October 30, 2012

GROUNDWATER MONITORING AND SOIL VAPOR SAMPLING REPORT (JULY 2012)

Property Identification:
1630 Park Street
Alameda, California

ACEH RO#0000008
AEI Project No. 298931

RECEIVED
10:10 am, Nov 05, 2012
Alameda County
Environmental Health

Prepared for:
Mr. John Buestad
Foley Street Investments, LLC
1980 Mountain Boulevard, Suite 208
Oakland, CA 94611

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

October 30, 2012

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

Subject: **Perjury Statement and Report Transmittal**

1600 – 1630 Park Street
Alameda, California 94501
AEI Project No. 298931
ACEH RO#0000008

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,

John Buestad
President

JB/pm

Attachment: AEI Consultants, *Groundwater Monitoring & Soil Vapor Sampling Report*

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

October 30, 2012

Mr. John Buestad
Foley Street Investments, LLC
1980 Mountain Boulevard, Suite 208
Oakland, California 94611

Subject: **Groundwater Monitoring and Soil Vapor Sampling Report (July 2012)**
1630 Park Street
Alameda, California
ACEH RO#0000008
AEI Project No. 298931

Dear Mr. Buestad:

AEI Consultants (AEI) has prepared this report on behalf of Foley Street Investments, LLC, for the property referenced above. AEI has been retained by Foley Street Investments, LLC to provide environmental consulting and engineering services. The ongoing investigation and remediation of the release is being performed under the direction of the Alameda County Environmental Health (ACEH) local oversight program. This report has been prepared to document the field activities and the results of recent groundwater monitoring and soil vapor sampling event.

SITE DESCRIPTION AND HISTORY

The subject property (hereafter referred to as the "site" or "property") is located at in a commercial area on the southeast side of Park Street in Alameda, California (Figure 1 and Figure 2). The property is currently a vacant lot which formerly contained an automobile dealership, repair facility, and parking lot.

According to a Phase I Environmental Site Assessment dated July 5, 2011 by AEI, the former building was constructed in 1945 for use as an automobile garage and showroom. A review of historical city directories indicates that the subject property was occupied by various auto dealerships and repair facilities including Good Chevrolet/Good Leasing from at least 1971 to 2006, Fairway Leasing from 1986 to 2006, and Enterprise Rent-A-Car in 1991.

- In 1986, a 300-gallon waste oil underground storage tank (UST) and a 500-gallon UST were reportedly removed from the north end of the building property by Petroleum Engineering, Inc. Soil samples collected from the adjacent tank pits indicated hydrocarbon impacts in the soils. An environmental case was subsequently opened with the Alameda County Health Care Services Agency.

- In January 1987, three groundwater monitoring wells (MW-1 through MW-3) were installed at the site to evaluate the groundwater conditions. Two additional borings (SB-4 and SB-5) were advanced at the same time and soil samples were collected from one of the borings (SB-5).

- In October 1993, a supplemental investigation was performed by Geo Plexus which included advancing seven (7) soil borings (EB1 through EB7) across the parking area of the property. The investigation identified concentrations of hydrocarbons and volatile aromatic compounds in the vicinity of the former USTs at depths between 5 to 12 feet below ground surface (bgs).

- In April 1994, two additional groundwater monitoring wells (MW-4 and MW-5) were installed by Geo Plexus to further characterize the downgradient groundwater conditions.

- In January 1997, a remedial investigation was performed by Geo Plexus which included advancing eight (8) soil borings (EB8 through EB12 and P1 through P3) at locations which were immediately upgradient, downgradient, and cross gradient from the former USTs. Soil samples were collected from EB8 through EB12). The investigation indicated that gasoline impacted soil remained at depths ranging from 7 to 11 feet bgs.

- In November 1998, an investigation for a risk assessment was performed by Geo Plexus. The investigation involved the collection of soil gas samples from three (3) soil gas probes. Soil gas samples were collected at a depth of 3 feet bgs and collected in summa canisters. Using a commercial health risk of 1×10^{-4}, a risk-based corrective action analysis indicated that soil gas concentrations do not represent a significant health risk.

- In April 2008, Blymer Engineers collected soil and groundwater samples from 24 soil borings (GP1 to GP24) on and offsite to characterize the extent of soil and groundwater pollution. It should be noted that AEI was not able to review a formal report of these activities, only tables of soil and groundwater data and figures have been located.
- In June 2011, a Phase I ESA was conducted for the subject property as detailed in a report dated July 5, 2011 (AEI 2011a).
- In July 2011, a subsurface investigation was conducted at the property relating to potential environmental issues aside from the Good Chevrolet LUST case. The areas of concern investigated include five former and five existing underground hydraulic lifts, several floor drains, three existing USTs (1 550-gallon waste-oil UST, 1 10,000 gallon and 1 4,000 gallon gasoline UST), and a former gasoline station identified on the southern end of the development site at the intersection of Park Street and Tilden Way. A total of 19 soil borings (AEI-1 to AEI-19) were drilled for soil and groundwater sampling. Results of the investigation are summarized in the August 16, 2011 *Phase II Subsurface Investigation Report* (AEI 2011b) prepared by AEI.
- An *Interim Corrective Action Plan* (ICAP) dated September 28, 2011 (AEI 2011c) was submitted and followed by an *ICAP Comment Letter Response and Pilot Test Workplan Details* dated November 14, 2011 (AEI 2011d). Both documents proposed the performance a High Vacuum Dual Phase Extraction (HVDPE) Pilot Test at the site. A review of multiple remedial options was discussed in these documents and HVDPE was considered the most feasible option given the site conditions.

- In November 2011, three (3) dual phase extraction wells (DPE-1, DPE-2 and DPE-3) and one (1) air sparge well (AS-1) were installed. In early December, three vacuum monitoring points (VP-1, VP-2 and VP-3) were installed and pilot testing began. Results of the HVDPE pilot test were preliminarily provided in the *Investigation and Remedial Action Workplan* dated January 12, 2012 (AEI 2012a). The work plan also proposed the advancement of additional borings and the installation of additional HVPDE wells. In January 2012, borings AEI-20 through AEI-28 were advanced and wells DPE-4 through DPE-6, and DPE-8 through DPE-11 were installed. DPE-7 was advanced as a boring instead of being completed as a well. Soil sample analytical results for samples collected during the drilling were used to help define the extent of impacted soil and groundwater and to identify target areas for additional remedial action.
- A *Corrective Action Plan* (CAP) dated February 3, 2012, (AEI 2012b) was submitted to the ACEH. The CAP documented the December 2011 to January 2012 HVDPE event and based on the results, recommended HVDPE as the remedial option for the site.
- On January 25, 2012, based on the results of the pilot testing, the HVDPE system resumed operation. The system was operated for 94 days and was turned off on April 25, 2012.
- At the request of the ACEH, a *Data Gap and Interim Source Removal Workplan*, was prepared and submitted on May 4, 2012 (AEI 2012c). The work plan outlined the scope of work to define the lateral extent of impacted groundwater and proposed excavation of known sources of impacts to groundwater. An addendum to the workplan to address ACEH comments was submitted on September 7, 2012 and conditionally approved on October 5, 2012.
- Groundwater monitoring and sampling was conducted approximately quarterly from 1992 through 1995, then sporadically through 2003, once in 2008, twice in 2011 and thrice, including this event, in 2012.

SUMMARY OF GROUNDWATER MONITORING ACTIVITIES

On July 11, 2012, thirteen (13) groundwater monitoring wells (MW-1 to MW-5, DPE-1, DPE-2, DPE-3, DPE-4, DPE-6, DPE-9, DPE-10 and DPE-11) were gauged and sampled in accordance with the groundwater monitoring schedule presented in the May 2012, Data Gap Investigation and Interim Source Removal Workplan (AEI, 2012c) . Well DPE-5 was not sampled during the event. Groundwater well field sampling forms are included in Appendix A.

GAUGING

Prior to gauging, the wells caps were opened and allowed to equilibrate with atmospheric pressure. The depths to water from the top of the well casings were then measured with an electric water level indicator accurate to 0.01 feet prior to sampling.

SAMPLING

Groundwater sampling was accomplished using a peristaltic pump and low-flow purge techniques. New disposable ¼-inch polyethylene tubing was set to the approximate depth of the middle of the screened interval and the pump was operated at a flow rate of approximately 250 milliliters per minute or less. The discharge tubing was connected to a flow-through cell fitted with water

quality sensors and readings of temperature, pH, conductivity, dissolved oxygen (DO) and oxygen reduction potential (ORP) were recorded. A visual estimate and description of turbidity was also noted for each well. Once the field parameters stabilized, groundwater samples were collected directly from the discharge side of peristaltic pump.

The groundwater samples were collected into laboratory supplied, unpreserved 1-liter amber glass bottles and 40-milliliter (mL) volatile organic analysis (VOA) vials preserved with hydrochloric acid capped such that no head space or air bubbles were visible. Samples were labeled with a unique sample name and the date and time of collection, then entered onto a chain of custody record and placed in a pre-chilled cooler on wet ice pending transportation to the laboratory. The samples were delivered on the day of collection, under proper chain of custody protocol and within hold time, to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification #1644) for analysis. The groundwater samples were analyzed for:

- Total Petroleum Hydrocarbons as gasoline (TPH-g) by EPA Method SW8015Bm, Total Petroleum Hydrocarbons as diesel (TPH-d) and Total Petroleum Hydrocarbons as motor oil (TPH-mo) by EPA Method SW8015B with silica gel clean-up.

- Benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method SW8260B.

GROUNDWATER MONITORING RESULTS

GROUNDWATER ELEVATIONS AND HYDRAULIC GRADIENT

The measured depth to water was subtracted from the surveyed top-of-casing elevation for each well to obtain the groundwater elevation at each well. The groundwater elevations, groundwater flow direction and hydraulic gradient are summarized below:

- The groundwater elevations ranged from 16.32 (MW-4) to 18.30 (DPE-6) feet above mean sea level (amsl). Depth to water ranged from 7.83 (DPE-6) to 9.26 (MW-4) below ground surface. The average depth to water for this event was 0.33 feet lower than the previous event.

- Based on these data, the groundwater flow direction was to the northwest under a hydraulic gradient of approximately 0.02 ft/ft which are consistent with previous events.

Current and historical groundwater elevations and flow directions are summarized in Table 2. The groundwater elevation data, flow direction and hydraulic gradient are presented on Figure 3.

GROUNDWATER SAMPLE LABORATORY ANALYTICAL DATA

The groundwater sample analytical data, with a comparison to the previous monitoring event, are summarized below:

- Concentrations of TPH-g increased in wells MW-1, MW-2, MW-3, DPE-1, DPE-2, DPE-3, and DPE-11; however the recent concentrations are well below historical levels. TPH-g

decreased in all other wells compared to prior events. The highest concentration of TPH-g was reported in the sample collected from well MW-1 at 2,700 micrograms per liter (ug/L).

- TPH-d was detected in 8 of the wells sampled at a maximum concentration of 1,600 ug/L in well DPE-11 however; qualitative laboratory notations indicate that this reporting of detections of TPH-d is associated with gasoline.

- No TPH-mo or MTBE was detected in groundwater samples collected at the site during the event.

- Concentrations of benzene in groundwater samples increased in wells MW-2, DPE-1, DPE-2, DPE-3, DPE-6 and DPE-11 but decreased in wells MW-1, MW-3, DPE-9 and DPE-10 compared to prior events. The highest concentration of benzene was reported in the sample collected from well DPE-3 at 330 ug/L; however this concentration is below pre-HVDPE levels.

- Groundwater samples from three wells (MW-4, MW-5, and DPE-4) were non-detect for all analytes for this event.

The groundwater analytical data are summarized in Table 3 and are presented graphically on Figure 4. Laboratory analytical reports with chain of custody and quality assurance/quality control documentation are included in Appendix B.

SUMMARY OF SOIL VAPOR SAMPLING ACTIVITIES

On July 12, 2012, three (3) soil vapor probes (VP-1, VP-2, and VP-3) were sampled. The probes are located in the source area near the former tank hold, which had recently undergone HVDPE. The purpose of the sampling was to establish a baseline concentration post interim remediation and as part of an evaluation of vapor intrusion potential.

Soil vapor samples were collected in one-liter summa canisters fitted with 150 ml/hr flow controllers. Each canister and flow controller was individually checked, tested and certified by the laboratory for air tightness and proper vacuum prior to shipping. A vacuum gauge was used to measure and record the initial and final summa canister vacuum pressure. Prior to collecting each vapor sample, a shut-in test was performed to verify that the sampling train was free of leaks, and approximately three tubing volumes were purged using a spare summa-canister. During sampling a leak check compound (isopropyl alcohol) was used to check for leaks. Upon completion of sampling the valves were removed, the inlet fittings tightly capped, and the canisters were labeled with sample name, date and time of collection, and then entered onto a chain of custody record.

After sample collection, field readings of oxygen (O_2), methane (CH_4), carbon dioxide (CO_2) and total volatile hydrocarbons (TVHC) were collected using a multi-gas detector. The instrument uses a photoionization detector (PID) calibrated to 100 ppm isobutylene to read TVHC and contains dedicated O_2, CH_4 and CO_2 sensors. The data were recorded on field sampling sheets which are included in Appendix A.

The soil vapor samples were delivered on the day of collection, under proper chain of custody protocol and within hold time, to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification #1644) for analysis. Soil vapor samples were analyzed by EPA Method TO-15 for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes (BTEX), and oxygenates.

SOIL VAPOR SAMPLING ANALYTICAL RESULTS

- All soil vapor samples collected during the event were non-detect for TPH-g and BTEX.
- 230 µg/m3 of tert-butyl alcohol was detected at VP-2 sample.
- PID and methane field readings from the vapor probes were non-detect (zero).
- Oxygen level field readings from the probes ranged from 17.5 to 17.8%.
- Carbon dioxide field readings from the probes ranged from 1.3 to 2.4%.

Laboratory analytical results are summarized in Table 4. Laboratory analytical reports with chain of custody and quality assurance/quality control documentation are included in Appendix C.

SUMMARY

AEI completed a groundwater monitoring and sampling event on July 11, 2012. Thirteen wells were monitored as per the proposed groundwater monitoring schedule. The results of the groundwater monitoring are summarized below:

- Groundwater flow is toward northwest under a hydraulic gradient of 0.02 ft/ft.

- TPH-g, TPH-d, benzene, toluene, ethylbenzene, and total xylenes were detected in groundwater around the release area however generally at concentrations below those present prior to HVDPE. .

- TPH-mo and MTBE were not detected in groundwater samples.

AEI also completed a soil vapor sampling event on July 12, 2012. Three soil vapor probes were sampled to determine base line concentrations post-interim remediation. The results of the soil vapor sampling are summarized below:

- All soil vapor samples collected during the event were non-detect for TPH-g and BTEX. Field monitoring data indicated sufficient oxygen for aerobic degradation of hydrocarbons.

The next groundwater monitoring and soil gas sampling event is scheduled for November 2012, after which the majority of the onsite groundwater monitoring wells and the three soil gas probes will be decommissioned.

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, but it cannot be assumed that they are representative of areas not sampled. All 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 and were performed under the direction of appropriate California-licensed professionals.

Should you have any questions, or need any additional information regarding this report, please do not hesitate to contact us at (925) 746-6000.

Sincerely,
AEI Consultants

Stephen Lao
Project Engineer

Robert Robitaille
Program Manager

Peter McIntyre, PG, REA
Sr. Vice President, Geologist

REGISTERED GEOLOGIST
PETER J. MCINTYRE
Exp. 4/30/14
No. 7702
STATE OF CALIFORNIA

Figures

Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Data
Figure 4	Groundwater Analytical Data

Tables

Table 1	Well Construction Details
Table 2	Groundwater Elevation Data
Table 3	Groundwater Analytical Data
Table 4	Soil Vapor Analytical Data

Appendices

Appendix A	Field Sampling Forms
Appendix B	Groundwater Sample Laboratory Analytical Reports
Appendix C	Soil Vapor Sample Laboratory Analytical Reports

REFERENCES

AEI Consultants (AEI) 2011a. Phase I Environmental Site Assessment, 1600 – 1650 Park Street, 1600 – 1606 Foley Street, 2329 Pacific Avenue, Alameda, California, July 5, 2011.

AEI Consultants (AEI) 2011b. Phase II Subsurface Investigation, 1600 to 1630 Park Street, Alameda, California, August 16, 2011.

AEI Consultants (AEI) 2011c. Interim Corrective Action Plan, 1630 Park Street, Alameda, California, September 2011.

AEI Consultants (AEI) 2011d. ICAP Comment Letter Response and Pilot Test Workplan Details, 1630 Park Street, Alameda, California, November 14, 2011.

AEI Consultants (AEI) 2012a. Investigation and Remedial Action Workplan, 1630 Park Street, Alameda, California, January 12, 2012.

AEI Consultants (AEI) 2012b. Corrective Action Plan, 1630 Park Street, Alameda, California, February 3, 2012.

AEI Consultants (AEI) 2012c. Data Gap and Interim Source Removal Workplan, 1630 Park Street, Alameda, California, May 4, 2012.

RWQCB 2008. Environmental Screening Levels, Table E-2, San Francisco Regional Water Quality Control Board

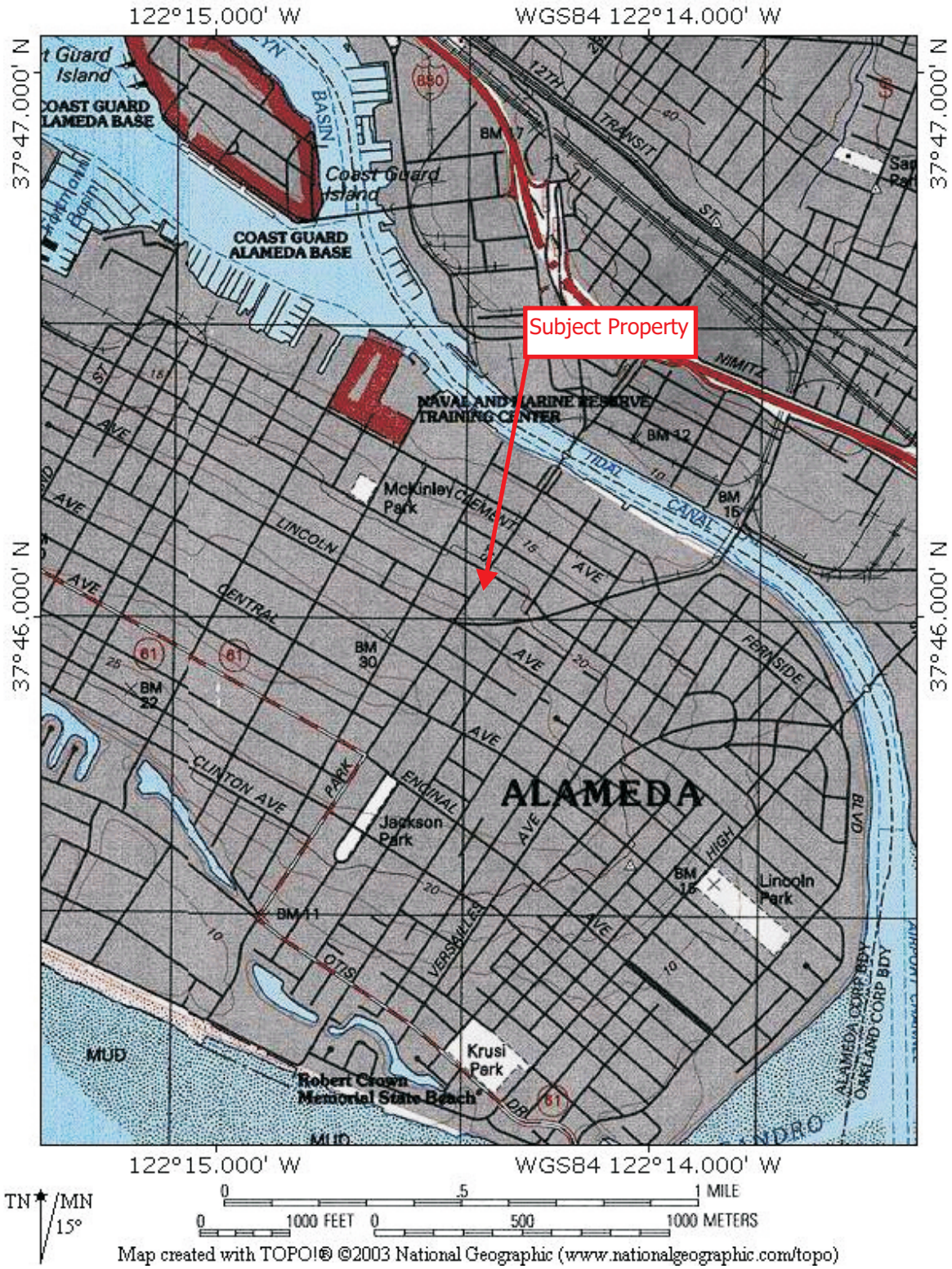
DISTRIBUTION:

John Buestad, Foley Street Investments

Karel Detterman, Alameda County Environmental Health Department (FTP Upload)

GeoTracker (Upload)

FIGURES



WELL

SITE LOCATION MAP

1630 Park Street, Alameda, California **FIGURE 1**

Project Number: 298931

AEI Consultants

GP18
GP14
GP19
GP13
GP20
GP12
BUILDING
MW–5
DRIVEWAY
GP11
Light Pole
and Concrete
Footer
MW–4
EB5
DRIVEWAY
AEI–20
DPE–9
GP5
GP10
DPE–10
FENCE
GP6
MW–3
EB8
MW–2
EB9
GP4
PARK ST.
GP24
DPE–11
DPE–8
GP9
GP8
AEI–28
DPE–1
MW–1
EB10
EB6
GP1
DPE–4
EB4
EB11
DRIVEWAY
GP7
EB12
AEI–21
AEI–22
GP23
AS–1
DPE–3
Former
UST Hold
DPE–2
EB3
AEI–27
EB2
EB1
DPE–7
EB7
AEI–4
GP3
AEI–23
GP21
CONCRETE
DPE–5
DPE–6
GP2
AEI–6
GP22
AEI–3
AEI–11
AEI–7
AEI–25
AEI–8
AEI–24
AEI–26
AEI–12
BUILDING
AEI–5
AEI–13
AEI–1

N
W E
S

0 10 20
Scale: 1" = 20'

LEGEND

DRAFTED BY JAS 3-2-12
REVISED BY STL 10-17-12

- Remediation Well (12/11 and 1/12)
- AEI Soil Boring (1/12)
- Vapor Probe (12/11)
- AEI Soil Boring (7/11)
- Soil Boring (4/08)
- Soil Boring (1/97)
- Groundwater Monitoring Well
- Air Sparge Well
- Existing Hydraulic Lift
- Former Hydraulic Lift

AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK

SITE PLAN

1630 PARK STREET
ALAMEDA, CALIFORNIA

FIGURE 2
PROJECT NO. 298931

BUILDING

16.50

16.75

17.00

17.25

17.50

17.75

18.00

18.25

(16.56) MW−5

(16.32) MW−4

(17.16) MW−3

(17.65) MW−2

(18.03) MW−1

(17.22) DPE−4

DPE−10 (17.05)

DPE−11

DPE−9 (17.28)

DPE−8

DPE−1 (17.75)

DPE−2 (17.96)

AS−1

DPE−3 (18.07)

DPE−5

DPE−6 (18.30)

Former UST Hold

DRIVEWAY

PARK ST.

DRIVEWAY

DRIVEWAY

FENCE

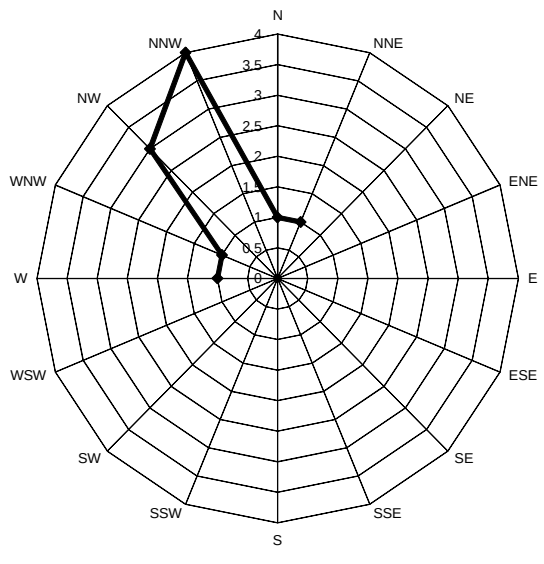
CONCRETE

Groundwater Flow Direction
July 11, 2012; Groundwater
Gradient = 0.02 ft/ft

BUILDING

Historical Shallow Zone Groundwater Flow Direction for Former Good Chevrolet, 1630 Park Street, Alameda, CA

Number of monitoring events in which groundwater was reported to flow in a particular direction.



N

W E

S

0 10 20

Scale: 1" = 20'

LEGEND

Remediation Well (12/11 and 1/12)

Groundwater Monitoring Well

(306.70) Groundwater Elevation (ft, msl)

DRAFTED BY JAS 3-9-12
REVISED BY STL 10-17-12

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2500 CAMINO DIABLO, WALNUT CREEK

GROUNDWATER ELEVATION MAP - JULY 2012

1630 PARK STREET
ALAMEDA, CALIFORNIA

FIGURE 3
PROJECT NO. 298931

N
W E
S

BUILDING

PARK ST.

DRIVEWAY

DRIVEWAY

DRIVEWAY

FENCE

Former UST Hold

MW–5
TPHg - ND
TPHd - ND
TPHmo - ND
B - ND
T - ND
E - ND
X - ND

MW–4
TPHg - ND
TPHd - ND
TPHmo - ND
B - ND
T - ND
E - ND
X - ND

TPHg - 360
TPHd - 160
TPHmo - ND
B - 40
T - ND
E - ND
X - ND

DPE–9
TPHg - 1,300
TPHd - 680
TPHmo - ND
B - 47
T - 3.1
E - 4.0
X - 100

TPHg - 930
TPHd - 270
TPHmo - ND
B - 170
T - ND
E - 24
X - 9.3

DPE–10
TPHg - 78
TPHd - ND
TPHmo - ND
B - 1.4
T - 0.66
E - ND
X - 5.5

MW–3

DPE–11

MW–2
TPHg - 2,300
TPHd - 860
TPHmo - ND
B - 240
T - 15
E - 98
X - 88

DPE–8

DPE–1

MW–1
TPHg - 2,700
TPHd - 700
TPHmo - ND
B - 190
T - 8.1
E - 100
X - 230

DPE–4
TPHg - ND
TPHd - ND
TPHmo - ND
B - ND
T - ND
E - ND
X - ND

TPHg - 2,400
TPHd - 1,600
TPHmo - ND
B - 16
T - ND
E - 14
X - 57

AS–1

DPE–3

DPE–2

DPE–5
TPHg - 2,600
TPHd - 400
TPHmo - ND
B - 300
T - 12
E - 45
X - 390

DPE–6
TPHg - ND
TPHd - ND
TPHmo - ND
B - 0.93
T - ND
E - ND
X - ND

TPHg - 2,400
TPHd - 720
TPHmo - ND
B - 330
T - 19
E - 10
X - 130

BUILDING

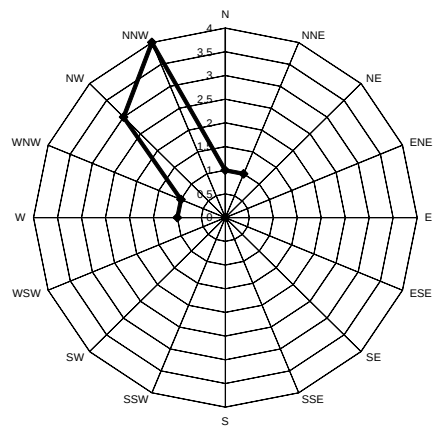
0 10 20
Scale: 1" = 20'

TPHg = Total Petroleum Hydrocarbons as Gasoline
TPHd = Total Petroleum Hydrocarbons as Diesel
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
NA = Not available
All results in micrograms per liter (ppb)

Historical Shallow Zone Groundwater Flow Direction for Former Good Chevrolet, 1630 Park Street, Alameda, CA

Number of monitoring events in which groundwater was reported to flow in a particular direction.

Groundwater Flow Direction



LEGEND

- Underground Natural Gas Line (3 to 4 feet bgs)
- Underground Water Line (3 feet bgs)
- Underground Electric Line (3 feet bgs)
- Underground Sanitrary Sewer Line (10.3 to 11.3 feet bgs)
- Remediation (DPE) Well
- Groundwater Monitoring Well
- AEI Soil Boring

DRAFTED BY JAS 3-9-12
REVISED BY STL 10-17-12

AEI CONSULTANTS
2500 CAMINO DIABLO, WALNUT CREEK

GROUNDWATER ANALYTICAL DATA - JULY 2012

1630 PARK STREET
ALAMEDA, CALIFORNIA

FIGURE 4
PROJECT NO. 298931

TABLES

Table 1

Well Construction Details

AEI Project No. 298931, 1630 Park Street, Alameda, California

Well ID Number	Well Installation Date	Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
AS-1	11/14/2011	-	PVC	25	25	8	2	20 - 25	0.020	20 - 25	#3 Sand
DPE-1	11/15/2011	-	PVC	16	15	10	4	7 - 15	0.010	6.5 - 16	#2/12 Sand
DPE-2	11/15/2011	-	PVC	16	15	10	4	7 - 15	0.010	6.5 - 16	#2/12 Sand
DPE-3	11/14/2011	-	PVC	16	14	10	4	7 - 14	0.010	6.5 - 16	#2/12 Sand
DPE-4	1/19/2012	-	PVC	17	17	10	4	8 - 17	0.010	7.5 - 17	#2/12 Sand
DPE-5	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-6	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-8	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-9	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-10	1/20/2012	-	PVC	17	17	10	4	8 - 17	0.010	7.5 - 17	#2/12 Sand
DPE-11	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
MW-1	1/15/1987	-	PVC	-	20	8	2	5 - 20	-	-	-
MW-2	1/15/1987	-	PVC	-	20	8	2	5 - 20	-	-	-
MW-3	1/15/1987	-	PVC	-	20	8	2	5 - 20	-	-	-
MW-4	4/20/1994	-	PVC	-	23	8	2	8 - 23	-	-	-
MW-5	4/20/1994	-	PVC	-	22	8	2	7 - 22	-	-	-
VP-1	12/6/2011	-	Stainless Steel	6	6	1.25	1/4	5.1 - 5.6	Mesh	4.7 - 6	#30 Mesh Sanc
VP-2	12/6/2011	-	Stainless Steel	5.9	5.9	1.25	1/4	5.1-5.6	Mesh	4.7-5.9	#30 Mesh Sanc
VP-3	12/6/2011	-	Stainless Steel	5.75	5.75	1.25	1/4	5.1-5.6	Mesh	4.7-5.75	#30 Mesh Sanc

PVC = polyvinyl chloride
TOC = top of casing
"-" = not available

Table 2

Groundwater Elevation Data

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl*)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl*)*
MW-1 (5 - 20 feet bgs)	Jul-89	104.76	8.93	95.83
	Apr-91		7.59	97.17
	Jul-92		8.72	96.04
	Aug-92		9.09	95.67
	Sep-92		9.25	95.51
	Oct-92		9.34	95.42
	Nov-92		9.21	95.55
	Dec-92		9.26	95.50
	Jan-93		7.81	96.95
	Feb-93		7.32	97.44
	Mar-93		7.20	97.56
	Apr-93		7.31	97.45
	May-93		8.29	96.47
	Jul-93		8.30	96.46
	Oct-93		9.38	95.38
	Jan-94		8.80	95.96
	Apr-94		8.15	96.61
	Jul-94		8.70	96.06
	Oct-94		9.37	95.39
	Jan-94		7.18	97.58
	Apr-95		6.76	98.00
	Jan-97		7.03	97.73
	Nov-98		8.10	96.66
	Jan-01		7.70	97.06
	Jun-02		7.30	97.46
	Nov-02		8.14	96.62
	Feb-03		6.87	97.89
	Jun-03		7.05	97.71
	Apr-08	25.42	7.13	18.29
	Jun-11	25.42	7.54	17.88
	Dec-11	25.37	8.02	17.35
	Jan-12	25.37	8.08	17.29
	May-12	25.37	6.87	18.50
	Jul-12	25.37	7.34	18.03
MW-2 (5 - 20 feet bgs)	Jul-89	104.86	9.24	95.62
	Apr-91		8.01	96.85
	Jul-92		9.03	95.83
	Aug-92		9.34	95.52
	Sep-92		9.46	95.40
	Oct-92		9.52	95.34
	Nov-92		9.42	95.44
	Dec-92		9.47	95.39
	Jan-93		8.25	96.61
	Feb-93		7.85	97.01
	Mar-93		7.77	97.09
	Apr-93		7.86	97.00
	May-93		8.20	96.66
	Jul-93		8.72	96.14
	Oct-93		9.64	95.22
	Jan-94		9.12	95.74
	Apr-94		8.56	96.30
	Jul-94		9.02	95.84
	Oct-94		9.59	95.27
	Jan-94		7.71	97.15
	Apr-95		7.40	97.46
	Jan-97		7.55	97.31
	Nov-98		8.49	96.37
	Jan-01		8.08	96.78
	Jun-02		7.77	97.09
	Nov-02		8.50	96.36
	Feb-03		7.38	97.48
	Jun-03		7.57	97.29

Table 2

Groundwater Elevation Data

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl*)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl*)*
MW-2 (continued)	Apr-08	25.52	7.67	17.85
	Jun-11	25.52	7.35	18.17
	Dec-11	25.48	8.41	17.07
	Jan-12	25.48	8.43	17.05
	May-12	25.48	7.41	18.07
	Jul-12	25.48	7.83	17.65
MW-3 (5 - 20 feet bgs)	Jul-89	104.52	9.00	95.52
	Apr-91		8.06	96.46
	Jul-92		8.82	95.70
	Aug-92		9.05	95.47
	Sep-92		9.09	95.43
	Oct-92		9.15	95.37
	Nov-92		9.05	95.47
	Dec-92		9.12	95.40
	Jan-93		8.18	96.34
	Feb-93		7.98	96.54
	Mar-93		7.94	96.58
	Apr-93		8.02	96.50
	May-93		7.69	96.83
	Jul-93		8.65	95.87
	Oct-93		9.32	NC
	Jan-94		8.93	NC
	Apr-94		8.52	96.00
	Jul-94		8.86	95.66
	Oct-94		9.25	95.27
	Jan-94		7.85	96.67
	Apr-95		7.64	96.88
	Jan-97		7.75	96.77
	Nov-98		8.38	96.14
	Jan-01		8.00	96.52
	Jun-02		7.81	96.71
	Nov-02		8.37	96.15
	Feb-03		7.48	97.04
	Jun-03		7.67	96.85
	Apr-08	25.17	7.74	17.43
	Jun-11	25.17	7.50	17.67
	Dec-11	25.13	8.25	16.88
	Jan-12	25.13	8.25	16.88
	May-12	25.13	7.64	17.49
	Jul-12	25.13	7.97	17.16
MW-4 (8 - 23 feet bgs)	Apr-94	104.86	9.29	95.57
	Jul-94		9.55	95.31
	Oct-94		9.83	95.03
	Jan-94		8.88	95.98
	Apr-95		8.80	96.06
	Jan-97		-	-
	Nov-98		-	-
	Jan-01		-	-
	Jun-02		-	-
	Nov-02		-	-
	Feb-03		-	-
	Jun-03		-	-
	Apr-08	25.53	8.73	16.80
	Jun-11	25.53	8.52	17.01
	Dec-11	25.58	-	-
	Jan-12	25.58	-	-
	May-12	25.58	8.96	16.62
	Jul-12	25.58	9.26	16.32

Table 2

Groundwater Elevation Data

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl*)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl*)*
MW-5	Apr-94	103.62	8.27	95.35
(7 - 22 feet bgs)	Jul-94		8.50	95.12
	Oct-94		8.92	94.70
	Jan-94		7.61	96.01
	Apr-95		8.48	95.14
	Jan-97		6.79	96.83
	Nov-98		8.12	95.50
	Jan-01		7.67	95.95
	Jun-02		7.61	96.01
	Nov-02		8.01	95.61
	Feb-03		7.22	96.40
	Jun-03		7.43	96.19
	Apr-08	24.31	7.36	16.95
	Jun-11	24.31	7.43	16.88
	Dec-11	24.32	-	-
	Jan-12	24.32	-	-
	May-12	24.32	7.46	16.86
	Jul-12	24.32	7.76	16.56
DPE-1	Dec-11	25.88	8.81	17.07
(7 - 15 feet bgs)	Jan-12	25.88	8.78	17.10
	May-12	25.88	7.72	18.16
	Jul-12	25.88	8.13	17.75
DPE-2	Dec-11	26.22	9.29	16.93
(7 - 15 feet bgs)	Jan-12	26.22	7.97	18.25
	May-12	26.22	7.89	18.33
	Jul-12	26.22	8.26	17.96
DPE-3	Dec-11	25.27	7.92	17.35
(7 - 15 feet bgs)	Jan-12	25.27	8.98	16.29
	May-12	25.27	6.75	18.52
	Jul-12	25.27	7.20	18.07
DPE-4	Jan-12	26.06	9.11	16.95
(8-17 feet bgs)	May-12	26.06	8.59	17.47
	Jul-12	26.06	8.84	17.22
DPE-5	Jan-12	26.25	-	-
(8-18 feet bgs)				
DPE-6	Jan-12	26.13	8.58	17.55
(8-18 feet bgs)	May-12	26.13	7.43	18.70
	Jul-12	26.13	7.83	18.30
DPE-8	Jan-12	25.36	-	-
(8-18 feet bgs)				
DPE-9	Jan-12	25.09	8.12	16.97
(8-18 feet bgs)	Jul-12	25.09	7.81	17.28
DPE-10	Jan-12	25.14	-	-
(8-17 feet bgs)	May-12	25.14	7.73	17.41
	Jul-12	25.14	8.09	17.05
DPE-11	Jan-12	25.57	-	-
(8-18 feet bgs)	May-12	25.57	7.90	17.67
	Jul-12	25.57	-	-
Average depth to water	Dec-11		8.45	
	Jan-12		8.48	
	May-12		7.70	
	Jul-12		8.03	

ft amsl *= feet above mean sea level. Note: Data before 2008 are based on a fictitous 100 ft datum.
All water level depths are measured from the top of casing
"-" = not measured
bgs = below ground surface

Table 3

Groundwater Analytical Data- Monitoring Wells

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	Notes	TPH-d	TPH-mo	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
			EPA Methods 8020, 8021B, or 8260B								EPA Method 8260B									
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	1/21/1987		-	-	21,020	1,148	8,627	1,792	6,012	-	-	-	-	-	-	-	-	-	-	-
	1/11/1989		-	-	1,400	74	10	13	5.0	-	-	-	-	-	-	-	-	-	-	-
	7/12/1989		-	-	1,200	470	49	45	33	-	-	-	-	-	-	-	-	-	-	-
	4/9/1991		-	-	850	260	10	15	12	-	-	-	-	-	-	-	-	-	-	-
	7/14/1992		-	-	13,000	2,300	1,200	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-
	10/7/1992		-	-	3,600	1,600	80	120	120	-	-	-	-	-	-	-	-	-	-	-
	1/11/1993		-	-	1,200	410	16	23	19	-	-	-	-	-	-	-	-	-	-	-
	4/23/1993	a	-	-	2,200	720	180	82	150	-	-	-	-	-	-	-	-	-	-	-
	7/8/1993	a	-	-	3,200	1,200	110	97	100	-	-	-	-	-	-	-	-	-	-	-
	10/15/1993	a	-	-	3,700	1,400	43	94	36	-	-	-	-	-	-	-	-	-	-	-
	1/25/1994	a	-	-	1,600	680	16	41	35	-	-	-	-	-	-	-	-	-	-	-
	4/28/1994	a	-	-	6,100	1,900	380	250	340	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	a	-	-	6,000	1,800	510	220	450	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	a	-	-	3,000	1,100	79	82	87	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	a	-	-	1,600	660	100	82	87	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	a	-	-	3,800	1,200	270	120	260	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	a	-	-	5,200	1,500	450	190	400	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	a	-	-	5,900	1,800	450	210	400	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	a	-	-	3,100	1,100	87	160	180	<7.3	-	-	-	-	-	-	-	-	-	-
	11/12/1998	a	-	-	1,000	280	3	3.3	7.9	<30	-	-	-	-	-	-	-	-	-	-
	1/16/2001	a	-	-	4,700	1,20	18	150	49	-	<5	<5.0	<25	<5.0	<5.0	<5.0	-	<5.0	-	-
	6/27/2002	a	-	-	5,900	230	7.7	<5	1,500	-	<5	<5.0	<50	<5.0	<5.0	<5.0	-	<5.0	-	-
	11/18/2002	a	-	-	3,100	890	12	310	28	-	<2.5	-	-	<2.5	<2.5	-	-	-	-	-
	2/20/2003	d	-	-	260	100	0.72	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	6/11/2003	a	-	-	3,100	480	6.7	220	420	-	<2.5	-	-	<2.5	<2.5	-	-	-	-	-
	4/3/2008	a	-	-	2,700	280	21	130	230	<25	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<100	<1.0	<1,000	<0.5
	6/23/2011	a	-	-	610	100	6.2	46	77	-	<2.5	<2.5	<10	-	-	<2.5	-	<2.5	-	-
	12/6/2011	a	-	-	900	160	<5.0	68	76	-	<5.0	<5.0	<20	-	-	<5.0	-	<5.0	-	-
	1/24/2012	a	-	-	190	25	<1.0	1.4	4.6	<1.0	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	210	<250	2,600	200	51	93	610	<5.0	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	700	<250	2,700	190	8.1	100	230	<5.0	-	-	-	-	-	-	-	-	-	-

Table 3

Groundwater Analytical Data- Monitoring Wells

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	Notes	TPH-d	TPH-mo	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
			EPA Methods 8020, 8021B, or 8260B								EPA Method 8260B									
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-2	1/21/1987		-	-	5,018	386	1,981	285	1,432	-	-	-	-	-	-	-	-	-	-	-
	1/11/1989		-	-	10,000	3,000	410	240	190	-	-	-	-	-	-	-	-	-	-	-
	7/12/1989		-	-	7,600	2,700	540	250	320	-	-	-	-	-	-	-	-	-	-	-
	4/9/1991		-	-	4,900	910	210	130	200	-	-	-	-	-	-	-	-	-	-	-
	7/14/1992		-	-	13,000	4,400	1,500	610	1,100	-	-	-	-	-	-	-	-	-	-	-
	10/7/1992		-	-	11,000	5,200	1,500	500	1,200	-	-	-	-	-	-	-	-	-	-	-
	1/11/1993		-	-	17,000	940	1,100	480	930	-	-	-	-	-	-	-	-	-	-	-
	4/23/1993	a	-	-	52,000	13,000	8,400	1,700	5,300	-	-	-	-	-	-	-	-	-	-	-
	7/8/1993	a	-	-	6,400	2,500	470	280	530	-	-	-	-	-	-	-	-	-	-	-
	10/15/1993	a	-	-	17,000	3,900	870	500	940	-	-	-	-	-	-	-	-	-	-	-
	1/25/1994	a	-	-	16,000	5,400	1,140	640	1,500	-	-	-	-	-	-	-	-	-	-	-
	4/28/1994	a	-	-	15,000	4,00	910	480	1,200	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	a	-	-	18,000	6,000	760	630	1,600	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	a	-	-	9,500	2,700	230	320	640	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	a	-	-	5,900	1,900	290	230	500	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	a	-	-	10,000	3,300	620	360	930	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	a	-	-	9,900	3,300	320	390	830	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	a	-	-	13,000	4,900	400	580	990	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	a	-	-	7,600	2,600	310	330	660	<20	-	-	-	-	-	-	-	-	-	-
	11/12/1998	a	-	-	31,000	11,000	750	1,500	2,300	<900	-	-	-	-	-	-	-	-	-	-
	1/16/2001	a	-	-	23,000	8,200	260	1,000	820	<30	-	<30	<150	<30	<30	<30	-	<30	-	-
	6/27/2002	a	-	-	39,000	7,000	1,800	690	4,000	-	<5	<5.0	<5.0	<5.0	6.1	<5.0	-	<5.0	-	-
	11/18/2002	a	-	-	15,000	5,700	76	1,000	150	-	<12	-	-	<12	<12	-	-	-	-	-
	2/20/2003	a	-	-	26,000	6,300	1,100	1,300	1,900	-	<5.0	-	-	<5.0	<5.0	-	-	-	-	-
	6/11/2003	a	-	-	37,000	7,100	2,300	2,000	3,600	-	<25	-	-	<25	<25	-	-	-	-	-
	4/3/2008	a	-	-	4,100	760	96	250	130	<50	<2.5	<2.5	<10	<2.5	<2.5	<2.5	<250	<2.5	<2,500	<0.5
	6/23/2011	a	-	-	6,500	2,100	210.0	560	310	-	<50	<50	<200	-	-	<50	-	<50	-	-
	12/6/2011	a	-	-	4,800	1,600	<50	260	<50	-	<50	<50	<200	-	-	<50	-	<50	-	-
	1/24/2012	a	-	-	2,500	100	22.0	<5.0	410	<5.0	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	68	<250	140	14	2.8	2.9	12	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	270	<250	930	170	<5.0	24	9.3	<5.0	-	-	-	-	-	-	-	-	-	-

Table 3

Groundwater Analytical Data- Monitoring Wells

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	Notes	TPH-d	TPH-mo	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
			EPA Methods 8020, 8021B, or 8260B								EPA Method 8260B									
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-3	1/21/1987		-	-	10,287	1,428	3,281	610	2,761	-	-	-	-	-	-	-	-	-	-	-
	1/11/1989		-	-	5,300	1,800	340	150	160	-	-	-	-	-	-	-	-	-	-	-
	7/12/1989		-	-	7,800	3,100	900	300	480	-	-	-	-	-	-	-	-	-	-	-
	4/9/1991		-	-	9,400	1,400	730	200	510	-	-	-	-	-	-	-	-	-	-	-
	7/14/1992		-	-	17,000	3,500	390	390	260	-	-	-	-	-	-	-	-	-	-	-
	10/7/1992		-	-	9,200	4,300	470	390	610	-	-	-	-	-	-	-	-	-	-	-
	1/11/1993		-	-	2,000	740	29	58	28	-	-	-	-	-	-	-	-	-	-	-
	4/23/1993	a	-	-	6,500	2,600	280	260	190	-	-	-	-	-	-	-	-	-	-	-
	7/8/1993	a	-	-	5,200	2,100	260	250	180	-	-	-	-	-	-	-	-	-	-	-
	10/15/1993	a	-	-	11,000	3,500	580	430	370	-	-	-	-	-	-	-	-	-	-	-
	1/25/1994	a	-	-	6,200	2,500	270	160	28	-	-	-	-	-	-	-	-	-	-	-
	4/28/1994	a	-	-	5,300	1,700	190	210	180	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	a	-	-	5,900	2,000	360	260	330	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	a	-	-	8,000	2,200	580	260	170	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	a	-	-	3,700	1,200	150	150	190	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	a	-	-	4,000	1,400	200	180	210	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	a	-	-	5,700	2,000	280	270	280	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	a	-	-	11,000	3,500	1,100	460	680	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	a	-	-	2,200	860	63	71	80	<5	-	-	-	-	-	-	-	-	-	-
	11/12/1998	d	-	-	180	44	0.51	<0.5	0.92	<20	-	-	-	-	-	-	-	-	-	-
	1/16/2001	a	-	-	64	11	0.77	<0.5	<0.5	-	<5	<1.0	<5.0	<1.0	1.4	<1.0	-	<1.0	-	-
	6/27/2002		-	-	<50	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	-	<0.5	-	-
	11/18/2002	a	-	-	110	21	1	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	2/20/2003		-	-	<50	2.5	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	6/11/2003		-	-	<50	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	4/3/2008	a	-	-	7,600	2,400	58	250	170	<100	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<500	<5.0	<5,000	<0.5
	6/23/2011	a	-	-	1,300	560	21	86	150	-	<12	<12	<50	-	-	<12	-	<12	-	-
	12/6/2011	a	-	-	1,800	620	28	22	46	-	<17	<17	<67	-	-	<17	-	<17	-	-
	1/24/2012	a	-	-	3,700	1,200	68	34	130	<25	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	<50	<250	75	5.3	<0.5	<0.5	1.6	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	<50	<250	78	1.4	0.66	<0.5	5.5	<0.5	-	-	-	-	-	-	-	-	-	-

Table 3

Groundwater Analytical Data- Monitoring Wells

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	Notes	TPH-d	TPH-mo	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
			EPA Methods 8020, 8021B, or 8260B								EPA Method 8260B									
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-4	4/28/1994	b,c	-	-	190	3.8	2.9	2.1	3.1	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	a	-	-	180	15	9.2	7.6	28	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	a	-	-	130	8.6	6.6	4.5	17	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995		-	-	110	6.5	1.2	1.8	11	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995		-	-	82	3.9	<0.5	<0.5	2.5	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995		-	-	130	8.8	1.3	4.5	7.6	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995		-	-	95	6.6	1.7	4.3	7	-	-	-	-	-	-	-	-	-	-	-
	4/3/2008		-	-	130	1.6	<0.5	0.89	0.85	<5.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	6/23/2011	a	-	-	53	2.7	<0.5	1.0	1.7	-	<0.5	<0.5	<2.0	-	-	<0.5	-	<0.5	-	-
	5/23/2012	f	<50	<250	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012	g	<50	<250	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
MW-5	4/28/1994	a	-	-	30,000	4,000	3,000	810	3,500	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	a	-	-	9,300	2,000	800	290	940	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	a	-	-	15,000	2,700	1,300	420	1,100	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	a	-	-	7,900	2,100	680	240	860	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	a	-	-	7,900	2,400	580	340	630	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	a	-	-	11,000	3,400	760	610	1,200	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	a	-	-	13,000	2,900	830	570	1,100	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	a	-	-	2,600	750	65	1,860	280	<5	-	-	-	-	-	-	-	-	-	-
	11/12/1998		-	-	<50	<0.5	<0.5	<0.5	<0.5	<5	-	-	-	-	-	-	-	-	-	-
	1/16/2001		-	-	<50	11	<0.5	<0.5	0.82	-	<5	<1.0	<5.0	<1.0	<1.0	<1.0	-	<1.0	-	-
	6/27/2002		-	-	<50	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	-	<0.5	-	-
	11/18/2002	a	-	-	130	17	3.8	2.1	16	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	2/20/2003		-	-	<50	5.6	0.51	<0.5	0.68	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	6/11/2003	a	-	-	170	48	<0.5	<0.5	1.4	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	4/3/2008	a	-	-	31,000	490	3,400	1,600	5,300	<250	<10	<10	<40	<10	<10	<10	<1,000	<10	<10,000	<0.5
	6/23/2011	a	-	-	82	5.1	<0.5	12.0	8.4	-	<0.5	<0.5	<2.0	-	-	<0.5	-	<0.5	-	-
	5/18/2012	f	<50	<250	120	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012	g	<50	<250	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-

Table 3

Groundwater Analytical Data- Monitoring Wells

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	Notes	TPH-d	TPH-mo	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
			EPA Methods 8020, 8021B, or 8260B								EPA Method 8260B									
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DPE-1	12/6/2011	a	-	-	9,200	1,800	570	460	1,100	-	<50	<50	<200	-	-	<50	-	<50	-	-
	1/24/2012	a	-	-	3,200	170	58	<5.0	620	<5.0	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	280	<250	540	49	<1.0	<1.0	17	<1.0	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	860	<250	2,300	240	15	98	88	<5.0	-	-	-	-	-	-	-	-	-	-
DPE-2	12/6/2011	a	-	-	22,000	2,100	3,300	650	3,300	-	<100	<100	<400	-	-	<100	-	<100	-	-
	1/24/2012	a	-	-	1,100	44	26	11	150	<2.5	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	<50	<250	220	33	3.2	<0.5	30	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	400	<250	2,600	300	12	45	390	<10	-	-	-	-	-	-	-	-	-	-
DPE-3	12/6/2011	a	-	-	6,400	550	560	180	1,000	-	<17	<17	<67	-	-	<17	-	<17	-	-
	1/24/2012	a	-	-	5,500	290	240	44	1,000	<5.0	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	260	<250	1,100	78	37	11	89	<1.7	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	720	<250	2,400	330	19	10	130	<10	-	-	-	-	-	-	-	-	-	-
DPE-4	1/24/2012	a	-	-	730	66	6.0	7.1	83	2.5	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	<50	<250	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012		<50	<250	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
DPE-6	1/24/2012	a	-	-	64*	<0.5	<0.5	<0.5	3.2	<0.5	-	-	-	-	-	-	-	-	-	-
	5/18/2012	f	<50	<250	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
	7/11/2012	g	<50	<250	<50	0.93	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
DPE-9	1/24/2012	a	<50	<250	4,400	160	390	93	1,100	<5.0	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	680	<250	1,300	47	3.1	4.0	100	<1.7	-	-	-	-	-	-	-	-	-	-
DPE-10	5/18/2012	f	420	<250	1,700	150	<5.0	<5.0	<5.0	160	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	160	<250	360	40	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	-	-
DPE-11	5/18/2012	f	260	<250	930	6.4	4.6	4.6	160	<1.2	-	-	-	-	-	-	-	-	-	-
	7/11/2012	a	1,600	<250	2,400	16	<1.0	14	57	<1.0	-	-	-	-	-	-	-	-	-	-
ESL			100	100	100	1.0	40	30	20	5.0	5.0	NA	12	0.05	0.5	NA	NA	NA	NA	2.5

Table 3

Groundwater Analytical Data- Monitoring Wells

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	Notes	TPH-d	TPH-mo	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
			EPA Methods 8020, 8021B, or 8260B								EPA Method 8260B									
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)

TPH-g= total petroleum hydrocarbons as gasoline
TPH-d= total petroleum hydrocarbons as diesel
TPH-mo= total petroleum hydrocarbons as motor oil
MTBE = Methyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
TBA = Tertiary butyl alcohol
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
DIPE = Diisopropyl ether
ETBE = Ethyl tertiary butyl ether
"-" = Not analyzed or data not available
µg/L = micrograms per liter (ppb)
ESL = Environmental Screening Levels, Table F-1a, Gorunwater, Potential Drinking Water, San Francisco Regional Water Quality Control Board, Revised May 2008
NA = Not applicable

a = Laboratory note indicates the unmodified or weakly modified gasoline is significant.
b = Laboratory note indicates heavier gasoline range compounds are significant (aged gas?).
c = Laboratory note indicates gasoline range compounds are significant with no recognizable pattern.
d = Laboratory note indicates that lighter gasoline range coounds (the most mobile fraction) are significant.
e = Laboratory note indicates that one to a few isloated non-targed peaks are present.
f = Laboratory note indicates that low surrogate due to matrix interference.
g = Surrogate recovery exceeds the control limits due to dilution / matrix interference / coelution / presence of surrogate compound in the sample

* Total petroleum hydrocarbons as diesel = <50; Total petroleum hydrocarbons as motor oil = <250

Table 4

Soil Vapor Analytical Data

AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	TPH-g & TVH (µg/m3)	Benzene (µg/m3)	Toluene (µg/m3)	Ethylbenzene (µg/m3)	Xylenes (µg/m3)	TBA (µg/m3)	Isopropyl Alcohol (µg/m3)	MTBE (µg/m3)	TAME (µg/m3)	DIPE (µg/m3)	ETBE (µg/m3)	Naphthalene (µg/m3)	CO2 (µL/L)	Methane (µL/L)	Oxygen (µL/L)
VP-1	5/17/2012	<1,800	<6.5	<7.7	<8.8	<27	<62	<50								
	7/12/2012	<1,800	<6.5	<7.7	<8.8	<27	<62	<50	<7.3	<8.5	<8.5	<8.5	<11	17,000	<1.0	270,000
VP-2	5/17/2012	<1,800	<6.5	<7.7	<8.8	<27	<62	<50								
	7/12/2012	<1,800	<6.5	<7.7	<8.8	<27	230	<50	<7.3	<8.5	<8.5	<8.5	<11	13,000	<1.0	280,000
VP-3	5/17/2012	<1,800	<6.5	<7.7	<8.8	<27	<62	<50								
	7/12/2012	<1,800	<6.5	<7.7	<8.8	<27	<62	**290***	<7.3	<8.5	<8.5	<8.5	<11	24,000	1.1	280,000
ESL		29,000	280	180,000	3,300	58,000	NA	NA	31,000	NA	NA	NA	240	NA	NA	NA

TPH-g= total petroleum hydrocarbons as gasoline
TVH= Total volatile hydrocarbons -aliphatics
TBA - tert-Butyl-alchohol
µg/m3 = micrograms per cubic meter (ppbv)
290* = Isoproyl alchohol used as leak check compound.
NA = Not applicable
ESL = Environmental Screening Levels, Table E-2, San Francisco Regional Water Quality Control Board (Shallow Soil Gas- Lowest Commercial), Revised May 2008

MTBE= Methyl-tert-butyl ether
TAME= Tert-amyl methyl ether
DIPE= Di-isopropyl ether
ETBE= Ethyl tert-butyl ether

APPENDIX A

FIELD SAMPLING FORMS

AEI CONSULTANTS

GROUNDWATER MONITORING WORK ORDER (LOW-FLOW PURGING & SAMPLING)

Project Name:	Foley Street Investments
Project Number:	298931

Activity	Hours Budget	Actual

Client Contact:	John Buestad
Project Manager:	Bob Robitaille
Gate / System Combo:	
PO Number:	
Scheduled Work Date:	Week of JULY 11,2012
Flexible:	(YES) NO
Site Contact:	N/A
Site Phone:	N/A
Site Address:	1630 Park St.
	Alameda, CA 94501

Summary of Work Requested	**Groundwater ans Soil Vapor Monitoring Event**
	1) Measure DTW and sample **Groundwater** at **MW-1, 2, 3, 4, 5, DPE-1, 2, 3, 4, 6, 9, 10, and 11** using low-flow purging and sampling method. DTW only at DPE-5 & 8.
	2) Run the peristaltic pump at 150 rpms x 1.67 ml/rev = 250 ml/min, or less.
	3) Stabilization criteria: pH ±0.1; conductivity ±3%; DO ±10%; ORP ±10 mV.
	4) Collect at least three **(3) 40-mL VOAs** and one **(1) amber liter** from each well.
	5) Collect **Soil Vapor** samples from **VP-1, 2 and 3.**
	6) Use **1-Liter summa** cannisters equipped with **150 ml/min** regulators.
	7) Stop pulling sample when ~5 in.Hg vacuum remaining in canister.
	8) Inventory Drums at Site. Make sure all of ours are labeled.

Completed	Not Completed	
☑	○	1. Removed standing water from well boxes; removed well caps; allowed water levels to stabilize.
☑	○	2. Checked the depth to water in each well sampled before and after purging and sampling.
☑	○	3. Continously purged up to 10 liters of groundwater using peristaltic pump and flow-thru cell.
☑	○	4. Recorded temp, pH, sc, DO, and ORP readings until stabilization criteria was achieved (see above).
☑	○	5. Noted appearance of purge water (clear, dark, milky, etc.) and if an immiscible sheen was present.
☑	○	6. Collected three (3) 40-ml VOA vials per well, capped with zero head space (no bubbles in the VOAs).
☑	○	7. Noted condition of well boxes, well casing, and well plug; recorded wellhead info on the field sheets.
☑	○	8. Recorded the amount of consumables (bailers, drums, well plugs, tubing, etc.) used.
☑	○	9. Labeled purge water drums; recorded the total number of drums used and left onsite below.
☑	○	10. Transported samples on water ice to McCampbell Analytical, Inc. of Pittsburg, CA for analyses.

Lab Analyses: See Chain-of-Custody

Turnaround Time: Rush 24 hours 48 hours 72 hours (Standard)

Consumables: # of Bailers: 0 # of Drums: 2 # of Well Plugs: 0

AEI CONSULTANTS

GROUNDWATER MONITORING WORK ORDER (LOW-FLOW PURGING & SAMPLING)

Drums Onsite: # of Water: _____ # of Soil: _____ # of Other: _____

Requested by PM: _____ Completed by Tech: _____

Groundwater Notes:

Need traffic control to access MW-4. Coordinate with Robitaille and/or Campbell.

During each monitoring event, water levels will be measured, and for new wells, light non-aqueous phase liquid (LNAPL) will be checked with an oil-water interface probe. Wells not containing measurable LNAPL will be purged using low flow sampling techniques until field readings have stabilized. During purging the following water quality measurements will be collected: temperature, pH, specific conductivity, and dissolved oxygen (DO). Groundwater samples will be collected into appropriate laboratory-supplied containers using the purge tubing which will consist of new, unused disposable tubing for each well. Samples will then be logged onto the Chain of Custody and placed in a cooler with water ice. All samples will be delivered to a state certified laboratory under Chain of Custody documentation.

One groundwater sample will be analyzed from each well for TPHmo and TPHd by EPA method 8015 Modified with silica gel cleanup, TPHg by EPA method 8015 Modified, and BTEX & MTBE by EPA method 8260B.

Soil Vapor Notes:

To begin, a 1 liter summa canister connected to a flow controller, will be connected to the probe sampling lines. Prior to collecting the sample, soil vapor will be withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A total of three purge volumes will be removed from each probe. Following purging, soil gas will be monitoring with an Eagle ® field meter for oxygen (O2), carbon dioxide (CO2), and total hydrocarbons. The sample canister will then be connected, opened, and the initial vacuum recorded. Vapor samples will be collected through the regulator at approximately 150 mL/minute. Upon reaching approximately 5 in Hg vacuum in the canister, the canister will be closed and removed from the sampling line. Samples will be appropriately labeled and entered onto the chain of custody prior to shipping to the laboratory. During sampling, a leak check gas will be used to confirm that the sample train was tight and leak free.

All vapor samples will be sealed and labeled immediately upon collection. Chain of custody documentation will be initiated prior to leaving the site. All samples will be shipped to a state certified laboratory on the day of collection. Soil vapor samples will be analyzed by EPA Method TO-3 for total petroleum hydrocarbons as gasoline (TPHg) and by EPA Method TO-15 for benzene, toluene, ethylbenzene, and xylenes (BTEX).

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	20.00		
Depth to Water (from top of casing)	7.34		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
1005	1	20.61	8.68	726	1.97	-97.3	
	2	20.69	8.70	721	1.36	-96.5	
	3	20.75	8.69	708	.98	-94.4	
	4	20.87	8.65	684	.77	-92.0	
1015	5	20.96	8.61	670	.67	-90.1	

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

Slight odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	20.00		
Depth to Water (from top of casing)	7.83		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0935	1	20.58	8.86	1077	1.60	-166.4	
	2	20.72	8.81	1060	1.12	-163.2	
	3	20.79	8.85	1053	.89	-161.9	
	4	20.89	8.86	1042	.76	-160.5	
0955	5	20.97	8.85	1038	.67	-159.2	

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

Slight odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2
Wellhead Condition	
Elevation of Top of Casing (feet above msl)	
Depth of Well	20.00
Depth to Water (from top of casing)	7.97
Water Elevation (feet above msl)	
Well Volumes Purged	
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)	
Actual Volume Purged (liters)	5
Appearance of Purge Water	Clear
Free Product Present?	Thickness (ft):

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0830	1	19.85	8.80	683	1.30	-109.8	
	2	19.95	8.80	681	1.16	-108.7	
	3	19.99	8.79	678	1.08	-107.0	
	4	20.04	8.76	671	1.00	-104.3	
	5	20.07	8.73	667	.94	-102.4	

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

Slight odor

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	20.00		
Depth to Water (from top of casing)	9.26		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0435	1	19.85	7.34	327	5.97	-90.4	
	2	19.87	7.38	332	5.08	-88.2	
	3	19.93	7.32	347	4.73	-80.7	
	4	19.96	7.28	340	4.13	-77.1	
0445	5	19.98	7.20	338	3.98	-70.2	

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	20.00		
Depth to Water (from top of casing)	7.76		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0505	1	20.05	7.87	773	4.01	-55.8	
	2	20.17	7.80	770	3.72	-50.2	
	3	20.22	7.83	768	2.23	-55.3	
	4	20.26	7.80	766	1.92	-57.2	
0515	5	20.30	7.80	762	1.62	-58.1	

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-1

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J-Sagg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	15.00		
Depth to Water (from top of casing)	8.13		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0715	1	19.95	8.46	1078	3.63	-197.0	
	2	20.01	8.61	1074	1.97	-205.8	
	3	20.08	8.72	1068	1.20	-211.5	
	4	20.10	8.75	1063	1.08	-212.5	
0725	5	20.12	8.76	1058	1.01	-212.9	

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

Slight odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-2

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Stagg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	15.00		
Depth to Water (from top of casing)	8.26		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0630	1	18.75	7.86	1140	1.95	-104.9	
	2	18.82	7.92	1156	1.55	-110.4	
	3	18.86	7.96	1161	1.36	-113.8	
	4	1890	7.98	1165	1.20	-116.7	
0640	5	1893	8.01	1169	1.13	-119.6	

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

Slight odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-3

Project Name:	Buestad	Date of Sampling:	7.8.99
Job Number:	298931	Name of Sampler:	7-11-12
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	14.00		
Depth to Water (from top of casing)	7.20		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0650	1	19.49	8.00	1225	2.48	-111.7	
	2	19.61	8.05	1234	1.53	-115.6	
	3	19.64	8.08	1239	1.20	-119.1	
	4	19.65	8.16	1243	1.07	-121.9	
0700	5	19.66	8.19	1245	1.01	-123.4	

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

Slight Odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-4

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	17.00		
Depth to Water (from top of casing)	8.84		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0740	1	18.76	8.50	793	2.04	-100.4	
	2	18.75	8.51	793	1.43	-98.8	
	3	18.75	8.52	792	1.21	-98.1	
	4	18.75	8.53	792	1.10	-97.6	
0750	5	18.75	8.54	792	1.03	-97.2	

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-6

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	18.00		
Depth to Water (from top of casing)	7.83		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Clear		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0600	1	18.44	8.16	7.92	4.73	25.4	
	2	18.58	8.09	792	1.83	-33.2	
	3	18.59	8.03	790	1.47	-38.6	
	4	18.59	8.02	789	1.33	-43.1	
0610	5	18.58	8.03	788	1.22	-51.7	

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

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GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-9

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Snyder
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4
Wellhead Condition	
Elevation of Top of Casing (feet above msl)	
Depth of Well	18.00
Depth to Water (from top of casing)	7.81
Water Elevation (feet above msl)	
Well Volumes Purged	
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)	
Actual Volume Purged (liters)	5
Appearance of Purge Water	Clear
Free Product Present?	Thickness (ft):

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0915	1	20.65	8.96	739	2.80	-92.4	
	2	20.59	8.96	739	1.96	-94.6	
	3	20.56	8.95	737	1.42	-97.2	
	4	20.57	9.03	737	1.19	-106.4	
0925	5	20.56	9.06	737	1.08	-101.6	

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-10

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition			
Elevation of Top of Casing (feet above msl)			
Depth of Well	15.00		
Depth to Water (from top of casing)	8.09		
Water Elevation (feet above msl)			
Well Volumes Purged			
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (liters)	5		
Appearance of Purge Water	Cloudy/Clear		
Free Product Present?		Thickness (ft)	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0855	1	20.48	8.26	739	7.24	-82.6	Cloudy
	2	20.44	8.56	737	3.02	-88.0	"
	3	20.42	8.71	737	2.08	-89.2	Clear
	4	20.43	8.78	736	1.56	-90.1	"
0905	5	20.44	8.81	736	1.27	-90.8	"

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DPE-11

Project Name:	Buestad	Date of Sampling:	7-11-12
Job Number:	298931	Name of Sampler:	J. Sigg
Project Address:	1630 Park Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4
Wellhead Condition	
Elevation of Top of Casing (feet above msl)	
Depth of Well	15.00
Depth to Water (from top of casing)	
Water Elevation (feet above msl)	
Well Volumes Purged	
Gallons Purged: formula valid only for casing sizes of 2" (0.16 gal/ft), 4" (0.65 gal/ft), and 6" (1.44 gal/ft)	
Actual Volume Purged (liters)	5
Appearance of Purge Water	Clear
Free Product Present?	Thickness (ft):

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (liters)	Temperature (deg C)	pH	Conductivity (µ S/cm)	DO (mg/L)	ORP (meV)	Comments
0805	1	19.25	8.42	1174	4.05	-125.6	
	2	19.19	8.54	1176	2.81	-131.9	
	3	19.18	8.61	1177	2.04	-135.6	
	4	19.18	8.71	1177	1.22	-141.3	
0815	5	19.19	8.74	1177	1.10	-142.6	

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

Slight odor

McCAMPBELL ANALYTICAL INC.

1538 Willow Pass Road, Pittsburg, CA 94565

Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

EDF Required? ■ Yes ☐ No PDF Required? ■ Yes ☐ No

Report To: Robert Robitaille Bill To: AEI Consultants

Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597

PO# WC083674 Global ID: T0600100655

E-Mail: rrobitaille@aeiconsultatns.com

Telephone: (925) 746-6000, ext. 148 Fax: (925) 746-6099

AEI Project No. 298931 Project Name: FSI

Project Location: 1630 Park St., Alameda, CA 94501

Sampler Signature:

SAMPLE ID	FIELD POINT NAME	SAMPLING Date	SAMPLING Time	# of Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCL	HNO_3	Other	Analysis Request: TPH-G (EPA 8015 M)	TPH-D / TPH-MO (EPA 8015 M w/ Silica Gel Clean-up)	BTEX, MTBE (EPA 8260B)	Other	Comments
MW-1		7-11-12	1015	4	VOA, amber L	X					X	X			X	X	X		
MW-2			0955	4	VOA, amber L	X					X	X			X	X	X		
MW-3			0840	4	VOA, amber L	X					X	X			X	X	X		
MW-4			0945	4	VOA, amber L	X					X	X			X	X	X		
MW-5			0915	4	VOA, amber L	X					X	X			X	X	X		
DPE-1			0725	4	VOA, amber L	X					X	X			X	X	X		
DPE-2			0810	4	VOA, amber L	X					X	X			X	X	X		
DPE-3			0700	4	VOA, amber L	X					X	X			X	X	X		
DPE-4			0750	4	VOA, amber L	X					X	X			X	X	X		
DPE-6			0610	4	VOA, amber L	X					X	X			X	X	X		
DPE-9			0925	4	VOA, amber L	X					X	X			X	X	X		
DPE-10		"	0705	4	VOA, amber L	X					X	X			X	X	X		

Relinquished By:	Date:	Time:	Received By:
	7-11-12	1310	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° _____ VOAS | O&G | METALS | OTHER

GOOD CONDITION _____ PRESERVATION _____

HEAD SPACE ABSENT _____ APPROPRIATE

DECHLORINATED IN LAB _____ CONTAINERS _____

PERSERVED IN LAB _____

McCAMPBELL ANALYTICAL INC.

1538 Willow Pass Road, Pittsburg, CA 94565

Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

EDF Required? ■ Yes ☐ No PDF Required? ■ Yes ☐ No

Report To: Robert Robitaille	Bill To: AEI Consultants
Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597	
PO# WC083674	Global ID: T0600100655
	E-Mail: rrobitaille@aeiconsultatns.com
Telephone: (925) 746-6000, ext. 148	Fax: (925) 746-6099
AEI Project No. 298931	Project Name: FSI
Project Location: 1630 Park St., Alameda, CA 94501	
Sampler Signature: John Sogge	

SAMPLE ID	FIELD POINT NAME	SAMPLING Date	SAMPLING Time	# of Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCL	HNO_3	Other	Analysis Request: TPH-G (EPA 8015 M)	TPH-D / TPH-MO (EPA 8015 M w/ Silica Gel Clean-up)	BTEX, MTBE (EPA 8260B)	Other	Comments
DPE-11		7-11-12	0815	4	VOA, amber L	X					X	X			X	X	X		

Relinquished By: John Sogge	Date: 7-11-12	Time: 1310	Received By:
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° _____ VOAS | O&G | METALS | OTHER

GOOD CONDITION _____ PRESERVATION _____ | _____ | _____ | _____

HEAD SPACE ABSENT _____ APPROPRIATE

DECHLORINATED IN LAB _____ CONTAINERS _____

PERSERVED IN LAB _____

AEI CONSULTANTS

SOIL VAPOR FIELD SAMPLING FORM

SOIL VAPOR PROBE ID:	VP-1

Project Name:	Foley Street Investments	Date of Sampling:	7-12-12
Job Number:	298931	Start Time:	1000
Project Address:	1630 Park St. Alameda, CA 94501	End Time:	1005
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	30"
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)	NYLON / NYLAFLOW
Wellbox Condition	
Depth of Probe (ft bgs)	6
Length of Tubing Above Grade (ft)	1
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	A7529
Sampling Manifold / Flow Controller Number	685
Leak Check Compound	1,1-DIFLUOROETHANE (1,1-DFE)

Eagle Screening **THV ppmv/** 0 **CH4 %/** 0.0 **O2 %/** 17.6 **CO2 %/** 1.6

NOTES & COMMENTS

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:	VP-2

Project Name:	Foley Street Investments	Date of Sampling:	7-12-12
Job Number:	298931	Start Time:	1030
Project Address:	1630 Park St. Alameda, CA 94501	End Time:	1036
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	30"
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)	NYLON / NYLAFLOW
Wellbox Condition	
Depth of Probe (ft bgs)	6
Length of Tubing Above Grade (ft)	1
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	6419
Sampling Manifold / Flow Controller Number	811
Leak Check Compound	HELIUM GAS (HE)

Eagle Screening **THV ppmv/** 0 **CH4 %/** 0.0 **O2 %/** 17.8 **CO2 %/** 1.3

NOTES & COMMENTS

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:	VP-3

Project Name:	Foley Street Investments	Date of Sampling:	7.12.12
Job Number:	298931	Start Time:	1100
Project Address:	1630 Park St. Alameda, CA 94501	End Time:	1105
		Name of Sampler:	J. Sigg

SOIL GAS PROBE DATA	
Starting Vacuum (in-Hg)	30"
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)	NYLON / NYLAFLOW
Wellbox Condition	
Depth of Probe (ft bgs)	6
Length of Tubing Above Grade (ft)	1
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	6170
Sampling Manifold / Flow Controller Number	673
Leak Check Compound	HELIUM GAS (HE)

Eagle Screening **THV ppmv/** 0 **CH4 %/** 0.0 **O2 %/** 17.5 **CO2 %/** 2.4

NOTES & COMMENTS

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

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

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565-1701
www.main@mccampbell.com
Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

EDF Required? ☐ No ■ Yes

Report To: Robert Robitaille	Bill To: PO# WC083674
Company: AEI Consultants	
2500 Camino Diablo, Walnut Creek, California 94597	
E-Mail: rrobitaille@aeiconsultants.com	
Tele: (925) 746-6000, ext. 148	Fax: (925) 746-6099
Project #: 117300	Project Name: FSI
Project Location: 1630 Park St., Alameda, California	
Sampler Signature: John Stagg	

Lab Use Only

Pressurized By	Date	Pressurization Gas N2	Pressurization Gas He

Notes:

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
VP-1	7-12-12	1000	A7529	685	TPH(g) by TO-3, BTEX & Oxygenates by TO-15		X				
VP-2	"	1030	6419	811	TPH(g) by TO-3, BTEX & Oxygenates by TO-15		X				
VP-3	"	1100	6170	673	TPH(g) by TO-3, BTEX & Oxygenates by TO-15		X				

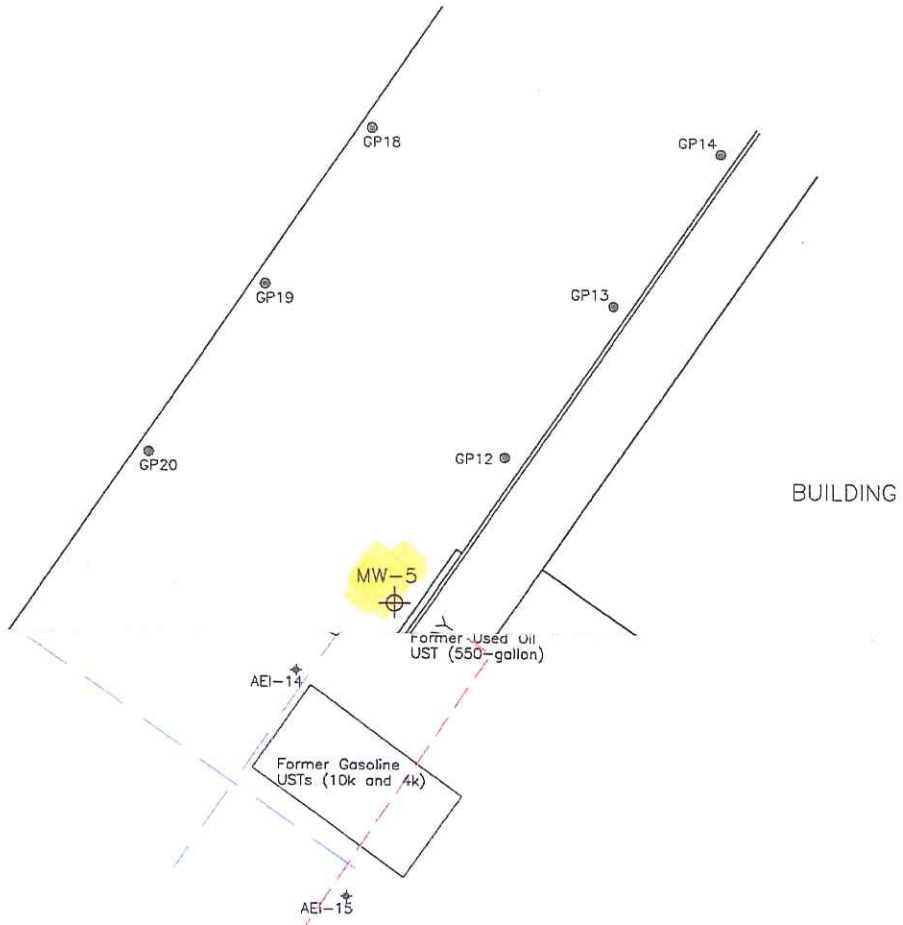
Relinquished By:	Date:	Time:	Received By:
John Stagg	7-12-12	1237	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Temp (°C) : _____ Work Order #: _____

Condition: _____

Custody Seals Intact?: Yes _____ No _____ None _____

Shipped Via: _____



N
W E
S

0 15 30

Scale: 1" = 30'

LEGEND

DRAFTED BY JAS 3-2-12
REVISED BY JAS 5-2-12

- Remediation Well (12/11 and 1/12)
- AEI Soil Boring (1/12)
- Vapor Probe (12/11)
- AEI Soil Boring (7/11)
- Soil Boring (4/08)
- Soil Boring (1/97)
- Groundwater Monitoring Well
- Air Sparge Well
- Existing Hydraulic Lift
- Former Hydraulic Lift

AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK

EXTENDED SITE PLAN

1630 PARK STREET
ALAMEDA, CALIFORNIA

FIGURE 3
PROJECT NO. 298931

APPENDIX B

LABORATORY ANALYTICAL REPORTS W/ CHAIN OF CUSTODY DOCUMENTATION

McCampbell Analytical, Inc.
"When Quality Counts"

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

Analytical Report

AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Reported: 07/17/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Completed: 07/17/12

WorkOrder: 1207241

July 18, 2012

Dear Robert:

Enclosed within are:

1) The results of the **13** analyzed samples from your project: **#298931; FSI,**
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.

1207241

McCAMPBELL ANALYTICAL INC.

1538 Willow Pass Road, Pittsburg, CA 94565

Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

EDF Required? ■ Yes ☐ No PDF Required? ■ Yes ☐ No

Report To: Robert Robitaille	Bill To: AEI Consultants
Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597	
PO# WC083674	Global ID: T0600100655
	E-Mail: rrobitaille@aeiconsultatns.com
Telephone: (925) 746-6000, ext. 148	Fax: (925) 746-6099
AEI Project No. 298931	Project Name: FSI
Project Location: 1630 Park St., Alameda, CA 94501	
Sampler Signature:	

		SAMPLING				MATRIX					METHOD PRESERVED				Analysis Request			Other	Comments
SAMPLE ID	FIELD POINT NAME	Date	Time	# of Containers	Type Containers	Water	Soil	Air	Sludge	Other	Ice	HCL	HNO_3	Other	TPH-G (EPA 8015 M)	TPH-D / TPH-MO (EPA 8015 M w/ Silica Gel Clean-up)	BTEX, MTBE (EPA 8260B)		
+ MW-1		7-11-12	1015	4	VOA, amber L	X					X	X			X	X	X		
+ MW-2			0955	4	VOA, amber L	X					X	X			X	X	X		
+ MW-3			0840	4	VOA, amber L	X					X	X			X	X	X		
+ MW-4			0445	4	VOA, amber L	X					X	X			X	X	X		
+ MW-5			0515	4	VOA, amber L	X					X	X			X	X	X		
✓ DPE-1			0725	4	VOA, amber L	X					X	X			X	X	X		
+ DPE-2			0830	4	VOA, amber L	X					X	X			X	X	X		
+ DPE-3			0700	4	VOA, amber L	X					X	X			X	X	X		
+ DPE-4			0750	4	VOA, amber L	X					X	X			X	X	X		
+ DPE-6			0610	4	VOA, amber L	X					X	X			X	X	X		
(x) DPE-9			0925	4	VOA, amber L	X					X	X			X	X	X		
+ DPE-10		"	0905	4	VOA, amber L	X					X	X			X	X	X		

Relinquished By:	Date:	Time:	Received By:
	7-11-12	1310	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 0.8

GOOD CONDITION ✓

HEAD SPACE ABSENT ✓

DECHLORINATED IN LAB _____

PRESERVATION	VOAS	O&G	METALS	OTHER
APPROPRIATE CONTAINERS ✓				

PERSERVED IN LAB _____

McCAMPBELL ANALYTICAL INC.

1538 Willow Pass Road, Pittsburg, CA 94565

Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

EDF Required? ■ Yes ☐ No PDF Required? ■ Yes ☐ No

Report To: Robert Robitaille	Bill To: AEI Consultants
Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597	
PO# WC083674	Global ID: T0600100655
	E-Mail: rrobitaille@aeiconsultatns.com
Telephone: (925) 746-6000, ext. 148	Fax: (925) 746-6099
AEI Project No. 298931	Project Name: FSI
Project Location: 1630 Park St., Alameda, CA 94501	
Sampler Signature: John Soggs	

SAMPLE ID	FIELD POINT NAME	SAMPLING Date	SAMPLING Time	# of Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCL	HNO_3	Other	Analysis Request: TPH-G (EPA 8015 M)	TPH-D / TPH-MO (EPA 8015 M w/ Silica Gel Clean-up)	BTEX, MTBE (EPA 8260B)	Other	Comments
DPE-11		7-11-12	0815	4	VOA, amber L	X					X	X			X	X	X		

Relinquished By:	Date:	Time:	Received By:
John Soggs	7-11-12	1310	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
ICE/t°	PRESERVATION			
GOOD CONDITION	APPROPRIATE			
HEAD SPACE ABSENT	CONTAINERS			
DECHLORINATED IN LAB	PERSERVED IN LAB			

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1207241 **ClientCode: AEL**

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

Report to:
Robert Robitaille
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(925) 283-6000 FAX: (925) 283-6121

Email: rrobitaille@aeiconsultants.com
cc:
PO: #WC083674
ProjectNo: #298931; FSI

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

Requested TAT: 5 days

Date Received: **07/11/2012**
Date Printed: **07/11/2012**

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
1207241-001	MW-1	Water	7/11/2012 10:15	☐	A	B	A									
1207241-002	MW-2	Water	7/11/2012 9:55	☐	A	B										
1207241-003	MW-3	Water	7/11/2012 8:40	☐	A	B										
1207241-004	MW-4	Water	7/11/2012 4:45	☐	A	B										
1207241-005	MW-5	Water	7/11/2012 5:15	☐	A	B										
1207241-006	DPE-1	Water	7/11/2012 7:25	☐	A	B										
1207241-007	DPE-2	Water	7/11/2012 6:40	☐	A	B										
1207241-008	DPE-3	Water	7/11/2012 7:00	☐	A	B										
1207241-009	DPE-4	Water	7/11/2012 7:50	☐	A	B										
1207241-010	DPE-6	Water	7/11/2012 6:10	☐	A	B										
1207241-011	DPE-9	Water	7/11/2012 9:25	☐	A	B										
1207241-012	DPE-10	Water	7/11/2012 9:05	☐	A	B										
1207241-013	DPE-11	Water	7/11/2012 8:15	☐	A	B										

Test Legend:

1	G-MBTEX_W	2	MBTEX-8260B_W	3	PREDF REPORT	4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A 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: **7/11/2012 1:20:05 PM**
Project Name: **#298931; FSI**
LogIn Reviewed by: Maria Venegas
WorkOrder N°: **1207241** 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: 0.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
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:

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

AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted 07/12/12-07/14/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed 07/12/12-07/14/12

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline *

Extraction method: SW5030B | Analytical methods: SW8015Bm | Work Order: 1207241

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS	Comments
001A	MW-1	W	2700	3.3	119	d1
002A	MW-2	W	930	2	110	d1
003A	MW-3	W	78	1	---#	d1
004A	MW-4	W	ND	1	---#	
005A	MW-5	W	ND	1	---#	c1
006A	DPE-1	W	2300	10	101	d1
007A	DPE-2	W	2600	10	100	d1
008A	DPE-3	W	2400	10	102	d1
009A	DPE-4	W	ND	1	99	
010A	DPE-6	W	ND	1	---#	c1
011A	DPE-9	W	1300	1	---#	d1
012A	DPE-10	W	360	1	---#	d1
013A	DPE-11	W	2400	1	---#	d1

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

* 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:
c1) surrogate recovery exceeds the control limits due to dilution / matrix interference / coelution / presence of surrogate compound in the sample
d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/13/12-07/17/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/13/12-07/17/12

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1207241

Lab ID	1207241-001B	1207241-002B	1207241-003B	1207241-004B	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	10	10	1	1	S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	190	170	1.4	ND	NA	0.5
Ethylbenzene	100	24	ND	ND	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<5.0	ND<5.0	ND	ND	NA	0.5
Toluene	8.1	ND<5.0	0.66	ND	NA	0.5
Xylenes, Total	230	9.3	5.5	ND	NA	0.5
Surrogate Recoveries (%)						
%SS1:	105	105	104	109		
%SS2:	94	95	93	96		
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.

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

AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/13/12-07/17/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/13/12-07/17/12

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1207241

Lab ID	1207241-005B	1207241-006B	1207241-007B	1207241-008B	Reporting Limit for DF =1	
Client ID	MW-5	DPE-1	DPE-2	DPE-3		
Matrix	W	W	W	W		
DF	1	10	20	20	S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND	240	300	330	NA	0.5
Ethylbenzene	ND	98	45	10	NA	0.5
Methyl-t-butyl ether (MTBE)	ND	ND<5.0	ND<10	ND<10	NA	0.5
Toluene	ND	15	12	19	NA	0.5
Xylenes, Total	ND	88	390	130	NA	0.5
Surrogate Recoveries (%)						
%SS1:	106	102	104	102		
%SS2:	93	91	94	94		
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.

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

AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/13/12-07/17/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/13/12-07/17/12

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1207241

Lab ID	1207241-009B	1207241-010B	1207241-011B	1207241-012B	Reporting Limit for DF =1	
Client ID	DPE-4	DPE-6	DPE-9	DPE-10		
Matrix	W	W	W	W		
DF	1	1	3.3	2	S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND	0.93	47	40	NA	0.5
Ethylbenzene	ND	ND	4.0	ND<1.0	NA	0.5
Methyl-t-butyl ether (MTBE)	ND	ND	ND<1.7	ND<1.0	NA	0.5
Toluene	ND	ND	3.1	ND<1.0	NA	0.5
Xylenes, Total	ND	ND	100	ND<1.0	NA	0.5
Surrogate Recoveries (%)						
%SS1:	110	108	102	104		
%SS2:	95	96	92	91		
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.

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

AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/13/12-07/17/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/13/12-07/17/12

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1207241

					Reporting Limit for DF =1	
Lab ID	1207241-013B					
Client ID	DPE-11					
Matrix	W					
DF	2				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	16				NA	0.5
Ethylbenzene	14				NA	0.5
Methyl-t-butyl ether (MTBE)	ND<1.0				NA	0.5
Toluene	ND<1.0				NA	0.5
Xylenes, Total	57				NA	0.5
Surrogate Recoveries (%)						
%SS1:	101					
%SS2:	92					
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.

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

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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AEI Consultants	Client Project ID: #298931; FSI	Date Sampled: 07/11/12
		Date Received: 07/11/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/11/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/12/12-07/13/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1207241

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1207241-001A	MW-1	W	700	ND	1	88	e4
1207241-002A	MW-2	W	270	ND	1	89	e4
1207241-003A	MW-3	W	ND	ND	1	87	
1207241-004A	MW-4	W	ND	ND	1	117	
1207241-005A	MW-5	W	ND	ND	1	88	
1207241-006A	DPE-1	W	860	ND	1	88	e4
1207241-007A	DPE-2	W	400	ND	1	88	e4
1207241-008A	DPE-3	W	720	ND	1	101	e4
1207241-009A	DPE-4	W	ND	ND	1	96	
1207241-010A	DPE-6	W	ND	ND	1	96	
1207241-011A	DPE-9	W	680	ND	1	91	e4
1207241-012A	DPE-10	W	160	ND	1	87	e4
1207241-013A	DPE-11	W	1600	ND	1	87	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.

DHS ELAP Certification 1644

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 69098 | WorkOrder: 1207241

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1207241-009A**

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	102	98.3	3.39	99.2	70 - 130	20	70 - 130
MTBE	ND	10	96.7	93.9	2.85	104	70 - 130	20	70 - 130
Benzene	ND	10	94.4	92.6	1.83	104	70 - 130	20	70 - 130
Toluene	ND	10	94.2	92.6	1.71	103	70 - 130	20	70 - 130
Ethylbenzene	ND	10	99.8	98.4	1.32	105	70 - 130	20	70 - 130
Xylenes	ND	30	102	101	0.742	107	70 - 130	20	70 - 130
%SS:	99	10	90	90	0	90	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 69098 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1207241-006A	07/11/12 7:25 AM	07/14/12	07/14/12 12:20 AM	1207241-007A	07/11/12 6:40 AM	07/13/12	07/13/12 5:59 AM
1207241-008A	07/11/12 7:00 AM	07/13/12	07/13/12 6:29 AM	1207241-009A	07/11/12 7:50 AM	07/13/12	07/13/12 12:28 AM
1207241-010A	07/11/12 6:10 AM	07/13/12	07/13/12 12:58 AM	1207241-011A	07/11/12 9:25 AM	07/14/12	07/14/12 1:49 AM
1207241-012A	07/11/12 9:05 AM	07/12/12	07/12/12 11:58 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, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 69099 | WorkOrder: 1207241

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1207270-007A**

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	87.4	91.1	4.19	86.9	70 - 130	20	70 - 130
MTBE	ND	10	99.9	106	6.00	102	70 - 130	20	70 - 130
Benzene	ND	10	81	86.6	6.71	86.7	70 - 130	20	70 - 130
Toluene	ND	10	82.4	86.3	4.70	88.3	70 - 130	20	70 - 130
Ethylbenzene	ND	10	82.4	87.3	5.74	87.2	70 - 130	20	70 - 130
Xylenes	ND	30	85	89.8	5.44	89.1	70 - 130	20	70 - 130
%SS:	93	10	88	86	2.26	91	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 69099 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1207241-001A	07/11/12 10:15 AM	07/14/12	07/14/12 4:24 AM	1207241-002A	07/11/12 9:55 AM	07/14/12	07/14/12 4:53 AM
1207241-003A	07/11/12 8:40 AM	07/13/12	07/13/12 3:39 AM	1207241-004A	07/11/12 4:45 AM	07/13/12	07/13/12 5:07 AM
1207241-005A	07/11/12 5:15 AM	07/13/12	07/13/12 6:06 AM	1207241-013A	07/11/12 8:15 AM	07/14/12	07/14/12 5:51 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.

£ 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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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 69141 | WorkOrder: 1207241

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1207241-009B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Benzene	ND	10	89.5	92.6	3.33	94.2	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	103	101	1.61	102	70 - 130	20	70 - 130
Toluene	ND	10	86.2	90	4.23	92	70 - 130	20	70 - 130
%SS1:	110	25	106	105	0.942	104	70 - 130	20	70 - 130
%SS2:	95	25	92	93	0.586	93	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 69141 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1207241-001B	07/11/12 10:15 AM	07/17/12	07/17/12 3:53 AM	1207241-002B	07/11/12 9:55 AM	07/17/12	07/17/12 4:33 AM
1207241-003B	07/11/12 8:40 AM	07/13/12	07/13/12 2:29 PM	1207241-004B	07/11/12 4:45 AM	07/13/12	07/13/12 5:42 PM
1207241-005B	07/11/12 5:15 AM	07/13/12	07/13/12 6:21 PM	1207241-006B	07/11/12 7:25 AM	07/13/12	07/13/12 10:13 PM
1207241-007B	07/11/12 6:40 AM	07/13/12	07/13/12 10:52 PM	1207241-008B	07/11/12 7:00 AM	07/13/12	07/13/12 11:30 PM
1207241-009B	07/11/12 7:50 AM	07/13/12	07/13/12 6:59 PM	1207241-010B	07/11/12 6:10 AM	07/13/12	07/13/12 7:38 PM
1207241-011B	07/11/12 9:25 AM	07/14/12	07/14/12 12:09 AM	1207241-012B	07/11/12 9:05 AM	07/14/12	07/14/12 12:47 AM
1207241-013B	07/11/12 8:15 AM	07/14/12	07/14/12 1:27 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.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 69010 | WorkOrder: 1207241

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	124	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	102	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 69010 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1207241-001A	07/11/12 10:15 AM	07/11/12	07/12/12 6:04 PM	1207241-002A	07/11/12 9:55 AM	07/11/12	07/12/12 8:20 PM
1207241-003A	07/11/12 8:40 AM	07/11/12	07/12/12 7:12 PM	1207241-004A	07/11/12 4:45 AM	07/11/12	07/12/12 1:29 PM
1207241-005A	07/11/12 5:15 AM	07/11/12	07/12/12 11:41 PM	1207241-006A	07/11/12 7:25 AM	07/11/12	07/13/12 12:48 AM
1207241-007A	07/11/12 6:40 AM	07/11/12	07/13/12 1:54 AM	1207241-008A	07/11/12 7:00 AM	07/11/12	07/13/12 3:01 AM
1207241-009A	07/11/12 7:50 AM	07/11/12	07/12/12 3:47 PM	1207241-010A	07/11/12 6:10 AM	07/11/12	07/12/12 2:38 PM
1207241-011A	07/11/12 9:25 AM	07/11/12	07/13/12 4:07 AM	1207241-012A	07/11/12 9:05 AM	07/11/12	07/12/12 3:47 PM
1207241-013A	07/11/12 8:15 AM	07/11/12	07/12/12 2:38 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.

DHS ELAP Certification 1644

QA/QC Officer

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Analytical Report

AEI Consultants	Client Project ID: #117300; FSI	Date Sampled: 07/12/12
		Date Received: 07/12/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Reported: 07/23/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Completed: 07/23/12

WorkOrder: 1207291

July 23, 2012

Dear Robert:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#117300; FSI,**
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.

1207291

McCAMPBELL ANALYTICAL INC.

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CHAIN OF CUSTODY RECORD

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

EDF Required? ☐ No ■ Yes

Report To: Robert Robitaille	Bill To: PO# WC083674
Company: AEI Consultants	
2500 Camino Diablo, Walnut Creek, California 94597	
E-Mail: rrobitaille@aeiconsultants.com	
Tele: (925) 746-6000, ext. 148	Fax: (925) 746-6099
Project #: 117300	Project Name: FSI
Project Location: 1630 Park St., Alameda, California	
Sampler Signature: John Stagg	

Lab Use Only

Pressurized By	Date	Pressurization Gas	
		N2	He

Notes:

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
VP-1	7-12-12	1000	A7529	685	TPH(g) by ~~TO-3~~, BTEX & Oxygenates by TO-15		X	RSK174, TV Hydrocarbons and Naphthalene added			
VP-2	"	1030	6419	811	TPH(g) by ~~TO-3~~, BTEX & Oxygenates by TO-15		X	7/16/12 5day			
VP-3	"	1100	6170	673	TPH(g) by ~~TO-3~~, BTEX & Oxygenates by TO-15		X	1		1	

Relinquished By:	Date:	Time:	Received By:
John Stagg	7-12-12	1237	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Temp (°C) : _____ Work Order #: _____

Condition: _____

Custody Seals Intact?: Yes _____ No _____ None _____

Shipped Via: _____

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1207291 **ClientCode: AEL**

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

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

Email: rrobitaille@aeiconsultants.com
cc:
PO: #WC083674
ProjectNo: #117300; FSI

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

Requested TAT: 5 days

Date Received: **07/12/2012**
Date Printed: **07/16/2012**

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
1207291-001	VP-1	Soil Gas	7/12/2012 10:00	☐	A	A										
1207291-002	VP-2	Soil Gas	7/12/2012 10:30	☐	A	A										
1207291-003	VP-3	Soil Gas	7/12/2012 10:00	☐	A	A										

Test Legend:

1	RSK174_SOILGAS	2	TO15+GAS_SOIL(UG/M3)	3		4		5	
6		7		8		9		10	
11		12							

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

Prepared by: Maria Venegas

Comments: Gas by TO3 canceled & Gas by T015, RSK174,TV-Hydrocarbons, Naphthalene added 7/16/12 5d.

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: **7/12/2012 1:16:25 PM**

Project Name: **#117300; FSI** LogIn Reviewed by: Maria Venegas

WorkOrder N°: **1207291** 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: #117300; FSI	Date Sampled: 07/12/12
		Date Received: 07/12/12
	Client Contact: Robert Robitaille	Date Reported: 07/23/12
	Client P.O.: #WC083674	Date Completed: 07/23/12

Work Order: 1207291

July 24, 2012

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 dissadvantages are listed in Appendix B of the DTSC Advisory of April 2012.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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http://www.mccampbell.com / E-mail: main@mccampbell.com

AEI Consultants	Client Project ID: #117300; FSI	Date Sampled: 07/12/12
		Date Received: 07/12/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/18/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/18/12

Light Gases, Hydrocarbons*

Extraction method: ASTM D 1946-90 Analytical methods: ASTM D 1946-90 Work Order: 1207291

Lab ID	Client ID	Matrix	Carbon Dioxide	Methane	Oxygen	DF	% SS	Comments
001A	VP-1	Soil Gas	17,000	ND	270,000	1		
002A	VP-2	Soil Gas	13,000	ND	280,000	1		
003A	VP-3	Soil Gas	24,000	1.1	280,000	1		
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	NA	NA	NA	ug/L		
		SoilGas	50	1.0	2000	µL/L		

* soil vapor samples are reported in µL/L.

%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: #117300; FSI	Date Sampled: 07/12/12
		Date Received: 07/12/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/14/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/14/12

Leak Check Compound*

Extraction method: TO15 Analytical methods: TO15 Work Order: 1207291

Lab ID	Client ID	Matrix	Initial Pressure	Final Pressure	Isopropyl Alcohol	DF	% SS	Comments
001A	VP-1	Soil Gas	12.76	25.43	ND	1	N/A	
002A	VP-2	Soil Gas	11.76	23.42	ND	1	N/A	
003A	VP-3	Soil Gas	12.21	24.34	290	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

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AEI Consultants	Client Project ID: #117300; FSI	Date Sampled: 07/12/12
		Date Received: 07/12/12
2500 Camino Diablo, Ste. #200	Client Contact: Robert Robitaille	Date Extracted: 07/14/12
Walnut Creek, CA 94597	Client P.O.: #WC083674	Date Analyzed: 07/14/12

TPH gas + Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 | Analytical Method: TO15 | Work Order: 1207291

Lab ID	1207291-001A	1207291-002A	1207291-003A		Reporting Limit for DF =1	
Client ID	VP-1	VP-2	VP-3			
Matrix	Soil Gas	Soil Gas	Soil Gas			
DF	1	1	1		Soil Gas	W
Initial Pressure (psia)	12.76	11.76	12.21			
Final Pressure (psia)	25.43	23.42	24.34			
Compound	**Concentration**				µg/m³	ug/L
TPH(g) (C6-C12)	ND	ND	ND		1800	NA
TVH (C5-C11)	ND	ND	ND		1800	NA
tert-Amyl methyl ether (TAME)	ND	ND	ND		8.5	NA
Benzene	ND	ND	ND		6.5	NA
t-Butyl alcohol (TBA)	ND	230	ND		62	NA
Diisopropyl ether (DIPE)	ND	ND	ND		8.5	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	ND		8.5	NA
Ethylbenzene	ND	ND	ND		8.8	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND		7.3	NA
Naphthalene	ND	ND	ND		11	NA
Toluene	ND	ND	ND		7.7	NA
Xylenes, Total	ND	ND	ND		27	NA
Surrogate Recoveries (%)						
%SS1:	90	91	88			
%SS2:	99	97	98			
%SS3:	93	94	94			
Comments	j1	j1	j1			

*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

j1) see attached narrative

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QC SUMMARY REPORT FOR ASTM D 1946-90

W.O. Sample Matrix: SoilGas | QC Matrix: SoilGas | BatchID: 69220 | WorkOrder: 1207291

EPA Method: ASTM D 1946-90 **Extraction: ASTM D 1946-90** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µL/L	µL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Carbon Dioxide	N/A	200	N/A	N/A	N/A	102	N/A	N/A	70 - 130
Methane	N/A	10	N/A	N/A	N/A	87.8	N/A	N/A	70 - 130
Oxygen	N/A	10000	N/A	N/A	N/A	125	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 69220 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1207291-001A	07/12/12 10:00 AM	07/18/12	07/18/12 11:48 AM	1207291-001A	07/12/12 10:00 AM	07/18/12	07/18/12 2:23 PM
1207291-001A	07/12/12 10:00 AM	07/18/12	07/18/12 7:19 PM	1207291-002A	07/12/12 10:30 AM	07/18/12	07/18/12 11:59 AM
1207291-002A	07/12/12 10:30 AM	07/18/12	07/18/12 2:35 PM	1207291-002A	07/12/12 10:30 AM	07/18/12	07/18/12 7:40 PM
1207291-003A	07/12/12 10:00 AM	07/18/12	07/18/12 12:17 PM	1207291-003A	07/12/12 10:00 AM	07/18/12	07/18/12 2:48 PM
1207291-003A	07/12/12 10:00 AM	07/18/12	07/18/12 8:01 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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QA/QC Officer

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 69147 | WorkOrder: 1207291

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	102	N/A	N/A	60 - 140
tert-Amyl methyl ether (TAME)	N/A	25	N/A	N/A	N/A	101	N/A	N/A	60 - 140
Benzene	N/A	25	N/A	N/A	N/A	93.1	N/A	N/A	60 - 140
Benzyl chloride	N/A	25	N/A	N/A	N/A	117	N/A	N/A	60 - 140
Bromodichloromethane	N/A	25	N/A	N/A	N/A	106	N/A	N/A	60 - 140
Bromoform	N/A	25	N/A	N/A	N/A	120	N/A	N/A	60 - 140
t-Butyl alcohol (TBA)	N/A	25	N/A	N/A	N/A	89.1	N/A	N/A	60 - 140
Carbon Disulfide	N/A	25	N/A	N/A	N/A	99.9	N/A	N/A	60 - 140
Carbon Tetrachloride	N/A	25	N/A	N/A	N/A	108	N/A	N/A	60 - 140
Chlorobenzene	N/A	25	N/A	N/A	N/A	108	N/A	N/A	60 - 140
Chloroethane	N/A	25	N/A	N/A	N/A	127	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	104	N/A	N/A	60 - 140
Dibromochloromethane	N/A	25	N/A	N/A	N/A	118	N/A	N/A	60 - 140
1,2-Dibromo-3-chloropropane	N/A	25	N/A	N/A	N/A	113	N/A	N/A	60 - 140
1,2-Dibromoethane (EDB)	N/A	25	N/A	N/A	N/A	104	N/A	N/A	60 - 140
1,3-Dichlorobenzene	N/A	25	N/A	N/A	N/A	95.8	N/A	N/A	60 - 140
1,4-Dichlorobenzene	N/A	25	N/A	N/A	N/A	90.6	N/A	N/A	60 - 140
Dichlorodifluoromethane	N/A	25	N/A	N/A	N/A	84.9	N/A	N/A	60 - 140
1,1-Dichloroethane	N/A	25	N/A	N/A	N/A	93.7	N/A	N/A	60 - 140
1,2-Dichloroethane (1,2-DCA)	N/A	25	N/A	N/A	N/A	101	N/A	N/A	60 - 140
cis-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
trans-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	105	N/A	N/A	60 - 140
1,2-Dichloropropane	N/A	25	N/A	N/A	N/A	94.8	N/A	N/A	60 - 140
cis-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	107	N/A	N/A	60 - 140
trans-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	113	N/A	N/A	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	N/A	25	N/A	N/A	N/A	93	N/A	N/A	60 - 140
Diisopropyl ether (DIPE)	N/A	25	N/A	N/A	N/A	91.1	N/A	N/A	60 - 140
1,4-Dioxane	N/A	25	N/A	N/A	N/A	98.8	N/A	N/A	60 - 140
Ethyl acetate	N/A	25	N/A	N/A	N/A	97.5	N/A	N/A	60 - 140
Ethyl tert-butyl ether (ETBE)	N/A	25	N/A	N/A	N/A	96.8	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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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 69147 | WorkOrder: 1207291

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	104	N/A	N/A	60 - 140
Freon 113	N/A	25	N/A	N/A	N/A	97.8	N/A	N/A	60 - 140
Hexachlorobutadiene	N/A	25	N/A	N/A	N/A	74.2	N/A	N/A	60 - 140
4-Methyl-2-pentanone (MIBK)	N/A	25	N/A	N/A	N/A	92.9	N/A	N/A	60 - 140
Methyl-t-butyl ether (MTBE)	N/A	25	N/A	N/A	N/A	98.6	N/A	N/A	60 - 140
Methylene chloride	N/A	25	N/A	N/A	N/A	104	N/A	N/A	60 - 140
Naphthalene	N/A	25	N/A	N/A	N/A	87.9	N/A	N/A	60 - 140
Styrene	N/A	25	N/A	N/A	N/A	104	N/A	N/A	60 - 140
1,1,1,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
1,1,2,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	94.2	N/A	N/A	60 - 140
Tetrachloroethene	N/A	25	N/A	N/A	N/A	111	N/A	N/A	60 - 140
Tetrahydrofuran	N/A	25	N/A	N/A	N/A	87.4	N/A	N/A	60 - 140
Toluene	N/A	25	N/A	N/A	N/A	107	N/A	N/A	60 - 140
1,2,4-Trichlorobenzene	N/A	25	N/A	N/A	N/A	90.4	N/A	N/A	60 - 140
1,1,1-Trichloroethane	N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
1,1,2-Trichloroethane	N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
Trichloroethene	N/A	25	N/A	N/A	N/A	107	N/A	N/A	60 - 140
1,2,4-Trimethylbenzene	N/A	25	N/A	N/A	N/A	90.5	N/A	N/A	60 - 140
1,3,5-Trimethylbenzene	N/A	25	N/A	N/A	N/A	86.6	N/A	N/A	60 - 140
Vinyl Chloride	N/A	25	N/A	N/A	N/A	115	N/A	N/A	60 - 140
%SS1:	N/A	500	N/A	N/A	N/A	91	N/A	N/A	60 - 140
%SS2:	N/A	500	N/A	N/A	N/A	96	N/A	N/A	60 - 140
%SS3:	N/A	500	N/A	N/A	N/A	94	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: 69147 | WorkOrder: 1207291

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 69147 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1207291-001A	07/12/12 10:00 AM	07/14/12	07/14/12 8:07 AM	1207291-002A	07/12/12 10:30 AM	07/14/12	07/14/12 8:49 AM
1207291-003A	07/12/12 10:00 AM	07/14/12	07/14/12 9:31 AM				

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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