13 3:03 PM	1301706-004C	01/29/13 12:45 PM	01/30/13	02/03/13 6:25 PM
1301706-005C	01/29/13 11:15 AM	01/30/13	02/03/13 7:36 PM	1301706-006C	01/29/13 1:30 PM	01/30/13	02/03/13 4:51 AM
1301706-007C	01/29/13 2:15 PM	01/30/13	02/03/13 4:02 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 74376 | WorkOrder: 1301706

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1301709-003A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	104	103	1.04	100	70 - 130	20	70 - 130
MTBE	ND	10	97.3	94.3	3.21	89.9	70 - 130	20	70 - 130
Benzene	ND	10	103	98.3	4.64	97.5	70 - 130	20	70 - 130
Toluene	ND	10	103	98.9	3.91	97.5	70 - 130	20	70 - 130
Ethylbenzene	ND	10	102	98.3	3.52	96.2	70 - 130	20	70 - 130
Xylenes	ND	30	103	98.7	3.75	95.2	70 - 130	20	70 - 130
%SS:	103	10	98	97	0.822	99	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74376 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1301706-003A	01/29/13 9:45 AM	02/01/13	02/01/13 8:42 PM	1301706-004A	01/29/13 12:45 PM	01/30/13	01/30/13 9:39 PM
1301706-005A	01/29/13 11:15 AM	01/31/13	01/31/13 12:06 AM	1301706-006A	01/29/13 1:30 PM	01/31/13	01/31/13 7:42 PM
1301706-007A	01/29/13 2:15 PM	01/31/13	01/31/13 7:26 AM	1301706-007A	01/29/13 2:15 PM	02/01/13	02/01/13 1:36 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 74377 | WorkOrder: 1301706

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1301715-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	115	109	6.05	101	70 - 130	20	70 - 130
MTBE	ND	10	89.1	84.9	4.38	79.8	70 - 130	20	70 - 130
Benzene	ND	10	106	103	2.62	90.3	70 - 130	20	70 - 130
Toluene	0.76	10	102	96.8	4.48	93.3	70 - 130	20	70 - 130
Ethylbenzene	ND	10	108	106	1.90	93.5	70 - 130	20	70 - 130
Xylenes	ND	30	116	111	3.62	99.7	70 - 130	20	70 - 130
%SS:	89	10	88	91	3.12	87	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74377 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1301706-001A	01/29/13 10:30 AM	01/31/13	01/31/13 10:38 PM	1301706-002A	01/29/13 12:00 PM	01/31/13	01/31/13 2:48 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E218.6

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 74383 | WorkOrder: 1301706

EPA Method: E218.6 | **Extraction: E218.6** | **Spiked Sample ID: 1301706-007E**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Hexachrome	ND	25	101	101	0	104	90 - 110	10	90 - 110

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74383 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1301706-001E	01/29/13 10:30 AM	01/30/13	01/30/13 9:59 PM	1301706-002E	01/29/13 12:00 PM	01/30/13	01/30/13 10:17 PM
1301706-003E	01/29/13 9:45 AM	01/30/13	01/30/13 10:36 PM	1301706-004E	01/29/13 12:45 PM	01/30/13	01/30/13 10:54 PM
1301706-005E	01/29/13 11:15 AM	01/30/13	01/30/13 11:12 PM	1301706-006E	01/29/13 1:30 PM	01/30/13	01/30/13 11:31 PM
1301706-007E	01/29/13 2:15 PM	01/30/13	01/30/13 11:49 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 74386 | WorkOrder: 1301706

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1301658-010B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	104	106	1.58	99.9	70 - 130	20	70 - 130
t-Butyl alcohol (TBA)	ND	40	121	111	8.07	100	70 - 130	20	70 - 130
1,2-Dibromoethane (EDB)	ND	10	99	98.8	0.241	99.6	70 - 130	20	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	103	99.8	3.15	99.6	70 - 130	20	70 - 130
Diisopropyl ether (DIPE)	ND	10	96.6	94.3	2.34	105	70 - 130	20	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	103	98.8	3.90	103	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	103	101	1.90	101	70 - 130	20	70 - 130
%SS1:	109	25	115	112	1.82	110	70 - 130	20	70 - 130
%SS2:	112	25	110	111	1.59	112	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74386 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1301706-001B	01/29/13 10:30 AM	01/30/13	01/30/13 12:38 PM	1301706-002B	01/29/13 12:00 PM	01/30/13	01/30/13 1:17 PM
1301706-003B	01/29/13 9:45 AM	01/30/13	01/30/13 1:57 PM	1301706-004B	01/29/13 12:45 PM	01/30/13	01/30/13 2:36 PM
1301706-005B	01/29/13 11:15 AM	01/30/13	01/30/13 3:15 PM	1301706-006B	01/29/13 1:30 PM	01/31/13	01/31/13 4:12 AM
1301706-007B	01/29/13 2:15 PM	01/31/13	01/31/13 4:51 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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Analytical Report

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 02/15/13
		Date Received: 02/15/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Reported: 02/22/13
Walnut Creek, CA 94597	Client P.O.: #WC083967	Date Completed: 02/22/13

WorkOrder: 1302429

February 27, 2013

Dear Adrian:

Enclosed within are:

1) The results of the **5** analyzed samples from your project: **#270852; Williamson,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1302429

McCAMPBELL ANALYTICAL INC.

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Website: www.mccampbell.com / Email: main@mccampbell.com
Telephone: (877) 252-9262 / Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ● 5 DAY

EDF Required? Coelt (Normal) YES Write On (DW)

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	PO#: WC083967
2500 Camino Diablo, Walnut Creek, CA 94597	
E-Mail: aangel@aeiconsultants.com	
Tele: (408) 559-7600	Fax: (408) 559-7601
Project #: 270852	Project Name: Williamson
Project Location: 3635 13th Avenue, Oakland, CA	
Sampler Signature: John Figg	

Lab Use Only

Pressurized By	Date	Pressurization Gas	
		N2	He

Helium Shroud SN#:

Other:

Notes: Leak check compound: isopropyl alcohol (detection limit for leak check compound 10 times reporting limit of target analytes per 2012 DTSC)

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Manifold / Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
SG-1-5'	2-15-13	0813	6203	812	TPH-gasoline + MBTEX (TO15)		X	29	5		
SG-1-10'	"	0830	6202	727	"		X	27	5		
SG-2-5'	"	0845	A7508	666	"		X	29	5		
SG-2-10'	"	0900	6303	763	"		X	29	5		
SG-3-5'	"	0930	6201	678	"		X	29	5		
~~SG-3-10'~~ X					"		X				

Relinquished By:	Date:	Time:	Received By:
John Figg	2-15-13	1117	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Temp (°C): _____ Work Order #: _____

Equipment Condition: _____

Shipped Via: _____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1302429 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(408) 559-7600 FAX: (408) 559-7601
Email: aangel@aeiconsultants.com
cc:
PO: #WC083967
ProjectNo: #270852; Williamson

Bill to:
Sara Guerin
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.c

Requested TAT: 5 days
Date Received: 02/15/2013
Date Printed: 02/15/2013

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1302429-001	SG-1-5'	Soil Gas	2/15/2013 8:13	☐	A	A										
1302429-002	SG-1-10'	Soil Gas	2/15/2013 8:30	☐		A										
1302429-003	SG-2-5'	Soil Gas	2/15/2013 8:45	☐		A										
1302429-004	SG-2-10'	Soil Gas	2/15/2013 9:00	☐		A										
1302429-005	SG-3-5'	Soil Gas	2/15/2013 9:30	☐		A										

Test Legend:

1	PRUNUSEDSUMMA	2	TO15+GAS_SOIL(UG/M3)	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A contain testgroup.

Prepared by: Maria Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Sample Receipt Checklist

Client Name: **AEI Consultants**
Date and Time Received: **2/15/2013 11:18:54 AM**
Project Name: **#270852; Williamson**
LogIn Reviewed by: Maria Venegas
WorkOrder N°: **1302429** Matrix: Soil Gas
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Comments:

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AEI Consultants 2500 Camino Diablo, Ste.#200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 02/15/13
		Date Received: 02/15/13
	Client Contact: Adrian Angel	Date Reported: 02/22/13
	Client P.O.: #WC083967	Date Completed: 02/22/13

Work Order: 1302429

February 22, 2013

CASE NARRATIVE REGARDING TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Advisory of April 2012.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 02/15/13
		Date Received: 02/15/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted: 02/19/13
Walnut Creek, CA 94597	Client P.O.: #WC083967	Date Analyzed: 02/19/13

TPH gas + Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1302429

Lab ID	1302429-001A	1302429-002A	1302429-003A	1302429-004A	Reporting Limit for DF =1 and Pressure Ratio (Final/Initial) = 2	
Client ID	SG-1-5'	SG-1-10'	SG-2-5'	SG-2-10'		
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas		
Initial Pressure (psia)	13.06	11.88	12.63	12.82		
Final Pressure (psia)	26.03	23.66	25.19	25.54		
DF	1	1	1	1	Soil Gas	W
Compound	**Concentration**				µg/m³	ug/L
Benzene	ND	ND	ND	ND	6.5	NA
Ethylbenzene	ND	ND	ND	ND	8.8	NA
Methyl-t-butyl ether (MTBE)	ND	13	ND	ND	7.3	NA
Toluene	ND	ND	ND	ND	7.7	NA
TPH(g)	ND	4600	ND	ND	1800	NA
Xylenes, Total	ND	ND	ND	ND	27	NA
Surrogate Recoveries (%)						
%SS1:	86	85	84	87		
%SS2:	85	86	85	85		
%SS3:	81	82	81	81		
Comments						

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 02/15/13
		Date Received: 02/15/13
2500 Camino Diablo, Ste.#200	Client Contact: Adrian Angel	Date Extracted: 02/21/13
Walnut Creek, CA 94597	Client P.O.: #WC083967	Date Analyzed: 02/21/13

Volatile Organics by P&T and GC/MS in µg/m³*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1302429

Lab ID	1302429-005A				Reporting Limit for DF =1 and Pressure Ratio (Final/Initial) = 2		
Client ID	SG-3-5'						
Matrix	Soil Gas						
Initial Pressure (psia)	12.79						
Final Pressure (psia)	25.45						
DF	4					Soil Gas	W
Compound	**Concentration**					µg/m³	ug/L
Benzene	6400					500	NA
Ethylbenzene	ND<2000					500	NA
Methyl-t-butyl ether (MTBE)	ND<2000					500	NA
Toluene	ND<2000					500	NA
Xylenes, Total	ND<2000					500	NA
TPH(g)	6,400,000					25000	NA
Surrogate Recoveries (%)							
%SS1:	95						
%SS2:	103						
%SS3:	95						
Comments							

*soil vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 02/15/13
2500 Camino Diablo, Ste.#200		Date Received: 02/15/13
	Client Contact: Adrian Angel	Date Extracted: 02/21/13
Walnut Creek, CA 94597	Client P.O.: #WC083967	Date Analyzed: 02/21/13

Leak Check Compound*

Extraction method: SW5030B | Analytical methods: SW8260B | Work Order: 1302429

Lab ID	Client ID	Matrix	Initial Pressure	Final Pressure	Isopropyl Alcohol	DF	% SS	Comments
005A	SG-3-5'	Soil Gas	12.79	25.45	ND	4	N/A	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	psia	psia	NA	NA
	SoilGas	psia	psia	20000	µg/m³

* leak check compound is reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

The (liquid) Leak Check reference is:

DTSC, Advisory-Active Soil Gas Investigations, April 2012, page 17, section 4.2.2.1:

"The laboratory reports should quantify and annotate all detections of the leak check compound at the reporting limit of the target analytes."

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 02/15/13
2500 Camino Diablo, Ste.#200		Date Received: 02/15/13
	Client Contact: Adrian Angel	Date Extracted: 02/19/13
Walnut Creek, CA 94597	Client P.O.: #WC083967	Date Analyzed: 02/19/13

Leak Check Compound*

Extraction method: TO15 Analytical methods: TO15 Work Order: 1302429

Lab ID	Client ID	Matrix	Initial Pressure	Final Pressure	Isopropyl Alcohol	DF	% SS	Comments
001A	SG-1-5'	Soil Gas	13.06	26.03	ND	1	N/A	
002A	SG-1-10'	Soil Gas	11.88	23.66	ND	1	N/A	
003A	SG-2-5'	Soil Gas	12.63	25.19	ND	1	N/A	
004A	SG-2-10'	Soil Gas	12.82	25.54	ND	1	N/A	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	psia	psia	NA	NA
	SoilGas	psia	psia	50	µg/m³

* leak check compound is reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

The (liquid) Leak Check reference is:

DTSC, Advisory-Active Soil Gas Investigations, April 2012, page 17, section 4.2.2.1:

"The laboratory reports should quantify and annotate all detections of the leak check compound at the reporting limit of the target analytes."

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 74927 | WorkOrder: 1302429

EPA Method: TO15 **Extraction: TO15** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Acrylonitrile	N/A	25	N/A	N/A	N/A	61.4	N/A	N/A	60 - 140
tert-Amyl methyl ether (TAME)	N/A	25	N/A	N/A	N/A	95.3	N/A	N/A	60 - 140
Benzene	N/A	25	N/A	N/A	N/A	98.2	N/A	N/A	60 - 140
Benzyl chloride	N/A	25	N/A	N/A	N/A	91.8	N/A	N/A	60 - 140
Bromodichloromethane	N/A	25	N/A	N/A	N/A	109	N/A	N/A	60 - 140
Bromoform	N/A	25	N/A	N/A	N/A	126	N/A	N/A	60 - 140
t-Butyl alcohol (TBA)	N/A	25	N/A	N/A	N/A	71.6	N/A	N/A	60 - 140
Carbon Disulfide	N/A	25	N/A	N/A	N/A	98.4	N/A	N/A	60 - 140
Carbon Tetrachloride	N/A	25	N/A	N/A	N/A	107	N/A	N/A	60 - 140
Chlorobenzene	N/A	25	N/A	N/A	N/A	95.2	N/A	N/A	60 - 140
Chloroethane	N/A	25	N/A	N/A	N/A	91.1	N/A	N/A	60 - 140
Chloroform	N/A	25	N/A	N/A	N/A	100	N/A	N/A	60 - 140
Chloromethane	N/A	25	N/A	N/A	N/A	81.2	N/A	N/A	60 - 140
Dibromochloromethane	N/A	25	N/A	N/A	N/A	116	N/A	N/A	60 - 140
1,2-Dibromo-3-chloropropane	N/A	25	N/A	N/A	N/A	112	N/A	N/A	60 - 140
1,2-Dibromoethane (EDB)	N/A	25	N/A	N/A	N/A	98.3	N/A	N/A	60 - 140
1,3-Dichlorobenzene	N/A	25	N/A	N/A	N/A	91.3	N/A	N/A	60 - 140
1,4-Dichlorobenzene	N/A	25	N/A	N/A	N/A	76.8	N/A	N/A	60 - 140
Dichlorodifluoromethane	N/A	25	N/A	N/A	N/A	95.6	N/A	N/A	60 - 140
1,1-Dichloroethane	N/A	25	N/A	N/A	N/A	100	N/A	N/A	60 - 140
1,2-Dichloroethane (1,2-DCA)	N/A	25	N/A	N/A	N/A	104	N/A	N/A	60 - 140
cis-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	100	N/A	N/A	60 - 140
trans-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	98.6	N/A	N/A	60 - 140
1,2-Dichloropropane	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
cis-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	99	N/A	N/A	60 - 140
trans-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	N/A	25	N/A	N/A	N/A	91	N/A	N/A	60 - 140
Diisopropyl ether (DIPE)	N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
1,4-Dioxane	N/A	25	N/A	N/A	N/A	96	N/A	N/A	60 - 140
Ethyl acetate	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
Ethyl tert-butyl ether (ETBE)	N/A	25	N/A	N/A	N/A	98.4	N/A	N/A	60 - 140

LCS = Laboratory Control Sample

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 74927 | WorkOrder: 1302429

EPA Method: TO15 **Extraction: TO15** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Ethylbenzene	N/A	25	N/A	N/A	N/A	88.4	N/A	N/A	60 - 140
Freon 113	N/A	25	N/A	N/A	N/A	60.4	N/A	N/A	60 - 140
Hexachlorobutadiene	N/A	25	N/A	N/A	N/A	80.7	N/A	N/A	60 - 140
4-Methyl-2-pentanone (MIBK)	N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
Methyl-t-butyl ether (MTBE)	N/A	25	N/A	N/A	N/A	98.3	N/A	N/A	60 - 140
Methylene chloride	N/A	25	N/A	N/A	N/A	61	N/A	N/A	60 - 140
Naphthalene	N/A	25	N/A	N/A	N/A	96	N/A	N/A	60 - 140
Styrene	N/A	25	N/A	N/A	N/A	93.2	N/A	N/A	60 - 140
1,1,1,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	99.9	N/A	N/A	60 - 140
1,1,2,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	94.9	N/A	N/A	60 - 140
Tetrachloroethene	N/A	25	N/A	N/A	N/A	92.8	N/A	N/A	60 - 140
Tetrahydrofuran	N/A	25	N/A	N/A	N/A	89.1	N/A	N/A	60 - 140
Toluene	N/A	25	N/A	N/A	N/A	95.9	N/A	N/A	60 - 140
1,2,4-Trichlorobenzene	N/A	25	N/A	N/A	N/A	85.3	N/A	N/A	60 - 140
1,1,1-Trichloroethane	N/A	25	N/A	N/A	N/A	104	N/A	N/A	60 - 140
1,1,2-Trichloroethane	N/A	25	N/A	N/A	N/A	101	N/A	N/A	60 - 140
Trichloroethene	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
1,2,4-Trimethylbenzene	N/A	25	N/A	N/A	N/A	92.4	N/A	N/A	60 - 140
1,3,5-Trimethylbenzene	N/A	25	N/A	N/A	N/A	93.5	N/A	N/A	60 - 140
Vinyl Chloride	N/A	25	N/A	N/A	N/A	81	N/A	N/A	60 - 140
%SS1:	N/A	500	N/A	N/A	N/A	78	N/A	N/A	60 - 140
%SS2:	N/A	500	N/A	N/A	N/A	84	N/A	N/A	60 - 140
%SS3:	N/A	500	N/A	N/A	N/A	82	N/A	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

LCS = Laboratory Control Sample

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas QC Matrix: Soilgas BatchID: 74927 WorkOrder: 1302429

EPA Method: TO15 **Extraction: TO15** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS

BATCH 74927 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1302429-001A	02/15/13 8:13 AM	02/19/13	02/19/13 8:51 PM	1302429-001A	02/15/13 8:13 AM	02/19/13	02/19/13 8:51 PM
1302429-002A	02/15/13 8:30 AM	02/19/13	02/19/13 9:32 PM	1302429-002A	02/15/13 8:30 AM	02/19/13	02/19/13 9:32 PM
1302429-003A	02/15/13 8:45 AM	02/19/13	02/19/13 10:12 PM	1302429-003A	02/15/13 8:45 AM	02/19/13	02/19/13 10:12 PM
1302429-004A	02/15/13 9:00 AM	02/19/13	02/19/13 10:53 PM	1302429-004A	02/15/13 9:00 AM	02/19/13	02/19/13 10:53 PM

LCS = Laboratory Control Sample

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soilgas | QC Matrix: Water | BatchID: 74926 | WorkOrder: 1302429

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	N/A	10	N/A	N/A	N/A	74.2	N/A	N/A	70 - 130
Benzene	N/A	10	N/A	N/A	N/A	90.1	N/A	N/A	70 - 130
t-Butyl alcohol (TBA)	N/A	40	N/A	N/A	N/A	76.4	N/A	N/A	70 - 130
Chlorobenzene	N/A	10	N/A	N/A	N/A	98.3	N/A	N/A	70 - 130
1,2-Dibromoethane (EDB)	N/A	10	N/A	N/A	N/A	95.6	N/A	N/A	70 - 130
1,2-Dichloroethane (1,2-DCA)	N/A	10	N/A	N/A	N/A	77.2	N/A	N/A	70 - 130
1,1-Dichloroethene	N/A	10	N/A	N/A	N/A	104	N/A	N/A	70 - 130
Diisopropyl ether (DIPE)	N/A	10	N/A	N/A	N/A	81.8	N/A	N/A	70 - 130
Ethyl tert-butyl ether (ETBE)	N/A	10	N/A	N/A	N/A	80.3	N/A	N/A	70 - 130
Methyl-t-butyl ether (MTBE)	N/A	10	N/A	N/A	N/A	78.9	N/A	N/A	70 - 130
Toluene	N/A	10	N/A	N/A	N/A	105	N/A	N/A	70 - 130
Trichloroethene	N/A	10	N/A	N/A	N/A	107	N/A	N/A	70 - 130
%SS1:	N/A	25	N/A	N/A	N/A	103	N/A	N/A	70 - 130
%SS2:	N/A	25	N/A	N/A	N/A	115	N/A	N/A	70 - 130
%SS3:	N/A	2.5	N/A	N/A	N/A	105	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 74926 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1302429-005A	02/15/13 9:30 AM	02/21/13	02/21/13 2:37 PM	1302429-005A	02/15/13 9:30 AM	02/21/13	02/21/13 2:37 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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