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Alameda County
Environmental Health

December 11, 2009

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

RE: Cardanal Partners, J.L.C.
632-638 2nd Street
(aka "626 2nd Street")
Oakland, California 94607
Clearwater Group Project # GB001H

Dear Mr. Wickham,

As the legally authorized representative of the above-referenced project location, I have reviewed the *Soil Vapor Sampling Report* prepared by our consultant of record, Clearwater Group. I declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of our knowledge.

Sincerely,



Mr. Daniel Altwarg
Cardanal Partners, LLC



SOIL VAPOR SAMPLING REPORT

Markus Supply Hardware
632-638 2nd Street
Oakland, CA 94607
ACEH Fuel Case Leak No. RO0002949
Geotracker Global ID T0619758441

Prepared for:
Cardanal Properties, LLC

Represented By:
Mr. Daniel Altwarg

Prepared By:

Clearwater Group
229 Tewksbury Avenue
Pt. Richmond, CA 94801
Clearwater Project No. GB001H

December 11, 2009



INTRODUCTION

Clearwater Group (Clearwater), on behalf of Cardanal Partners, LLC, is pleased to present this *Soil Vapor Sampling Report* prepared for the site located at 632-638 2nd Street, Oakland, Alameda County, California (**Figure 1**) for your review, comments, and approval. In response to the results based on year 2007 and 2008 field work, presented in Clearwater's *Subsurface Investigation Report* dated January 11, 2009, the Alameda County Environmental Health Department (ACEH) in their September 18, 2009 letter requested that a Work Plan be prepared outlining a soil vapor sampling work plan (**Attachment 1**). The purpose of the soil vapor investigation described in this work plan was to evaluate potential vapor intrusion concerns and determine whether the site meets the criteria for low-risk case closure. This work plan was approved by ACEH on November 3, 2009 (**Attachment 1**).

PERMITTING

Prior to starting work, Clearwater obtained permits from Alameda County Public Works Agency (ACPWA) and the City of Oakland Planning Department. Five (5) soil vapor borings (four borings located in the private landscaping adjacent to the sidewalk and one boring located in the tree well, in the sidewalk) were permitted (Permit No: W2009-0988, see **Attachment 1**) through the Alameda County Public Works Agency. An encroachment permit was acquired from the City of Oakland, Civil Engineering (Permit No. XO902382, see **Attachment 1**) for the one boring (SV-5) which was not located on private property.

FIELD WORK

Soil vapor sampling points were installed at 5 feet below ground surface (bgs) using a direct push technology, Geoprobe[®] 5400 rig, at the five locations shown on **Figure 2**. After hand augering through the first foot of soil, a four-foot long, 1.75-inch diameter continuous core soil sample was collected, logged, and characterized by a field geologist under the direct supervision of a California Professional Geologist. After the core was removed, the boring was cleaned out with the hand auger to 5 feet below ground (bgs) surface. The vapor point, containing a polyethylene diffuser tip, was installed at 5 feet bgs. A 6.5+ foot length of Teflon[®] tubing connected the vapor point to the above ground stopcock. A one-foot sand/glass bead pack around the vapor point was followed with one foot of bentonite slurry and three feet of neat cement grout. A detailed description of soil vapor point installation procedures and a figure outlining the gas probe construction are included in **Attachment 2**.

The vapor points were installed on November 5, 2009, between 1245 and 1600 hours (see photos in **Attachment 3**). In order for the subsurface conditions to equilibrate, Clearwater waited 24 hours prior to performing vapor sampling at the site (see field notes in **Attachment 3**). The 4-foot sections of soil core were logged (see **Attachment 3** for the five soil boring logs). Clearwater mobilized for the vapor sampling event on November 6, 2009, working between 1500 and 1930 hours. The California Department of Toxic Substances Control, Interim Final document, *Advisory – Active Soil Gas Investigations*, January 28, 2003 (Vapor Sampling Guidance Document) was used to guide the fieldwork.

The borings were abandoned on November 20, 2009, via cement grout, and were inspected by Alameda County Public Works Agency inspector, Mr. John Shouldice (see field notes in **Attachment 3**). The Teflon tubing was entirely extracted and each soil vapor borehole was sealed with neat cement grout to

the top of the existing cement plug. The ground surface was restored with landscaping material to match the adjacent ground surface level.

VAPOR SAMPLING

Soil vapor samples were collected on November 6, 2009. A minimum of three well volumes was purged from each soil vapor boring using a Gilair 5 (low flow) active air pump. The order of sampling was in the expected 'least contaminated' to 'most contaminated' direction. The order of sampling was as follows: SV-3 (furthest from the 3-tank tank pit), SV-4 (next closest to the 3-tank tank pit), SV-5 (in the downgradient position to the 3-tank tank pit), SV-1 (slightly upgradient from the 3-tank tank pit), and SV-2 (nearest to the suspected soil source of the 3-tank tank pit).

On the first boring, SV-3, the sampling flow rate was set at 100 ml/minute (min). The borings were purged for three minutes (300 ml). The first sample taken post-purge was the SUMMA canister (10 minutes). The second and third samples were the TO-17 and TO-15 tube; With the TO-17 and TO-15 in line, the flow was set at 152 ml/min and the duration was 2 minutes. On the second boring, SV-4, the purge rate was 185 ml/min (1 minute); the SUMMA canister (12 minutes) and the TO tubes exposed to a flow of 200 ml/min for 1 minute. On the third boring, SV-5, the purge rate was 100 ml/min over 3 minutes, the SUMMA canister (10 minutes) and the TO tubes 150 ml/min for 1.5 minutes. On the fourth boring, SV-1, the purge rate was 100 ml/min over 3 minutes, the SUMMA canister (11 minutes) and the TO tubes 165 ml/min for 1.5 minute. On the last boring, SV-2, the purge rate was 300 ml/min over 1 minute, the number one SUMMA canister (10 minutes), the backup SUMMA canister (0.15 minutes – defective line coupling) and the TO tubes 135 ml/min for 2 minutes. Detailed methodology for sub-surface vapor sampling is included in **Attachment 2**

The leak detection compound, isopropyl alcohol (2-Propanol), was poured directly onto the swage locks/valves of the sampling assembly. The presence of 2-Propanol, at up to 1,800,000 parts per billion by volume (ppbv) was noted in the laboratory reports. This level of Propanol exceeded the instrument calibration range. The leak detection compound was documented in all six of the samples, including the ambient air sample; SV-2-AC. Field notes with more detail are in **Attachment 3**.

The samples were sent under Chain of Custody to Air Toxics Laboratory (CA NELAP #02110CA) on November 6 (for receipt on November 9) for analysis of the samples for the presence of the following: total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, xylene (BTEX) by EPA Method TO-15; total petroleum hydrocarbons as diesel (TPH-d), and naphthalene by EPA Method TO-17; and for the presence of oxygen, carbon dioxide and methane by Modified ASTM D-1946.

The November 6, 2009 sample lab reports are presented in **Attachment 4** as Air Toxics Ltd. November 12, 2009 report No. 0911177C, Air Toxics Ltd. November 12, 2009 report No. 0911177B and Air Toxics Ltd. November 16, 2009 report No. 0911177A.

RESULTS

The November 6, 2009 results are as follows (all sample depths are 5 feet bgs, with the exception of SV-2-AC which is an ambient air sample):

Sample ID	Analytical Method and Analyte	Results (ppbv)	Results (µg/m ³)	ESLs (µg/m ³)	CHHSLs (µg/m ³)
SV-1	Modified ASTM D-1946-oxygen	14%		NA	NA
SV-1	Modified ASTM D-1946-methane	<0.00020%		NA	NA
SV-1	Modified ASTM D-1946-carbon dioxide	6.4%		NA	NA
SV-1	Modified TO-17-naphthalene		<16	240	106
SV-1	Modified TO-17-TPH (diesel range)		<3100	29,000	NA
SV-1	Modified TO-15-TPH (gasoline range)	<10,000		29,000	NA
SV-1	Modified TO-15-Benzene	<1600		280	122
SV-1	Modified TO-15-Toluene	<1900		180,000	378,000
SV-1	Modified TO-15-Ethylbenzene	<2200		3,300	postponed
SV-1	Modified TO-15-Xylenes	<2200		58,000	887,000
SV-1	2-Propanol	500,000		NA	NA
SV-2	Modified ASTM D-1946-oxygen	20%		NA	NA
SV-2	Modified ASTM D-1946-methane	<0.00020%		NA	NA
SV-2	Modified ASTM D-1946-carbon dioxide	1.8%		NA	NA
SV-2	Modified TO-17-naphthalene		<18	240	106
SV-2	Modified TO-17-TPH (diesel range)		<3700	29,000	NA
SV-2	Modified TO-15-TPH (gasoline range)	<20,000		29,000	NA
SV-2	Modified TO-15-Benzene	<3200		280	122
SV-2	Modified TO-15-Toluene	<3800		180,000	378,000
SV-2	Modified TO-15-Ethylbenzene	<4400		3,300	postponed
SV-2	Modified TO-15-Xylenes	<4400		58,000	887,000
SV-2	2-Propanol	1,800,000			NA
SV-3	Modified ASTM D-1946-oxygen	11%		NA	NA
SV-3	Modified ASTM D-1946-methane	<0.00021%		NA	NA
SV-3	Modified ASTM D-1946-carbon dioxide	8.0%		NA	NA
SV-3	Modified TO-17-naphthalene		<25	240	106
SV-3	Modified TO-17-TPH (diesel range)		<5000	29,000	NA
SV-3	Modified TO-15-TPH (gasoline range)	450	1,800	29,000	NA
SV-3	Modified TO-15-Benzene	<33		280	122
SV-3	Modified TO-15-Toluene	<39		180,000	378,000
SV-3	Modified TO-15-Ethylbenzene	<45		3,300	postponed
SV-3	Modified TO-15-Xylenes	<45		58,000	887,000
SV-3	2-Propanol	43		NA	NA
SV-4	Modified ASTM D-1946-oxygen	17%		NA	NA
SV-4	Modified ASTM D-1946-methane	<0.00020%		NA	NA
SV-4	Modified ASTM D-1946-carbon dioxide	3.3%		NA	NA
SV-4	Modified TO-17-naphthalene		<25	240	106
SV-4	Modified TO-17-TPH (diesel range)		<5000	29,000	NA
SV-4	Modified TO-15-TPH (gasoline range)	17,000	69,000	29,000	NA
SV-4	Modified TO-15-Benzene	<1600		280	122
SV-4	Modified TO-15-Toluene	<1900		180,000	378,000
SV-4	Modified TO-15-Ethylbenzene	<2200		3,300	postponed
SV-4	Modified TO-15-Xylenes	<2200		58,000	887,000
SV-4	2-Propanol	470,000		NA	NA
SV-5	Modified ASTM D-1946-oxygen	8.8%		NA	NA

SV-5	Modified ASTM D-1946-methane	<0.00021%		NA	NA
SV-5	Modified ASTM D-1946-carbon dioxide	11%		NA	NA
SV-5	Modified TO-17-naphthalene		<25	240	106
SV-5	Modified TO-17-TPH (diesel range)		<5000	29,000	NA
SV-5	Modified TO-15-TPH (gasoline range)	3700	13,041	29,000	NA
SV-5	Modified TO-15-Benzene	<33		280	122
SV-5	Modified TO-15-Toluene	<39		180,000	378,000
SV-5	Modified TO-15-Ethylbenzene	<45		3,300	postponed
SV-5	Modified TO-15-Xylenes	<45		58,000	887,000
SV-5	2-Propanol	790	1900	NA	NA
SV-2AC	Modified ASTM D-1946 oxygen	22%		NA	NA
SV-2AC	Modified ASTM D-1946 methane	<0.00020%		NA	NA
SV-2AC	Modified ASTM D-1946 carbon dioxide	.046%		NA	NA
SV-2AC	Modified TO-17 naphthalene		<18	240	106
SV-2AC	Modified TO-17 TPH (diesel range)		<3700	29,000	NA
SV-2AC	Modified TO-15 TPH (gasoline range)	<200		29,000	NA
SV-2AC	Modified TO-15 Benzene	<32		280	122
SV-2AC	Modified TO-15 Toluene	<38		180,000	378,000
SV-2AC	Modified TO-15 Ethylbenzene	<44		3,300	postponed
SV-2AC	Modified TO-15 Xylenes	<44		58,000	887,000
SV-2AC	2-Propanol	98		NA	NA

Notes:

NA Not Applicable

ESL Table E, Vapor Intrusion Concerns, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final November 2007, (Revised May 2008); Commercial/Industrial Land Use. Values in micrograms per meter cubed.

CHHSL Table 2. California Human Health Screening Levels for Indoor Air and Soil Gas. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005, California Environmental Protection Agency. Commercial/Industrial Land Use, Only. Values in micrograms per meter cubed.

The laboratory results for oxygen, methane and carbon dioxide (decreased oxygen content and increased carbon dioxide content compared to atmospheric air) indicate aerobic respiration is occurring in the soil. TPH-Diesel and Naphthalene concentrations were below laboratory detection limits, which are well below the ESL and CHHSL threshold values.

The laboratory results for TPH-gasoline presented unanticipated high levels of TPH-gasoline as well as high levels of the leak detectant, 2-propanol. All of the samples contained 2-propanol, from 43 to 1,800,000 ppbv. The reason for this contamination is not known. Field protocols were followed during the soil vapor sampling but, due to these anomalies, and especially due to the significant presence of leak detection compound noted on the laboratory reports from the November 6, 2009 sampling event, a second soil vapor sampling event was scheduled with a state-certified mobile lab, for verification and confirmation of the earlier laboratory results.

The second sampling event occurred on November 19, 2009. A mobile lab, TEG Northern California Incorporated (TEG), of Sacramento CA (Laboratory ELAP# 2012) was engaged to perform same-day testing on a second round of vapor samples from the five borings. The sample points in both events

were the same. The mobile lab used 1,2 Difluorethane as a leak detector and no leaks were detected. The November 19, 2009 sampling event analytical results are presented in **Attachment 4** as the December 8, 2009 final TEG report No. 91119E. The oxygen and carbon dioxide results from the November 19, 2009 event were not reliable (due to a malfunctioning voltage regulator) and no values were reported.

The results of the November 19, 2009 (naphthalene, TPH-gasoline, TPH-diesel, and BTEX) analytical tests are as follows:

Sample ID	Analytical Method and Analyte	Results (µg/L)	Results (µg/m ³) (calculated)	ESLs (µg/m ³)	CHHSLs (µg/m ³)
SV-1 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-1 TEG	EPA method 8015M -methane	<500 ppmv		NA	NA
SV-1 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-1 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-1 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-1 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-1 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-1 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-1 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-1 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-1 TEG	1,1 Difluorethane	<10		NA	NA
SV-2 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-2 TEG	EPA method 8015M -methane	<500		NA	NA
SV-2 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-2 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-2 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-2 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-2 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-2 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-2 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-2 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-2 TEG	1,1 Difluorethane	<10		NA	NA
SV-3 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-3 TEG	EPA method 8015M -methane	<500		NA	NA
SV-3 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-3 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-3 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-3 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-3 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-3 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-3 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-3 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-3 TEG	1,1 Difluorethane	<10		NA	NA
SV-4 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-4 TEG	EPA method 8015M -methane	<500		NA	NA
SV-4 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA



SV-4 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-4 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-4 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-4 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-4 TEG	EPA method 8260B -Toluene	0.20	<200	180,000	378,000
SV-4 TEG	EPA method 8260B -Ethylbenzene	0.10	<100	3,300	postponed
SV-4 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-4 TEG	1,1 Difluorethane	<10		NA	NA
SV-5 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-5 TEG	EPA method 8015M -methane	<500		NA	NA
SV-5 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-5 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-5 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-5 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-5 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-5 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-5 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-5 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-5 TEG	1,1 Difluorethane	<10		NA	NA

Notes:

NA Not Applicable

NR No Reporting

ESL Table E, Vapor Intrusion Concerns, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final November 2007, (Revised May 2008); Commercial/Industrial Land Use. Values in micrograms per meter cubed.

CHHSL Table 2. California Human Health Screening Levels for Indoor Air and Soil Gas. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005, California Environmental Protection Agency. Commercial/Industrial Land Use, Only. Values in micrograms per meter cubed.

The concentrations of target compounds in the November 19, 2009 subsurface vapor-sampling event were all below laboratory reporting levels, and thus, well below the ESLs or CHHSLs.

CONCLUSIONS and RECOMMENDATIONS

Based on the November 6, 2009 and November 19, 2009 subsurface vapor sampling evaluation, two points can be made:

- Subsurface respiration (bioremediation) is occurring and any residual contamination will continue to degrade;
- Currently, soil vapor levels of the contaminants of concern are below laboratory detection limits and thus well below the ESLs and CHHSLs, confirming that vapor intrusion is not a concern at this site.

As requested in your September 18, 2009 letter, soil vapor sampling has confirmed that vapor intrusion is not a concern at this site and it meets the criteria for low-risk case closure. Therefore, Clearwater requests the ACEH offices re-evaluate the site for low-risk closure based on this new data.

CERTIFICATION

This report was prepared under the supervision of a Professional Geologist in the State of California. All statements, conclusions and recommendations are based solely upon published results from previous consultants, and field observations by Clearwater Group. Information and interpretation presented herein are for the sole use of the client. A third party should not rely upon the information and interpretation contained in this document. The service performed by Clearwater Group has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.

LICENSED PROFESSIONALS

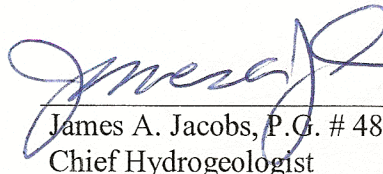
In-house licensed professionals direct all projects. These professionals, including geologists or engineers, shall be guided by the highest standards of ethics, honesty, integrity, fairness, personal honor, and professional conduct. To the fullest extent possible, the licensed professional shall protect the public health and welfare and property in carrying out professional duties. In the course of normal business, recommendations by the in-house professional may include the use of equipment, services, or products in which the Company has an interest. Therefore, the Company is making full disclosure of potential or perceived conflicts of interest to all parties.

Sincerely,

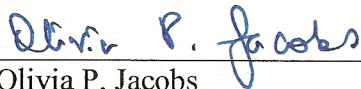
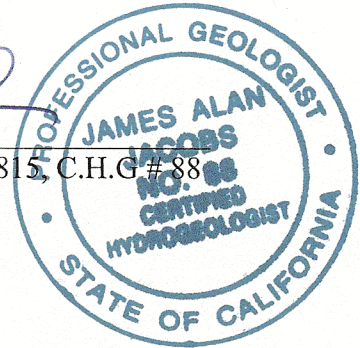
CLEARWATER GROUP



Erik C. Lervaag
Project Manager



James A. Jacobs, P.G. # 4815, C.H.G. # 88
Chief Hydrogeologist



Olivia P. Jacobs
Calif. R.E.A. #3219, C.E.M. #1465



FIGURES:

- Figure 1: Site Location Map
- Figure 2: Soil Vapor Sampling Locations

ATTACHMENTS:

- Attachment 1: Alameda County Environmental Health Services Department Sept 18, 2009 letter
Alameda County Environmental Health Services Department November 3, 2009 letter
Alameda County Public Works Agency – Water Resources Well Permit
City of Oakland Excavation Permit
- Attachment 2: Temporary Soil Vapor Monitoring Well Installation and Sampling Procedures
Figure for Soil Vapor Monitoring Point Installation at 5’ bgs
- Attachment 3: Photos of Field Work
Field Notes
Boring Logs
- Attachment 4: Air Toxics Ltd., November 16, 2009 report No. 0911177A
Air Toxics Ltd., November 12, 2009 report No. 0911177B
Air Toxics Ltd., November 11, 2009 report No. 0911177C
TEG, December 8, 2009 report No. 91119E

DISTRIBUTION

Jerry Wickham, PG, CEG, CHG
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

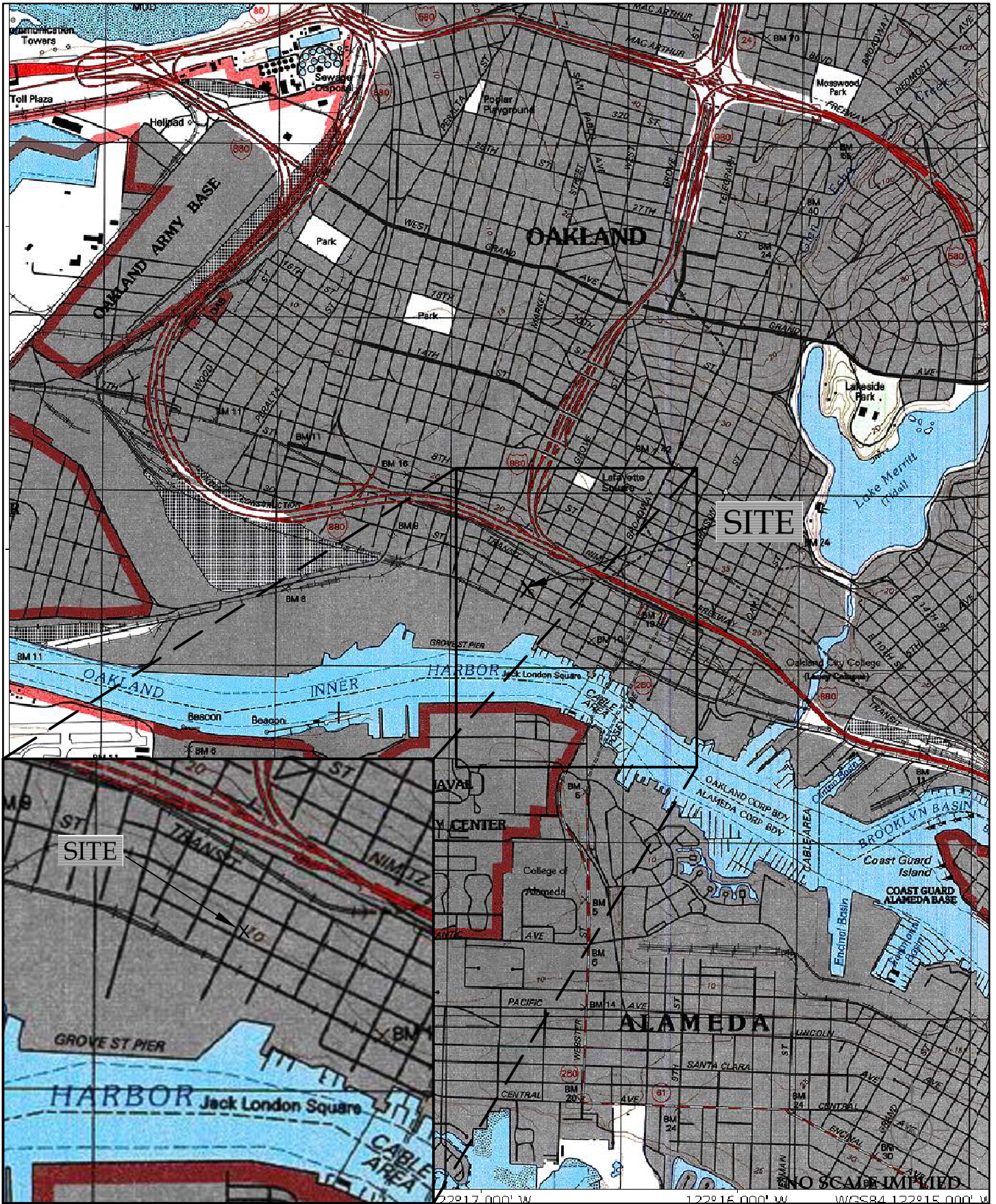
Mr. Daniel Altwarg
Cardanal Partners, LLC
c/o Bartlett, Leader-Picone & Young, LLP
2201 Broadway, Suite 803
Oakland, CA 94612

Mr. Richard Arnold, et al.
Gamma Investments

Ms. Betty Brunswick
PG&E
77 Beale Street, Room 2439C
San Francisco, CA 94105

Mr. James Kendall
Bank of the West
Legal Department – South (SC-CAL-06-D)
300 South Grand Avenue, 6th Floor
Los Angeles, CA 90071

FIGURES



SITE LOCATION MAP

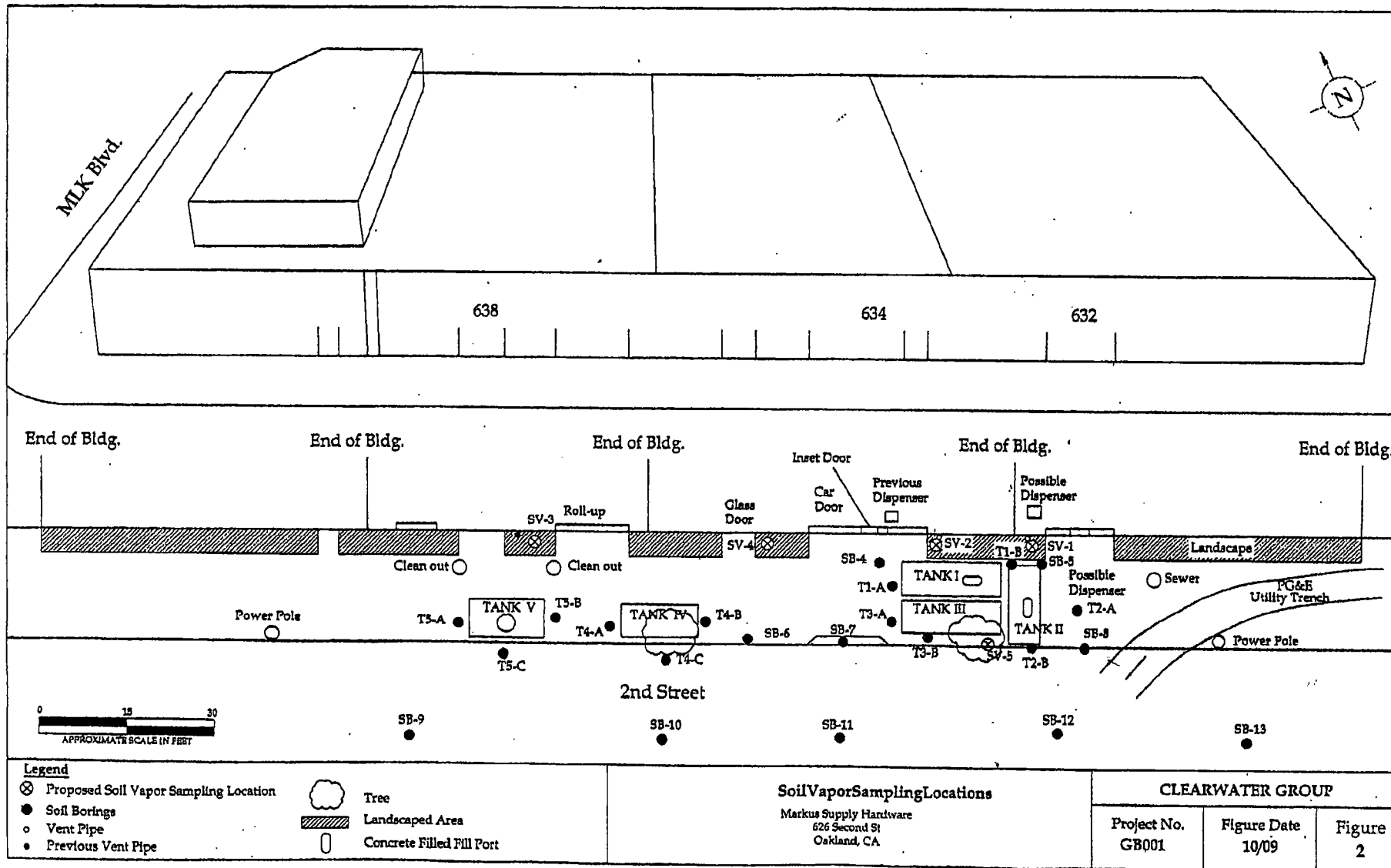
Cardanal Partners, LLC
 APN 001-125-001, Oakland, California

CLEARWATER GROUP

Project No.
GB001C

Figure Date
2/07

Figure
1



- Legend**
- ⊗ Proposed Soil Vapor Sampling Location
 - Soil Borings
 - Vent Pipe
 - Previous Vent Pipe

- ☁ Tree
- ▨ Landscaped Area
- Concrete Filled Fill Port

Soil Vapor Sampling Locations
 Markus Supply Hardware
 626 Second St
 Oakland, CA

CLEARWATER GROUP		
Project No. GB001	Figure Date 10/09	Figure 2

ATTACHMENTS

ATTACHMENT 1

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Acting Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 18, 2009

Mr. Daniel Altwang
Cardanal Properties, LLC
C/o Bartlett, Leader-Picone & Young, LLP
2201 Broadway, Suite 803
Oakland, CA 94612

Ms. Betty Brunswick
PG&E
77 Beal Street, Room 2439C
San Francisco, CA 94105

Mr. Richard Arnold, et al
Gamma Investments
301 Jefferson Street
Oakland, CA 94607

James Kendall
Bank of the West
Legal Department - South (SC-CAL-06-D)
300 South Grand Avenue, 6th Floor
Los Angeles, CA 90071

Subject: Fuel Leak Case No. R00002949 and Geotracker Global ID T0619758441, Markus Supply Hardware, 632-638 2nd Street, Oakland, CA 94607

Dear Mr. Altwang, Ms. Brunswick, Mr. Arnold, and Mr. Kendall:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site, including the most recent report entitled, "Underground Storage Tank Closure-in-Place Report," dated June 21, 2007, prepared on your behalf by Clearwater Group (Report). The report presents the results from soil and groundwater sampling at 15 locations. Total petroleum hydrocarbons as diesel (TPHd) were detected in groundwater at concentrations up to 21,000 micrograms per liter ($\mu\text{g/L}$).

Based on the distribution of fuel hydrocarbons, the Report concludes that the primary source of fuel hydrocarbons may be the former dispensers and piping located north of the USTs. As a result, the largest mass of fuel hydrocarbons may be located beneath the building at 632-638 Second Street.

The Report concludes that the site poses minimal risk and requests low-risk case closure. We are not requesting further soil or groundwater sampling for the site at this time. However, in order to confirm that the site meets the criteria for low-risk case closure, we are requesting that you conduct soil vapor sampling and analysis for naphthalene to assess whether vapor intrusion is a concern for the site. At a minimum, soil vapor sampling is to be conducted at the two locations outside the building but nearest the locations of the two former dispensers and piping. We request that one soil vapor sample be collected adjacent to UST V and analyzed for naphthalene. Based on the results of the soil vapor sampling, case closure will re-evaluated.

Therefore, we request that you submit a Work Plan for soil vapor sampling by November 20, 2009.

Responsible Parties
RO0002949
September 18, 2009
Page 2

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- November 20, 2009 – Work Plan for Soil Vapor Sampling

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2852 through 2854, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

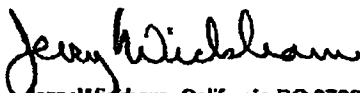
Responsible Parties
R00002949
September 18, 2009
Page 3

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at 510-567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,



Jerry Wickham, California PG 3768, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032

James Jacobs, Clearwater Group, 229 Tewksbury Avenue, Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
Geotracker, File



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

November 3, 2009

Mr. Daniel Altwarg
Cardanal Properties, LLC
C/o Bartlett, Leader-Picone & Young, LLP
2201 Broadway, Suite 803
Oakland, CA 94612

Ms. Betty Brunswick
PG&E
77 Beal Street, Room 2439C
San Francisco, CA 94105

Mr. Richard Arnold, et al
Gamma Investments
Address Unknown

Subject: Fuel Leak Case No. RO0002949 and Geotracker Global ID T0619758441, Markus Supply Hardware, 632-638 2nd Street, Oakland, CA 94607 – Work Plan Approval

Dear Mr. Altwarg, Ms. Brunswick, and Mr. Arnold:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site, including the recently submitted document entitled, "*Work Plan for Soil Vapor Sampling*," dated October 26, 2009, prepared on your behalf by Clearwater Group (Work Plan). The Work Plan proposes the collection of soil vapor samples at five locations outside the building.

The scope of work is conditionally approved and may be implemented provided that the technical comments below are addressed and incorporated during the proposed activities. Submittal of a revised Work Plan or Work Plan Addendum is not required unless an alternate scope of work outside that described in the Work Plan and technical comment below is proposed. We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

TECHNICAL COMMENTS

1. **Laboratory Analyses.** In addition to the proposed analytes, we request that the soil vapor samples be analyzed for oxygen, methane, and carbon dioxide by ASTM 1946 (GC/TCD). Please present sampling and analytical results in the Soil Vapor Sampling Report requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **March 3, 2010** – Soil Vapor Sampling Report

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Responsible Parties
RO0002949
November 3, 2009
Page 3

If you have any questions, please call me at 510-567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,



Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032

James Jacobs, Clearwater Group, 229 Tewksbury Avenue, Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
Geotracker, File

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	ISSUE DATE: July 5, 2005
	REVISION DATE: March 27, 2009
	PREVIOUS REVISIONS: December 16, 2005, October 31, 2005
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements **must** be included and have either original or electronic signature.
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

Submission Instructions

- 1) Obtain User Name and Password:
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to dehloptoxic@acgov.org
 - Or
 - ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
 - (i) Note: Netscape and Firefox browsers will not open the FTP site.
 - b) Click on File, then on Login As.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO# use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 11/04/2009 By jamesy

Permit Numbers: W2009-0988
Permits Valid from 11/05/2009 to 11/05/2009

Application Id: 1257312319139
Site Location: 628 Second Street

City of Project Site:Oakland

Project Start Date: 11/05/2009

Completion Date:11/05/2009

Assigned Inspector: Contact John Shouldice at (510) 670-5424 or johns@acpwa.org

Applicant: The Auger Group, Inc., dba Fast-Tek E. S. S. -

Phone: 510-232-2728

Olivia Jacobs
229 Tewksbury Ave., Point Richmond, CA 94801

Property Owner: Daniel Altwarg

Phone: 510-772-7625

625 Third Street, Oakland, CA 94612
Cardanal Properties LLC c/o Bartlett Leader-

Client:

Phone: --

Picone & Young
2201 Broadway, Suite 803, Oakland, CA 94612
Olivia Jacobs

Contact:

Phone: 510-590-1099
Cell: 510-590-1099

Receipt Number: WR2009-0398 Total Due: \$265.00
Payer Name : Olivia Jacobs Total Amount Paid: \$265.00
Paid By: VISA PAID IN FULL

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 5 Boreholes

Driller: Fast-Tek Engineering Support Services - Lic #: 624461 - Method: DP

Work Total: \$265.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2009-0988	11/04/2009	02/03/2010	5	1.00 in.	5.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

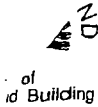
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact John Shouldice for an inspection time at 510-670-5424 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

Alameda County Public Works Agency - Water Resources Well Permit

5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
 6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
 7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
 8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
-



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL
ENGINEERING

Page 2 of 2

Permit valid for 90 days from date of issuance.

PERMIT NUMBER X 0 9 0 2382 * 202		SITE ADDRESS/LOCATION ML King Jr Way	
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number)	
CONTRACTOR'S LICENSE # AND CLASS 624461		CITY BUSINESS TAX #	

ATTENTION:

- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # _____
- 48 hours prior to starting work, you **MUST CALL** (510) 238-3651 to schedule an inspection.
- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than \$500):

- I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).
- I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).
- I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).
- I am exempt under Sec. _____, B&PC for this reason _____

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Oliver Jankos _____ Date **11.04.09**

nature of Permittee <input type="checkbox"/> Agent for <input type="checkbox"/> Contractor <input type="checkbox"/> Owner		Date	
DATE STREET LAST SURFACED	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV. 1 - JAN. 1) <input type="checkbox"/> YES <input type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input type="checkbox"/> YES <input type="checkbox"/> NO
SIGNED BY _____		DATE ISSUED 11.04.09	

ATTACHMENT 2

CLEARWATER GROUP

Temporary Soil Vapor Monitoring Well Installation and Sampling Procedures

Permits, Site Safety Plan, Utility Clearance

Clearwater Group obtains all the required permits, unless otherwise contractually directed. Clearwater prepares a site specific Site Safety Plan detailing site hazards, site safety and control, decontamination procedures, and emergency response procedures to be employed throughout the work. At least 48 hours prior to drilling, Underground Service Alert (USA) or an equivalent agency is notified of the planned work. Clearwater attempts to locate all underground and aboveground utilities by site inspection (in conjunction with its subcontractors and knowledgeable site managers, if available), and review of site as-built drawings. Clearwater may employ a private, professional utility locator and/or ground penetrating radar survey subcontractor to refine the site utility inspection.

Soil Vapor Sample Collection Depth and Location

Soil vapor sample collection depths will be chosen to minimize the effects of change in barometric pressure, or breakthrough of ambient air from the surface, and to ensure that consistent and representative samples are collected. Sampling points will be laterally spaced to adequately represent soil gas concentrations proximate to structures, taking into consideration the location of the contamination relative to the structures.

Drilling Equipment

Temporary soil vapor wells are installed using a truck-mounted Geoprobe[®] drill rig, unless site conditions warrant a different drilling method. Subsurface conditions permitting, the first five feet of each boring is advanced using a hand-auger or post-hole digger. All drilling equipment will be inspected daily by the operator and maintained in a safe working condition. All down-hole drilling equipment is steam cleaned prior to arriving on site. Working components of the drill rig near the borehole, as well as the probe rods are thoroughly steam-cleaned between each boring location. All Clearwater drilling and sampling methods will be consistent with local, state and federal regulations.

The borehole for the soil vapor well may be installed using either direct push, hollow stem auger drilling equipment or hand driven using a rotary hammer or a hand auger. A soil vapor monitoring well example is shown on **Figure 1**. The sample probe consists of a probe tip through which the soil gas probe is collected, and probe tubing that extends from the probe tip to the ground surface. The sample probe tubing has a small diameter (1/8 to 1/4 inch). The sample probe and tubing is constructed of material that will not react or interact with the target compounds. The tubing is marked at the surface to identify the probe location and depth. The probe tip is placed midway between the top and bottom of the one-foot thick sampling interval, with a sand (or 60-100 sieve glass bead) pack extending approximately 6 inches above and below the probe tip. At least 1 foot of dry granular bentonite will be placed on top of the sand and then hydrated with clean water. The remainder of the annulus may be filled with hydrated bentonite pellets or lean cement grout.

For sampling from multiple depths, adjacent temporary soil vapor wells can be constructed in the same borehole. When using a hollow-stem auger drill, separate probe tips and sand packs can be set in the same borehole annulus at different depths. The probe tips and sand packs are separated by a minimum of one-foot thick layer of hydrated bentonite powder. The borehole will be grouted to the surface with hydrated bentonite.

Surface Completion

At the ground surface the sample probe tubing is sealed with a layer of hydrated bentonite pellets hand packed tightly around the tubing. The following components may be installed, as necessary:

- Gas-tight valve or fitting for capping the vapor point;
- Fitting for connection to above ground sampling equipment;

Soil Gas Probe Equilibration

Soil gas sampling will not be conducted for at least 30 minutes following probe installation using the direct push method to allow time for the soil gas to equilibrate within the sample probes and for the bentonite to hydrate. For probes installed with hollow stem auger drilling methods, soil gas sampling will not be conducted for at least 48 hours following probe installation.

Soil Vapor Sample Collection Using Suma Canisters

The soil vapor sample collection and analysis will follow the protocols provided in the California Department of Toxic Substances Control, Interim Final document, *Advisory – Active Soil Gas Investigations*, January 28, 2003 (Vapor Sampling Guidance Document).

The sample line is purged prior to collecting the sample. The soil vapor samples will be collected from the vapor monitoring wells according to EPA Method TO-15, using a specially prepared stainless steel canister (SUMA[®] canister). The canister is provided by and prepared for use by the analytical laboratory. A 6-liter sub-atmospheric-pressure SUMA[®] canister is used to collect each soil vapor sample. The canister is attached to the Geoprobe[®] gas sampling device using Teflon[®] tubing connected to a flow controller, which regulates the sample flow at 200 milliliters per minute into the SUMA canister. Prior to sample collection the initial vacuum pressure in the SUMA canister is recorded, then the canister valve is opened. Since the sub-atmospheric-pressure canister is an evacuated canister, the soil vapor sample is collected without the use of a sample pump. The canister valve is closed after the recommended sample duration of 30 minutes. The final canister pressure will be below atmospheric pressure. Following sample collection, the canister is sealed, the final canister pressure is recorded, and the sample name is recorded on the Chain-of-Custody document and sample label. The sample canisters will be sent under Chain of Custody documentation to a California-certified analytical laboratory and analyzed for the constituents of concern.

Leak Testing

A leak test is recommended each time a soil gas sample is collected. A leak check, or tracer, compound such as isopropanol is recommended to determine if leaks are present. Other compounds such as pentane, isobutene, propane, or butane may be used. A leak check compound is selected that is not known or suspected to be site related or otherwise associated with the site or nearby properties.

Immediately before sampling, the leak check compound is placed at each location where ambient air could enter the sampling system or where cross contamination may occur. For liquid compounds, a paper towel is wetted with the leak compound and the towel is placed over each location where air could enter the system. The leak check compound is included in the list of analytes looked for during laboratory analysis of each sample.

Quality Assurance Procedures

To prevent contamination of the samples, Clearwater personnel adhere to the following procedures in the field:

- A new, clean pair of latex gloves are put on prior to sampling each well.
- Wells are purged and samples are collected in the expected order of increasing degree of contamination based on historical analytical results.
- All purging equipment will be thoroughly decontaminated between each well.

Temporary Soil Vapor Well Abandonment

After the sample collection has been completed each temporary soil vapor well will be properly abandoned. Wells installed by Geoprobe drill will be pulled out from the ground surface, if possible, and the Geoprobe drill will be driven to a depth at least one foot greater than the depth of the well (overdriven). If the temporary well was installed using a hollow-stem auger drill the well will be overdriven using an auger as large a diameter as, or larger, than the augers that installed the well. The well borehole annulus will be filled with either bentonite pellets hydrated with clean water, or filled with lean cement grout, depending on local regulatory requirements. The ground surface will be restored to its original condition.

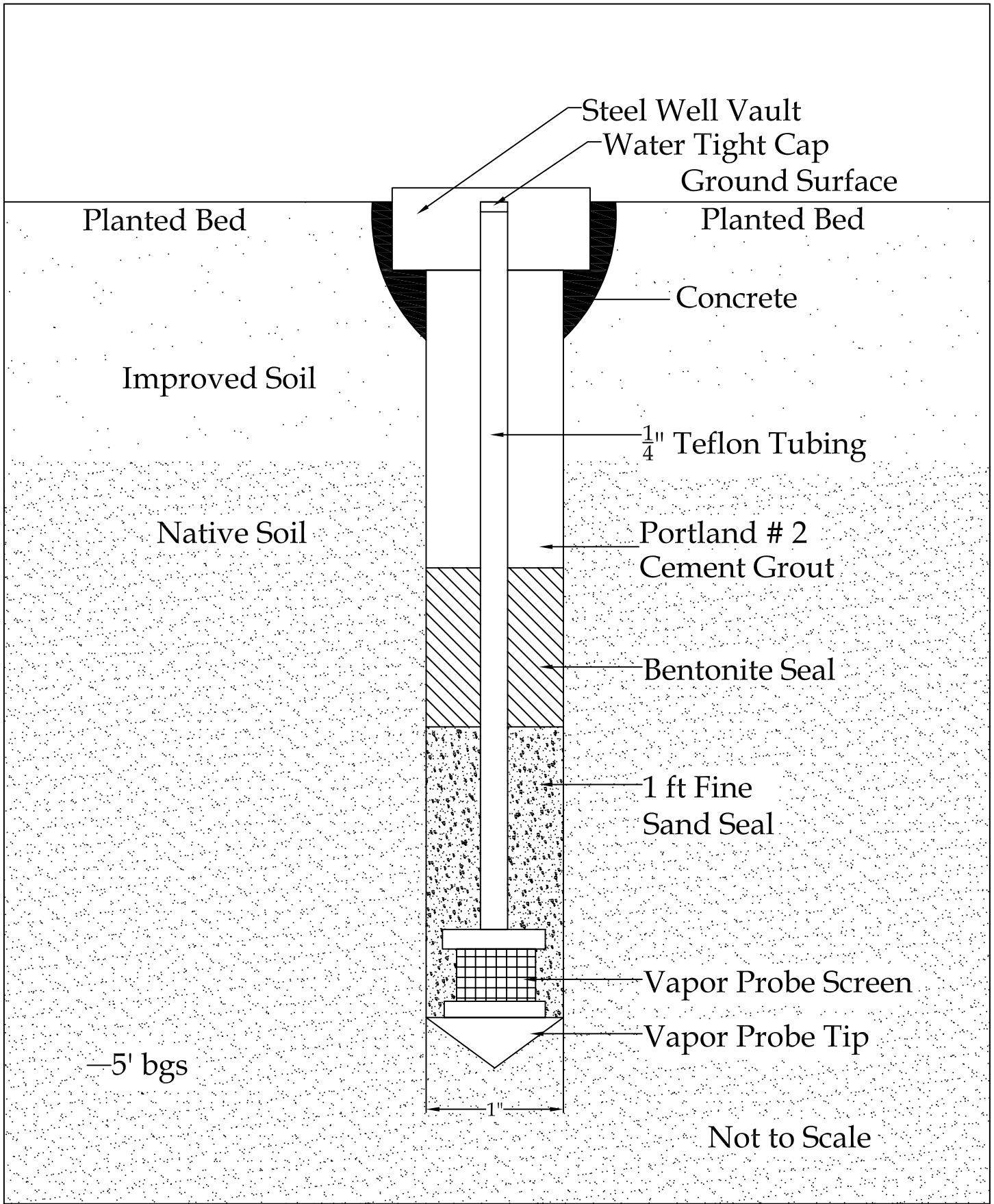
Recordkeeping

Proper record keeping consists of recording the following information, at a minimum:

- Sample identification information (location, depth, sample identifiers, data and time)
- Field personnel
- Weather conditions (temperature, wind speed, barometric pressure, precipitation, etc.)
- Sampling method, devices and equipment used
- Purge volumes prior to sample collection
- Volume of soil gas extracted per sample
- Vacuum of canisters before and after samples were collected
- If observable, the apparent moisture content of the sampling zone
- Shipment information, including chain-of-custody protocols and records.

Soil Waste Management

Soil cuttings are stockpiled on and covered with plastic sheeting to control runoff, or contained in 55-gallon D.O.T.-approved drums on site. Waste soil is sampled and analyzed to profile it for disposal, then hauled by a licensed waste hauler to an appropriate landfill. All waste stored on site is properly labeled at the time of production.



Soil Vapor Monitoring Point Installation at 5' bgs

Markus Supply Hardware
 632-638 2nd Street
 Oakland, California

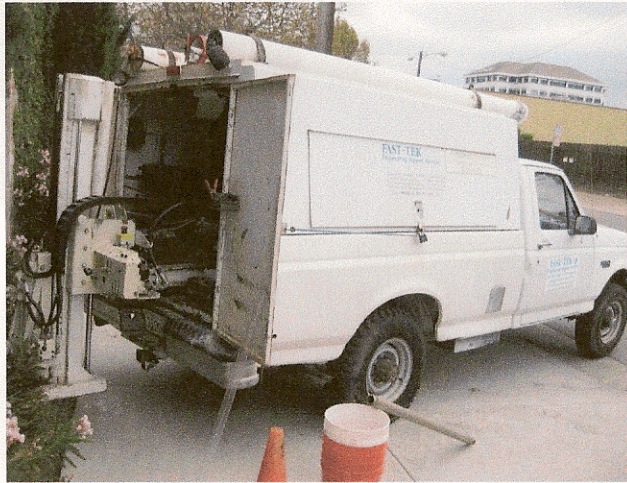
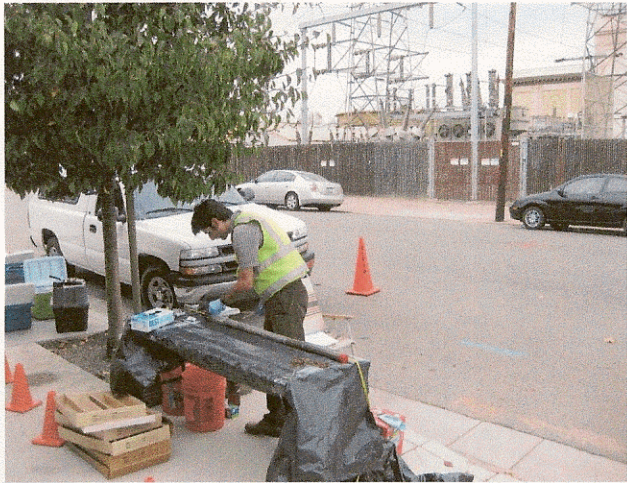
CLEARWATER GROUP

Project No.
GB001H

Figure Date
10/09

Figure
1

ATTACHMENT 3



CLEARWATER GROUP

Environmental Services

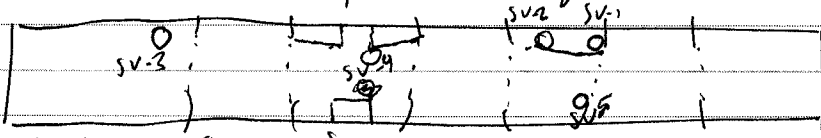
Date: 11/5/09
 Field Engineer/Technician: A Wilder
 Project Name: Markos Hardware
 Project Number: GB 001H
 Time Left For Site: 1220
 Time Arrived on site: 1245
 Time Departed site: 1600

DAILY FIELD REPORT

Page: 1 of 1

Company/ Firm: TAG Inc. dba Clearwater Group
 Project Manager: Olivia Jacobs
 Site Contact (name/phone): Dan Altwang
 Weather Conditions: Cloudy, calm
 (on-site)
 Comments on Traffic: calm

Time **EVENTS/COMMENTS/REMARKS**

1130 At place, getting gear prepared.
 1220 leave for site
 1245 Arrive on site. Set up area. Jim & Keith are getting up rig. All holes are cleared $1\frac{1}{2}$ by hand Auger

 1300 Start Drilling SV-1. Set vapor point.
 1330 Finish setting vapor point. Move to SV-5.
 1400 Setting SV-5 After some trouble Drilling at originally planned location.
 1430 Finish setting SV-5. Move to SV-2.
 1445 Start Drilling SV-2.
 1515 Finish SV-2 & Move to SV-4
 1530 Finish SV-4 & Move to SV-3
 1600 Finish SV-3 & clean up site. All Spillways Closed.

Please make sure to call to review field works and check box before leaving the site **Discussion with Project Manager:**

Project Manager: _____ Call-in Time: _____

Notes: _____

Urgent: _____

Purge Water/Rinse: _____ gal/drum #1 Tank to Instrat; Tank to Drum; Drum Left On Site:
 _____ gal/drum #2 Tank to Instrat; Tank to Drum; Drum Left On Site:
 _____ gal/drum #3 Tank to Instrat; Tank to Drum; Drum Left On Site:

Attachments: Well Gauging/Purging Calculation Data Sheet 1st break (during AM time) - Time: _____
 Purge Data Sheet 2nd break (during PM time) - Time: _____
 Equipment & Materials Billing Sheet Lunch break - Time: _____
 ISOC System Field Monitoring Data Sheet

Maintenance Comments: _____

Signature:  _____ Figures Included: _____

CLEARWATER GROUP

Environmental Services

DAILY FIELD REPORT

Page: 1 of 1

Date: 11-5-09
Field Engineer/Technician: Jim Jacobs
Project Name: Machus Supply Hardware
Project Number: GB001H
Time Left For Site: 11:30 AM
Time Arrived on site: 12:08 pm
Time Departed site: _____

Company/ Firm: TAG Inc. dba Clearwater Group
Project Manager: Olivia Jacobs
Site Contact (name/phone): Dan Altung
Weather Conditions: cloudy 65°f
(on-site)
Comments on Traffic: Traffic on R-80

Time **EVENTS/COMMENTS/REMARKS**

arrive on site 12:08pm Take cores & make (5) soil vapor points SU-1 to SU-5. Use magnetic locators (Sihonstakt Mag 51-B and Chicago steel Tape, Magnatray magnetic locator. Hand auger all points to 1'. Safety meeting with Jim Shoddice 1:30pm start SU-1. Continuous core 1' to 5' below ground surface. ^{implant to 5'} 4'-5'; #1/20 sand. 3' to 4'; 50% glass beads + bentonite in Portland #2 3' to surface. DE under used to hydrate bentonite slug. SU-1 completed 1:50pm, start SU-5 2:03pm refusal at 4' BES, relocate SU-5. Complete SU-5 2:30pm start SU-5 construction as SU-1. Complete with wooden stake at 2:38pm start SU-2 at 2:45pm to 5'. Complete at 3:15pm. SU-4 start at 3:20pm complete to 5'. Finish SU-4 at 3:40pm. Start SU-3 at 3:45pm. Complete to 5'. Finish SU-3 at 3:50pm.

Please make sure to call to review field works and check box before leaving the site **Discussion with Project Manager:**

Project Manager: _____ Call-in Time: _____
Notes: safety meeting: Olivia Jacobs, Jim Jacobs, Aron Wilder Kevin Pope (Geoprobe operator). On site Jim Shoddice Alameda County inspector (grant) @ 1pm.

Urgent: _____

Purge Water/Rinse: NONE

gal/drum #1	<input type="checkbox"/>	Tank to Instrat;	<input type="checkbox"/>	Tank to Drum;	<input type="checkbox"/>	Drum Left On Site;
gal/drum #2	<input type="checkbox"/>	Tank to Instrat;	<input type="checkbox"/>	Tank to Drum;	<input type="checkbox"/>	Drum Left On Site;
gal/drum #3	<input type="checkbox"/>	Tank to Instrat;	<input type="checkbox"/>	Tank to Drum;	<input type="checkbox"/>	Drum Left On Site;

Attachments: Well Gauging/Purging Calculation Data Sheet 1st break (during AM time) - Time: _____
 Purge Data Sheet 2nd break (during PM time) - Time: _____
 Equipment & Materials Billing Sheet Lunch break - Time: _____
 ISOC System Field Monitoring Data Sheet

Maintenance Comments: soil samples taken to warehouse.

Signature: Jim Jacobs Figures Included: _____

DAILY FIELD REPORT

Page: 1 of 3

Date: 11/6/09
 Field Engineer/Technician: A. Wilder
 Project Name: Munkys Hazardous
 Project Number: 08001H
 Time Left For Site: 1140
 Time Arrived on site: 1500
 Time Departed site: 1930

Company/ Firm: TAG Inc. dba Clearwater Group
 Project Manager: A.W. J. Oliver Jones
 Site Contact (name/phone): Don Atney
 Weather Conditions (on-site): Rainy
 Comments on Traffic: Very Congested

Time **EVENTS/COMMENTS/REMARKS**

1140 leave office for Concord to pickup equipment at Equipco.
1250 Arrive at Equipco. Drive to Walnut ck. To meet Don
 from Air toxics (Don). Traffic v. bad
1400 Meet Don from AT at W.C. BART Station. Pickup Calibration
 Tube. Drive to site
1500 Traffic Heavy. ~~at~~ AT site.
see pg 2 of 3

Please make sure to call to review field works and check box before leaving the site **Discussion with Project Manager:**

Project Manager: _____ Call-in Time: _____

Notes: _____

Urgent: _____

Purge Water/Rinse:	_____ gal/drum #1	<input type="checkbox"/> Tank to Instrat;	<input type="checkbox"/> Tank to Drum;	<input type="checkbox"/> Drum Left On Site:
	_____ gal/drum #2	<input type="checkbox"/> Tank to Instrat;	<input type="checkbox"/> Tank to Drum;	<input type="checkbox"/> Drum Left On Site:
	_____ gal/drum #3	<input type="checkbox"/> Tank to Instrat;	<input type="checkbox"/> Tank to Drum;	<input type="checkbox"/> Drum Left On Site:

*Mike start: 11300
11400*

Attachments: Well Gauging/Purging Calculation Data Sheet 1st break (during AM time) - Time: _____
 Purge Data Sheet 2nd break (during PM time) - Time: _____
 Equipment & Materials Billing Sheet Lunch break - Time: _____
 ISOC System Field Monitoring Data Sheet

Per CA Labor Law Breaks Meal Periods cannot be combined. A 10-minute break is mandatory with every 4 hours of service. Undocumented break by non-exempt employees will require the employee to sign a waiver.

Maintenance Comments: _____

Signature: Figures Included: _____

CLEARWATER GROUP

Environmental Services

DAILY FIELD REPORT

Page: 2 of 3

Date: 11/6/09
 Field Engineer/Technician: A. Wilson
 Project Name: Markus Kadway
 Project Number: 620014
 Time Left For Site: pyl
 Time Arrived on site: py.1
 Time Departed site: py.1

Company/ Firm: TAG Inc. dba Clearwater Group
 Project Manager: A. Wilson / D. Jacobs
 Site Contact (name/phone): Don Attaway
 Weather Conditions: Rainy
 Comments on Traffic: Heavy

Time EVENTS/COMMENTS/REMARKS

1500 Arrive on site. Unload. Set up at SV-3.
 - Purge 3 well vol. from 3/16" x 6' long LDPE Tubing.
 - Use Gilair 5 (low flow) active air pump

1600 - Determine flow rate - set at 100 ml/min.
 - Purge 3 volumes from SV-3. 1558 TO 1601 @ 100 ml/min.
 - Start Sampling using Summa canister at 1606, ~~and~~
 sorry it like fitted - intg at start = 30, Stop sample at 1616
 - Start Sample for SVOCs using Tecon tube - SV-3-1
 Set flow at 152 ml/min - Sample for 2 min -
 Start at #16 1 ml
purge 3 volumes

1708 - Move to SV-4, set flow at 185 ml/min, check canister
 - Sample, start sample at 1718 - end at 1730.
 Leak test w/ FA - 70%. Collect SVOCs - start after checking SV-4
 flow at 200 ml/min (196.5 actual). AT 1732 - end at 1733

Please make sure to call to review field works and check box before leaving the site. Discussion with Project Manager:

Project Manager: _____ Call-in Time: _____

Notes:

Urgent:

Purge Water/Rinse: _____ gal/drum #1 Tank to Instrat; Tank to Drum; Drum Left On Site;
 _____ gal/drum #2 Tank to Instrat; Tank to Drum; Drum Left On Site;
 _____ gal/drum #3 Tank to Instrat; Tank to Drum; Drum Left On Site;

Attachments: Well Gauging/Purging Calculation Data Sheet 1st break (during AM time) - Time: _____
 Purge Data Sheet 2nd break (during PM time) - Time: _____
 Equipment & Materials Billing Sheet Lunch break - Time: _____
 ISOC System Field Monitoring Data Sheet

Per CA Labor Law, Breaks Meal Periods cannot be combined. A 10-minute break is mandatory with every 4 hours of service. Undocumented breaks by non-exempt employees will require the employee to sign a waiver.

Maintenance Comments: _____

Signature: [Signature] Figures Included: _____

DAILY FIELD REPORT

Date: 11/19/09
 Field Engineer/Technician: E. LERVAAG
 Project Name: Maxkus Hdwe
 Project Number: G3001H
 Time Left For Site: 0745
 Time Arrived on site: 0830
 Time Departed site: 1415

Company/ Firm: TAG Inc. dba Clearwater Group
 Project Manager: E. LERVAAG
 Site Contact (name/phone): DAN ALTWARK
 Weather Conditions: 60F Sunny, NO WIND
 (on-site)
 Comments on Traffic: Light

Time	EVENTS/COMMENTS/REMARKS
0830 0830	- ARRIVE ON-SITE, met with TEG technician, Leif Johnson - STILL CALIBRATING EQUIP. ESTIMATE 30-45 more minutes ⁹¹⁶⁻⁹⁹⁷⁻³⁰⁵³
0915	- TECHNICIAN TOOK AMBIENT AIR sample, 4.5 feet above ground, ON SIDEWALK in front of door to 632. O ₂ , CO ₂ TESTING EQUIPMENT GIVING UNRELIABLE DATA. TECHNICIAN WILL TRY TO TROUBLE SHOOT.
0950	- O ₂ /CO ₂ machine repaired BEGAIN set up for sampling
1000	- PULLED FIRST VAPOR sample will collect 3 TOTAL AT SV-5 First sample - 1 purge volume second sample - 3 purge volumes third sample - 7 purge volumes } ND for VOCs O ₂ → ± 12% CO ₂ → ± .2%
1025	- PULLED second sample @ SV-5 (3 purge vol.)
1057	- PULLED third sample @ SV-5 (7 vol) - ALL samples show non-detect for VOC. will use 3 purge volumes (INDUSTRY STD) before sampling
1105	- sample SV-1 → DRAW 3 TUBE VOLUMES THEN sample. ND for VOCs
1130	- sample SV-2 → ND for VOC O ₂ /CO ₂ READINGS UNSTABLE
1205	- sample SV-3 → ND for VOC O ₂ /CO ₂ READINGS UNSTABLE
1237	- sample SV-4 - ND for VOC DISCONTINUE O ₂ /CO ₂
1300	- RUN DUPLICATE sample @ SV-4 for QA/QC → ND for VOC
1325	- RUN CALIBRATION GAS TO check equipment

Urgent: CALIBRATION STD → 1 ppbv VOC
 1350 - CALIBRATION check OK. will delete O₂/CO₂ readings and reduce charge due to faulty equipment.

Purge Water/Rinse: _____ gal/drum #1 Tank to Instrat; Tank to Drum; Drum Left On Site;
 _____ gal/drum #2 Tank to Instrat; Tank to Drum; Drum Left On Site;
 _____ gal/drum #3 Tank to Instrat; Tank to Drum; Drum Left On Site;

1400 - RECEIVED PRELIMINARY PRINTOUT from tech
 Attachments: Well Gauging/Purging Calculation Data Sheet
 Purge Data Sheet
 Equipment & Materials Billing Sheet
 ISOC System Field Monitoring Data Sheet
 ALL ND

Maintenance Comments: - WENT INSIDE TO TALK TO DAN. HE IS OUT TO LUNCH
 1415 LEFT SITE

Signature: _____ Figures Included: _____

CLEARWATER

G R O U P

Environmental Services

Date <u>11/20/09</u>	DAILY FIELD REPORT	Page: <u>1</u> of <u>1</u>
Field Engineer/Technician <u>O. JACOBS</u>	Company/ Firm: <u>CLEARWATER</u>	
Project Name: <u>MARKUS HDWE.</u>	Project Manager: <u>E. LERVAAG</u>	
Project Number: <u>6B001H</u>	Site Contact (name/phone): <u>Dan Altvarg</u>	
Time Left For Site: <u>0750</u>	Weather Conditions: <u>@ 50°F windy</u>	
Time Arrived on site: <u>0810</u>	(on-site)	<u>overcast → sprinkling</u>
Time Departed site: <u>1018</u>	Comments on Traffic: <u>moderate</u>	

Time	EVENTS/COMMENTS/REMARKS
0810	Set up tools. Used pickax, trowel to uncover cement plug with extruding 1/4" teflon tube. Chipped plug to @ 1' bgs.
0910	All plugs uncovered. Tube on SY-2 severed during plug exposure. E.L. on site to pull tubes on the 4 remaining boring locations. All 5 tube holes filled with medicine dropper with at least 30 ml of thin cement. Each hole filled until subsidence of cement ceased.
1010	John Shoultice, ACPWA, on site for grout inspection. All excavated soils emplaced over the grouted hole.
1018	Off site

Urgent:

Purge Water/Rinse:		gal/drum #1	<input type="checkbox"/> Tank to Instrat;	<input type="checkbox"/> Tank to Drum;	<input type="checkbox"/> Drum Left On Site;
		gal/drum #2	<input type="checkbox"/> Tank to Instrat;	<input type="checkbox"/> Tank to Drum;	<input type="checkbox"/> Drum Left On Site;
		gal/drum #3	<input type="checkbox"/> Tank to Instrat;	<input type="checkbox"/> Tank to Drum;	<input type="checkbox"/> Drum Left On Site;

Attachments:

- Well Gauging/Purging Calculation Data Sheet
- Purge Data Sheet
- Equipment & Materials Billing Sheet
- ISOC System Field Monitoring Data Sheet

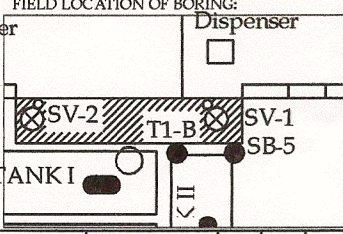
Maintenance Comments: Restored landscaped beds and tree well to pre-boring condition.







Signature: *O. Jacobs* **Figures Included:** none

SOIL BORING AND WELL CONSTRUCTION LOG:
CLEARWATER GROUP

Project No. GB001H

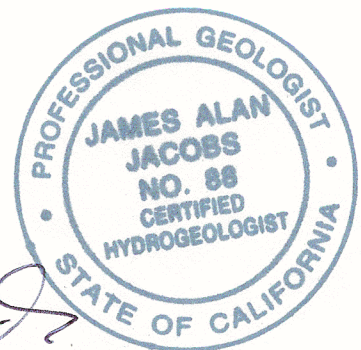
Sheet 1 of 1

FIELD LOCATION OF BORING: 		CLIENT/LOCATION: 626 2nd St., Oakland, California		JOB NO#: GB001H	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.: SV-1	
		DRILLING CONTRACTOR: Fast Tek Engineering Support Service		DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: 5.0'	BORING DIAMETER: 1.75"	
		DRILL RIG OPERATOR:		WELL MATERIAL: Teflon Tubing	BORING DEPTH: 5.3'	FILTER PACK: 2/12 + Glass Beads	
		Condition: Soil boring drilled by Fast-Tek on 11/05/09				DRILLING DATE: 11/05/09	

	WELL CONSTRUCTION DETAIL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	PID	ODOR	DEPTH (FEET)	GRAPHIC LOG	SAMPLING METHOD: 4' long, 1.75 dia Continuou Macro-Core
	 #2 Portland Cement		12	G	-	NU	N	1	 Hand Auger to 12". Topsoil - Silt with sand (ML), yellowish brown, no odor, moist, 55% silt, 35% fine sand, 10 % clay.	MONITORING INSTRUMENT: Not Used
		48	36					2		
	 Bentonite						0	3	 Poorly graded sand with silt (SP-SM), dark brown, organic odor, moist, 90% fine sand, 10% silt.	FIRST ENCOUNTERED WATER DEPTH: Not Encountered
							0	4		
	 # 2/12 Sand + Glass Beads							5	 No recovery	STATIC WATER DEPTH: NA
								6		
								7		Soil vapor point consists of 1/4-inch diameter Teflon tubing with in-line porous polyethylene diffuser tip at base of tubing. A two-way stopcock is at top of tubing, 18 inches above ground surface
								8		
								9		
								10		
								11		
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LOGGED BY: A. Wilder

APPROVED BY: J. Jacobs



James Alan Jacobs

SOIL BORING AND WELL CONSTRUCTION LOG:
CLEARWATER GROUP

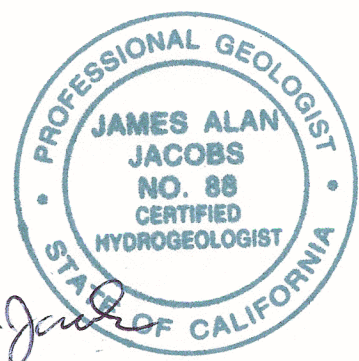
Project No. GB001H

Sheet 1 of 1

FIELD LOCATION OF BORING: 				CLIENT/LOCATION: 626 2nd St., Oakland, California				JOB NO. #: GB001H		PROJ. MANAGER: E. Lervaag		BORING/WELL NO.: SV-2	
DRILLING CONTRACTOR: Fast Tek Engineering Support Service				DRILL RIG TYPE: Geoprobe 5400		WELL DEPTH: 5.0'		BORING DIAMETER: 1.75"					
DRILL RIG OPERATOR: Kevin Pope				WELL MATERIAL: Teflon Tubing		BORING DEPTH: 5.0'		FILTER PACK: 2/12 + Glass Beads					
Condition: Soil boring drilled by Fast-Tek on 11/05/09								DRILLING DATE: 11/05/09					
WELL CONSTRUCTION DETAIL		INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (mm/ft)	PID	ODOR	DEPTH (FEET)	GRAPHIC LOG				
#2 Portland Cement Grout		12			-	NU	N	1	Hand Auger to 12". Topsoil - Silt with sand (ML), yellowish brown, no odor, moist, 55% silt, 35% fine sand, 10 % clay.				
Bentonite		48	36				N	2	Fill: Poorly graded fine sand (SP), brown, no odor, moist, 90% fine sand, 5% medium sand, 5% silt.				
# 2/12 Sand + Glass Beads								3	Poorly graded fine sand (SP), medium dark brown, no odor, wet, 90% fine sand, 5% very fine sand, 5% silt.				
								4	1.0' to total depth 4' Sampler driver by Geoprobe 5400 rig.				
								5	No recovery				
								6	Total Depth = 5.0'				
								7	N = No Odor				
								8	O = Organic Odor				
								9	NU = Not Used				
								10	G = Good				
								11	NA = Not Applicable				
								12	LDPE = Low Density Polyethylene				
								13					
								14					
								15					
								16					
								17					
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LOGGED BY: A. Wilder

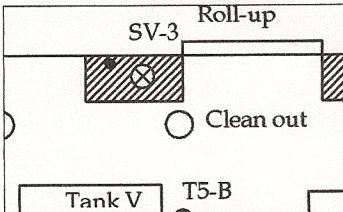
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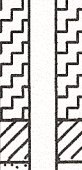







SOIL BORING AND WELL CONSTRUCTION LOG:
CLEARWATER GROUP

Project No. GB001H

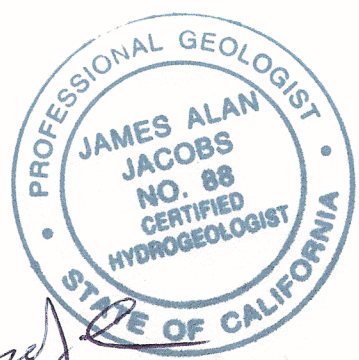
Sheet 1 of 1

FIELD LOCATION OF BORING: 		CLIENT/LOCATION: 626 2nd St., Oakland, California		JOB NO#: GB001H	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.: SV-3
		DRILLING CONTRACTOR: Fast Tek Engineering Support Service		DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: 5.0'	BORING DIAMETER: 1.75"
		DRILL RIG OPERATOR: Kevin Pope		WELL MATERIAL: Teflon Tubing	BORING DEPTH: 5.0'	FILTER PACK: 2/12 + Glass Beads
		Condition: Soil boring drilled by Fast-Tek on 11/05/09				DRILLING DATE: 11/05/09

WELL CONSTRUCTION DETAIL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	PID	DEPTH (FEET)	GRAPHIC LOG	DESCRIPTION
		12	G	-	NU N	1		Hand Auger to 12". Topsoil - Silt with sand (ML), yellowish brown, no odor, moist, 55% silt, 35% fine sand, 10 % clay.
	48	36			N	2		Fill: Poorly graded fine sand, light brown, no odor, moist, 90% fine sand, 10% silt, trace gravel.
					N	3		Poorly graded fine sand, dark brown, no odor, moist, 90% fine sand, 10% silt, evaporite nodules.
					N	4		1.0' to total depth 4' Sampler driver by Geoprobe 5400 rig.
						5		No recovery
						6		Total Depth = 5.0' O = Organic Odor NU = Not Used G = Good NA = Not Applicable LDPE = Low Density Polyethylene
						7		
						8		
						9		
						10		
						11		
						12		
						13		
						14		
						15		
						16		Soil vapor point consists of 1/4-inch diameter Teflon tubing with in-line porous polyethylene diffuser tip at base of tubing. A two-way stopcock is at top of tubing, 16 inches above ground surface
						17		
						18		
						19		
						20		
						21		
						22		
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						29		
						30		

LOGGED BY: A. Wilder

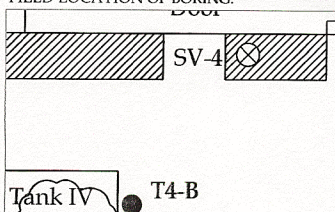
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






James Alan Jacobs

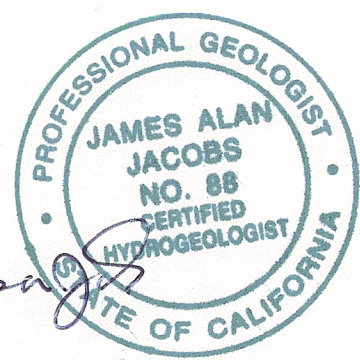
SOIL BORING AND WELL CONSTRUCTION LOG:
CLEARWATER GROUP

Project No. GB001H
 Sheet 1 of 1

FIELD LOCATION OF BORING: 		CLIENT/LOCATION: 626 2nd St., Oakland, California	JOB NO#: GB001H	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.: SV-4
		DRILLING CONTRACTOR: Fast Tek Engineering Support Service	DRILL RIG TYPE: Geoprobe 5400 Rig	WELL DEPTH: 5.0'	BORING DIAMETER: 1.75"
		DRILL RIG OPERATOR: Kevin Pope	WELL MATERIAL: Teflon Tubing	BORING DEPTH: 5.0'	FILTER PACK: 2/12 + Glass Beads
Condition: Soil boring drilled by Fast-Tek on 11/05/09				DRILLING DATE: 11/05/09	

WELL CONSTRUCTION DETAIL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	PID	ODOR	DEPTH (FEET)	GRAPHIC LOG
#2 Portland Cement Grout	12	12	G	-	NU	N	1	    
Bentonite	48	36				N	2	
						N	3	
# 2/12 Sand + Glass Beads						N	4	
							5	
							6	<p>Total Depth = 5.0'</p> <p>N = No Odor NU = Not Used G = Good NA = Not Applicable LDPE = Low Density Polyethylene</p> <p>Soil vapor point consists of 1/4-inch diameter Teflon tubing with in-line porous polyethylene diffuser tip at base of tubing. A two-way stopcock is at top of tubing, 16 inches above ground surface</p>
							7	
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LOGGED BY: A. Wilder
 APPROVED BY: J. Jacobs



SOIL BORING AND WELL CONSTRUCTION LOG:
CLEARWATER GROUP

Project No. GB001H

Sheet 1 of 1

		CLIENT/LOCATION: 626 2nd St., Oakland, California		JOB NO#: GB001H	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.: SV-5
DRILLING CONTRACTOR: Fast Tek Engineering Support Service		DRILL RIG TYPE: Geoprobe 5400		WELL DEPTH: 5.0'		BORING DIAMETER: 1.75"
DRILL RIG OPERATOR: Kevin Pope		WELL MATERIAL: Teflon Tubing		BORING DEPTH: 5.0'		FILTER PACK: 2/12 + Glass Beads
Condition: Soil boring drilled by Fast-Tek on 11/05/09						DRILLING DATE: 11/05/09

	WELL CONSTRUCTION DETAIL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	PID	ODOK	DEPTH (FEET)	GRAPHIC LOG	
	#2 Portland Cement Grout		12	G	-	NU	N	1		Hand Auger to 12". Topsoil - Silt with sand (ML), yellowish brown, no odor, moist, 55% silt, 35% fine sand, 10 % clay.
		48	36					2		Fill: Poorly graded fine sand with silt, brown, no odor, moist, 90% fine sand, 10% silt.
	Bentonite						N	3		Poorly graded fine sand with silt, grayish red, no odor, moist, few fine roots, iron oxide staining, 75% fine sand, 15% silt, 10% clay. 1.0' to total depth 4' Sampler driver by Geoprobe 5400 rig.
	# 2/12 Sand + Glass Beads						N	4		No recovery
								5		Total Depth = 5.0'
								6		N = No Odor
								7		NU = Not Used
								8		G = Good
								9		NA = Not Applicable
								10		LDPE = Low Density Polyethylene
								11		
								12		
								13		
								14		
								15		
								16		
								17		
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								29		

LOGGED BY: A. Wilder

APPROVED BY: J. Jacobs

ATTACHMENT 4

11/16/2009

Mr. Eric Lervaag
Clearwater Group, Inc.
229 Tewksbury Avenue

Point Richmond CA 94801

Project Name: Markus Hardware

Project #:

Workorder #: 0911177A

Dear Mr. Eric Lervaag

The following report includes the data for the above referenced project for sample(s) received on 11/9/2009 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,




Kyle Vagadori
Project Manager

WORK ORDER #: 0911177A

Work Order Summary

CLIENT:	Mr. Eric Lervaag Clearwater Group, Inc. 229 Tewksbury Avenue Point Richmond, CA 94801	BILL TO:	Mr. Eric Lervaag Clearwater Group, Inc. 229 Tewksbury Avenue Point Richmond, CA 94801
PHONE:	510-307-9943 x227	P.O. #	6P001H
FAX:		PROJECT #	Markus Hardware
DATE RECEIVED:	11/09/2009	CONTACT:	Kyle Vagadori
DATE COMPLETED:	11/16/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-3-	Modified TO-15 (5&20 ppbv)	0.6 "Hg	15 psi
03A	SV-4	Modified TO-15 (5&20 ppbv)	0.0 "Hg	15 psi
05A	SV-5	Modified TO-15 (5&20 ppbv)	0.8 "Hg	15 psi
07A	SV-1	Modified TO-15 (5&20 ppbv)	0.0 "Hg	15 psi
09A	SV-2-AC	Modified TO-15 (5&20 ppbv)	0.0 "Hg	15 psi
10A	SV-2	Modified TO-15 (5&20 ppbv)	0.0 "Hg	15 psi
10AA	SV-2 Lab Duplicate	Modified TO-15 (5&20 ppbv)	0.0 "Hg	15 psi
11A	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA
12A	CCV	Modified TO-15 (5&20 ppbv)	NA	NA
13A	LCS	Modified TO-15 (5&20 ppbv)	NA	NA

CERTIFIED BY: 

DATE: 11/16/09

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

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

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified TO-15 Soil Gas
Clearwater Group, Inc.
Workorder# 0911177A**

Six 1 Liter Summa Canister samples were received on November 09, 2009. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Samples SV-4, SV-1, SV-2-AC and SV-2 arrived at ambient pressure yet flow controllers were used for sample collection.

The canister valve on sample SV-1 was received open and a brass plug was used to seal the canister.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

Definition of Data Qualifying Flags

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS**

Client Sample ID: SV-3-

Lab ID#: 0911177A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	41	43	100	100
TPH ref. to Gasoline (MW=100)	210	450	840	1800

Client Sample ID: SV-4

Lab ID#: 0911177A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	2000	470000	5000	1200000
TPH ref. to Gasoline (MW=100)	10000	17000	41000	69000

Client Sample ID: SV-5

Lab ID#: 0911177A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	42	790	100	1900
TPH ref. to Gasoline (MW=100)	210	3700	850	15000

Client Sample ID: SV-1

Lab ID#: 0911177A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	2000	500000	5000	1200000

Client Sample ID: SV-2-AC

Lab ID#: 0911177A-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	40	98	99	240

Client Sample ID: SV-2

Lab ID#: 0911177A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
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**Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS**

Client Sample ID: SV-2

Lab ID#: 0911177A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	4000	1800000 E	9900	4600000 E

Client Sample ID: SV-2 Lab Duplicate

Lab ID#: 0911177A-10AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	4000	1800000 E	9900	4400000 E

Client Sample ID: SV-3-

Lab ID#: 0911177A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111119	Date of Collection: 11/6/09 2:15:00 PM
Dil. Factor:	2.06	Date of Analysis: 11/12/09 12:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	41	43	100	100
Benzene	10	Not Detected	33	Not Detected
Toluene	10	Not Detected	39	Not Detected
Ethyl Benzene	10	Not Detected	45	Not Detected
m,p-Xylene	10	Not Detected	45	Not Detected
o-Xylene	10	Not Detected	45	Not Detected
TPH ref. to Gasoline (MW=100)	210	450	840	1800

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: SV-4

Lab ID#: 0911177A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111123	Date of Collection: 11/6/09 5:30:00 PM
Dil. Factor:	101	Date of Analysis: 11/12/09 02:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	2000	470000	5000	1200000
Benzene	500	Not Detected	1600	Not Detected
Toluene	500	Not Detected	1900	Not Detected
Ethyl Benzene	500	Not Detected	2200	Not Detected
m,p-Xylene	500	Not Detected	2200	Not Detected
o-Xylene	500	Not Detected	2200	Not Detected
TPH ref. to Gasoline (MW=100)	10000	17000	41000	69000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: SV-5

Lab ID#: 0911177A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111124	Date of Collection: 11/6/09 5:57:00 PM
Dil. Factor:	2.08	Date of Analysis: 11/12/09 03:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	42	790	100	1900
Benzene	10	Not Detected	33	Not Detected
Toluene	10	Not Detected	39	Not Detected
Ethyl Benzene	10	Not Detected	45	Not Detected
m,p-Xylene	10	Not Detected	45	Not Detected
o-Xylene	10	Not Detected	45	Not Detected
TPH ref. to Gasoline (MW=100)	210	3700	850	15000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: SV-1

Lab ID#: 0911177A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111125	Date of Collection: 11/6/09 6:20:00 PM
Dil. Factor:	101	Date of Analysis: 11/12/09 03:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	2000	500000	5000	1200000
Benzene	500	Not Detected	1600	Not Detected
Toluene	500	Not Detected	1900	Not Detected
Ethyl Benzene	500	Not Detected	2200	Not Detected
m,p-Xylene	500	Not Detected	2200	Not Detected
o-Xylene	500	Not Detected	2200	Not Detected
TPH ref. to Gasoline (MW=100)	10000	Not Detected	41000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: SV-2-AC

Lab ID#: 0911177A-09A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111126	Date of Collection: 11/6/09 6:50:00 PM
Dil. Factor:	2.02	Date of Analysis: 11/12/09 03:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	40	98	99	240
Benzene	10	Not Detected	32	Not Detected
Toluene	10	Not Detected	38	Not Detected
Ethyl Benzene	10	Not Detected	44	Not Detected
m,p-Xylene	10	Not Detected	44	Not Detected
o-Xylene	10	Not Detected	44	Not Detected
TPH ref. to Gasoline (MW=100)	200	Not Detected	830	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: SV-2

Lab ID#: 0911177A-10A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111127	Date of Collection: 11/6/09 7:00:00 PM
Dil. Factor:	202	Date of Analysis: 11/12/09 04:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	4000	1800000 E	9900	4600000 E
Benzene	1000	Not Detected	3200	Not Detected
Toluene	1000	Not Detected	3800	Not Detected
Ethyl Benzene	1000	Not Detected	4400	Not Detected
m,p-Xylene	1000	Not Detected	4400	Not Detected
o-Xylene	1000	Not Detected	4400	Not Detected
TPH ref. to Gasoline (MW=100)	20000	Not Detected	83000	Not Detected

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: SV-2 Lab Duplicate

Lab ID#: 0911177A-10AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111128	Date of Collection: 11/6/09 7:00:00 PM
Dil. Factor:	202	Date of Analysis: 11/12/09 04:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	4000	1800000 E	9900	4400000 E
Benzene	1000	Not Detected	3200	Not Detected
Toluene	1000	Not Detected	3800	Not Detected
Ethyl Benzene	1000	Not Detected	4400	Not Detected
m,p-Xylene	1000	Not Detected	4400	Not Detected
o-Xylene	1000	Not Detected	4400	Not Detected
TPH ref. to Gasoline (MW=100)	20000	Not Detected	83000	Not Detected

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: Lab Blank

Lab ID#: 0911177A-11A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111115	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/12/09 10:16 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	20	Not Detected	49	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
TPH ref. to Gasoline (MW=100)	100	Not Detected	410	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: CCV

Lab ID#: 0911177A-12A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 07:21 PM

Compound	%Recovery
2-Propanol	106
Benzene	103
Toluene	102
Ethyl Benzene	106
m,p-Xylene	106
o-Xylene	109
TPH ref. to Gasoline (MW=100)	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 0911177A-13A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w111104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 07:48 PM

Compound	%Recovery
2-Propanol	110
Benzene	100
Toluene	104
Ethyl Benzene	104
m,p-Xylene	104
o-Xylene	105
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

11/12/2009

Mr. Eric Lervaag
Clearwater Group, Inc.
229 Tewksbury Avenue

Point Richmond CA 94801

Project Name: Markus Hardware
Project #:
Workorder #: 0911177B

Dear Mr. Eric Lervaag

The following report includes the data for the above referenced project for sample(s) received on 11/9/2009 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 0911177B

Work Order Summary

CLIENT:	Mr. Eric Lervaag Clearwater Group, Inc. 229 Tewksbury Avenue Point Richmond, CA 94801	BILL TO:	Mr. Eric Lervaag Clearwater Group, Inc. 229 Tewksbury Avenue Point Richmond, CA 94801
PHONE:	510-307-9943 x227	P.O. #	6P001H
FAX:		PROJECT #	Markus Hardware
DATE RECEIVED:	11/09/2009	CONTACT:	Kyle Vagadori
DATE COMPLETED:	11/12/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
02A	SV-3-1	Modified TO-17
04A	SV-4-1	Modified TO-17
06A	SV-5-1	Modified TO-17
08A	SV-1-1	Modified TO-17
11A	SV-2-1	Modified TO-17
12A	SV-2-1-DUP	Modified TO-17
13A	Lab Blank	Modified TO-17
14A	CCV	Modified TO-17
15A	LCS	Modified TO-17

CERTIFIED BY: 

DATE: 11/12/09

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

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

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
TO-17 - Markes ATD
Clearwater Group, Inc.
Workorder# 0911177B

Six TO-17 Tube (Tenax-GR) samples were received on November 09, 2009. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for further separation.

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

<i>Requirement</i>	<i>TO-17</i>	<i>ATL Modifications</i>
Laboratory Blank	At least 2 tubes from the same cleaning batch as the samples are analyzed at the beginning and end of the analytical sequence. Do not dry purge Lab Blanks.	Tubes used for daily lab blank may or may not be from the same batch or sampling media. Only 1 lab blank is analyzed prior to sample analysis. Lab blanks are dry purged to eliminate the possibility of sample anomaly attributed to dry purge process.
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-17 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

A Temperature Blank was included with the shipment. Temperature was measured and was not within 4±2 °C. Coolant in the form of blue ice was present. Analysis proceeded.

Analytical Notes

A sampling volume of 0.32 L was used to convert ng to ug/m³ for the associated Lab Blank.

Definition of Data Qualifying Flags

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

- B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
MODIFIED METHOD TO-17**

Client Sample ID: SV-3-1

Lab ID#: 0911177B-02A

No Detections Were Found.

Client Sample ID: SV-4-1

Lab ID#: 0911177B-04A

No Detections Were Found.

Client Sample ID: SV-5-1

Lab ID#: 0911177B-06A

No Detections Were Found.

Client Sample ID: SV-1-1

Lab ID#: 0911177B-08A

No Detections Were Found.

Client Sample ID: SV-2-1

Lab ID#: 0911177B-11A

No Detections Were Found.

Client Sample ID: SV-2-1-DUP

Lab ID#: 0911177B-12A

No Detections Were Found.

Client Sample ID: SV-3-1

Lab ID#: 0911177B-02A

MODIFIED METHOD TO-17

File Name:	j111112	Date of Extraction: NA	Date of Collection: 11/6/09 4:33:00 PM
Dil. Factor:	1.00	Date of Analysis: 11/12/09 09:20 AM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-GR)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	83	70-130

Client Sample ID: SV-4-1

Lab ID#: 0911177B-04A

MODIFIED METHOD TO-17

File Name:	j111113	Date of Extraction: NA	Date of Collection: 11/6/09 5:33:00 PM
Dil. Factor:	1.00	Date of Analysis: 11/12/09 10:02 AM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200

Container Type: TO-17 Tube (Tenax-GR)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	92	70-130

Client Sample ID: SV-5-1

Lab ID#: 0911177B-06A

MODIFIED METHOD TO-17

File Name:	j111114	Date of Extraction: NA	Date of Collection: 11/6/09 5:59:00 PM
Dil. Factor:	1.00	Date of Analysis: 11/12/09 10:45 AM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-GR)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	84	70-130

Client Sample ID: SV-1-1

Lab ID#: 0911177B-08A

MODIFIED METHOD TO-17

File Name:	j111115	Date of Extraction: NA	Date of Collection: 11/6/09 6:21:00 PM
Dil. Factor:	1.00	Date of Analysis: 11/12/09 11:28 AM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	16	Not Detected	Not Detected
TPH (Diesel Range)	1000	3100	Not Detected	Not Detected

Air Sample Volume(L): 0.320
Container Type: TO-17 Tube (Tenax-GR)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	80	70-130

Client Sample ID: SV-2-1

Lab ID#: 0911177B-11A

MODIFIED METHOD TO-17

File Name:	j111116	Date of Extraction: NA	Date of Collection: 11/6/09 7:09:00 PM
Dil. Factor:	1.00	Date of Analysis: 11/12/09 12:11 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	18	Not Detected	Not Detected
TPH (Diesel Range)	1000	3700	Not Detected	Not Detected

Air Sample Volume(L): 0.270
Container Type: TO-17 Tube (Tenax-GR)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	82	70-130

Client Sample ID: SV-2-1-DUP

Lab ID#: 0911177B-12A

MODIFIED METHOD TO-17

File Name:	j111117	Date of Extraction: NA	Date of Collection: 11/6/09 7:09:00 PM
Dil. Factor:	1.00	Date of Analysis: 11/12/09 12:54 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	18	Not Detected	Not Detected
TPH (Diesel Range)	1000	3700	Not Detected	Not Detected

Air Sample Volume(L): 0.270

Container Type: TO-17 Tube (Tenax-GR)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	90	70-130

Client Sample ID: Lab Blank

Lab ID#: 0911177B-13A

MODIFIED METHOD TO-17

File Name:	j111110	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 07:31 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	16	Not Detected	Not Detected
TPH (Diesel Range)	1000	3100	Not Detected	Not Detected

Air Sample Volume(L): 0.320
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	89	70-130

Client Sample ID: CCV

Lab ID#: 0911177B-14A

MODIFIED METHOD TO-17

File Name:	j111107	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 05:23 PM	

Compound	%Recovery
Naphthalene	84
TPH (Diesel Range)	81

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	89	70-130

Client Sample ID: LCS

Lab ID#: 0911177B-15A

MODIFIED METHOD TO-17

File Name:	j111109	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 06:48 PM	

Compound	%Recovery
Naphthalene	88
TPH (Diesel Range)	72

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	89	70-130

11/12/2009

Mr. Eric Lervaag
Clearwater Group, Inc.
229 Tewksbury Avenue

Point Richmond CA 94801

Project Name: Markus Hardware
Project #:
Workorder #: 0911177C

Dear Mr. Eric Lervaag

The following report includes the data for the above referenced project for sample(s) received on 11/9/2009 at Air Toxics Ltd.

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

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

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 0911177C

Work Order Summary

CLIENT:	Mr. Eric Lervaag Clearwater Group, Inc. 229 Tewksbury Avenue Point Richmond, CA 94801	BILL TO:	Mr. Eric Lervaag Clearwater Group, Inc. 229 Tewksbury Avenue Point Richmond, CA 94801
PHONE:	510-307-9943 x227	P.O. #	6P001H
FAX:		PROJECT #	Markus Hardware
DATE RECEIVED:	11/09/2009	CONTACT:	Kyle Vagadori
DATE COMPLETED:	11/12/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-3-	Modified ASTM D-1946	0.6 "Hg	15 psi
03A	SV-4	Modified ASTM D-1946	0.0 "Hg	15 psi
05A	SV-5	Modified ASTM D-1946	0.8 "Hg	15 psi
07A	SV-1	Modified ASTM D-1946	0.0 "Hg	15 psi
09A	SV-2-AC	Modified ASTM D-1946	0.0 "Hg	15 psi
10A	SV-2	Modified ASTM D-1946	0.0 "Hg	15 psi
10AA	SV-2 Lab Duplicate	Modified ASTM D-1946	0.0 "Hg	15 psi
11A	Lab Blank	Modified ASTM D-1946	NA	NA
12A	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 

DATE: 11/12/09

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

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

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE

Modified ASTM D-1946

Clearwater Group, Inc.

Workorder# 0911177C

Six 1 Liter Summa Canister samples were received on November 09, 2009. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

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

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

Receiving Notes

Samples SV-4, SV-2-AC and SV-2 arrived at ambient pressure yet flow controllers were used for sample collection.

The canister valve on sample SV-1 was received open and a brass plug was used to seal the canister.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: SV-3-

Lab ID#: 0911177C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	11
Carbon Dioxide	0.021	8.0

Client Sample ID: SV-4

Lab ID#: 0911177C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	17
Carbon Dioxide	0.020	3.3

Client Sample ID: SV-5

Lab ID#: 0911177C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	8.8
Carbon Dioxide	0.021	11

Client Sample ID: SV-1

Lab ID#: 0911177C-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	14
Carbon Dioxide	0.020	6.4

Client Sample ID: SV-2-AC

Lab ID#: 0911177C-09A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	22
Carbon Dioxide	0.020	0.046

Client Sample ID: SV-2

Lab ID#: 0911177C-10A

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

Client Sample ID: SV-2

Lab ID#: 0911177C-10A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	20
Carbon Dioxide	0.020	1.8

Client Sample ID: SV-2 Lab Duplicate

Lab ID#: 0911177C-10AA

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	20
Carbon Dioxide	0.020	1.8

Client Sample ID: SV-3-

Lab ID#: 0911177C-01A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111110	Date of Collection: 11/6/09 2:15:00 PM
Dil. Factor:	2.06	Date of Analysis: 11/11/09 11:07 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	11
Methane	0.00021	Not Detected
Carbon Dioxide	0.021	8.0

Container Type: 1 Liter Summa Canister

Client Sample ID: SV-4

Lab ID#: 0911177C-03A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111109	Date of Collection: 11/6/09 5:30:00 PM
Dil. Factor:	2.02	Date of Analysis: 11/11/09 10:42 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	17
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	3.3

Container Type: 1 Liter Summa Canister

Client Sample ID: SV-5

Lab ID#: 0911177C-05A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111111	Date of Collection: 11/6/09 5:57:00 PM
Dil. Factor:	2.08	Date of Analysis: 11/11/09 11:30 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	8.8
Methane	0.00021	Not Detected
Carbon Dioxide	0.021	11

Container Type: 1 Liter Summa Canister

Client Sample ID: SV-1

Lab ID#: 0911177C-07A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111112	Date of Collection: 11/6/09 6:20:00 PM
Dil. Factor:	2.02	Date of Analysis: 11/11/09 11:54 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	14
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	6.4

Container Type: 1 Liter Summa Canister



Client Sample ID: SV-2-AC

Lab ID#: 0911177C-09A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111113	Date of Collection:	11/6/09 6:50:00 PM
Dil. Factor:	2.02	Date of Analysis:	11/11/09 12:26 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	22
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	0.046

Container Type: 1 Liter Summa Canister

Client Sample ID: SV-2

Lab ID#: 0911177C-10A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111114	Date of Collection: 11/6/09 7:00:00 PM
Dil. Factor:	2.02	Date of Analysis: 11/11/09 12:48 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	20
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	1.8

Container Type: 1 Liter Summa Canister



Client Sample ID: SV-2 Lab Duplicate

Lab ID#: 0911177C-10AA

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111115	Date of Collection:	11/6/09 7:00:00 PM
Dil. Factor:	2.02	Date of Analysis:	11/11/09 01:09 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	20
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	1.8

Container Type: 1 Liter Summa Canister

Client Sample ID: Lab Blank

Lab ID#: 0911177C-11A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 08:56 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 0911177C-12A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9111132	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/11/09 11:37 PM

Compound	%Recovery
Oxygen	98
Methane	99
Carbon Dioxide	98

Container Type: NA - Not Applicable



8 December 2009

Ms. Olivia Jacobs
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801

**SUBJECT: DATA REPORT - Clearwater Group Project # GB001H
Markus Hardware - 628 2nd Street, Oakland, California**

TEG Project # 91119E

Ms. Jacobs:

Please find enclosed a data report for the samples analyzed from the above referenced project for Clearwater Group. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 24 analyses on 8 soil vapor samples.

- 8 analyses on soil vapors for aromatic volatile hydrocarbons (BTEX), naphthalene, and total petroleum hydrocarbons-gasoline by EPA method 8260B.
- 8 analyses on soil vapors for total petroleum hydrocarbons-diesel by EPA method mod8015.
- 8 analyses on soil vapors for methane by EPA method 8015m.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

1,1 difluoroethane was used as a leak check compound around the probe rods during the soil vapor sampling. No 1,1 difluoroethane was detected in any of the vapor samples reported at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

TEG appreciates the opportunity to have provided analytical services to Clearwater Group on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California



Clearwater Group Project# GB001H
 Markus Hardware - 628 2nd Street
 Oakland, California

TEG Project #91119E

Analyses of SOIL VAPOR

BTEX, Naphthalene & TPH-gasoline (EPA method 8260B) in ug/L of Vapor

TPH-diesel (EPA method 8015m) in ug/L of Vapor

Methane (EPA method 8015m) in ppmV

SAMPLE NUMBER:		Syringe	SV-1	SV-2	SV-3	SV-4
		Blank				
SAMPLE DEPTH (feet):			5.0	5.0	5.0	5.0
PURGE VOLUME:			3	3	3	3
COLLECTION DATE:		11/19/09	11/19/09	11/19/09	11/19/09	11/19/09
COLLECTION TIME:		09:07	11:22	11:42	12:12	12:38
DILUTION FACTOR (VOCs):		1	1	1	1	1
	RL					
Benzene	0.10	nd	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd
Naphthalene	0.10	nd	nd	nd	nd	nd
TPH (gasoline range)	10	nd	nd	nd	nd	nd
TPH (diesel range)	50	nd	nd	nd	nd	nd
Methane	500	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		106%	90%	95%	97%	95%
Surrogate Recovery (1,4-BFB)		86%	99%	103%	106%	104%

'RL' Indicates reporting limit at a dilution factor of 1
 'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
 Analyses performed by: Mr. Leif Jonsson

page 1



Clearwater Group Project# GB001H
 Markus Hardware - 628 2nd Street
 Oakland, California

TEG Project #91119E

Analyses of SOIL VAPOR

BTEX, Naphthalene & TPH-gasoline (EPA method 8260B) in ug/L of Vapor

TPH-diesel (EPA method 8015m) in ug/L of Vapor

Methane (EPA method 8015m) in ppmV

SAMPLE NUMBER:		SV-4	SV-5	SV-5	SV-5
		dup			
SAMPLE DEPTH (feet):		5.0	5.0	5.0	5.0
PURGE VOLUME:		3	1	3	7
COLLECTION DATE:		11/19/09	11/19/09	11/19/09	11/19/09
COLLECTION TIME:		12:38	10:05	10:30	10:58
DILUTION FACTOR (VOCs):		1	1	1	1
	RL				
Benzene	0.10	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd
Naphthalene	0.10	nd	nd	nd	nd
TPH (gasoline range)	10	nd	nd	nd	nd
TPH (diesel range)	50	nd	nd	nd	nd
Methane	500	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd
Surrogate Recovery (DBFM)		95%	91%	94%	94%
Surrogate Recovery (1,4-BFB)		104%	98%	100%	102%

'RL' Indicates reporting limit at a dilution factor of 1
 'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
 Analyses performed by: Mr. Leif Jonsson

page 2



Clearwater Group Project# GB001H
Markus Hardware - 628 2nd Street
Oakland, California

TEG Project #91119E

Continuing Calibration

Instrument: Agilent 5973N MSD

COMPOUND	INITIAL RF	11/19/09 Daily Midpoint		11/19/09 Closing LCS	
		RF	%Difference	Result	%Recovery
Benzene	1.216	1.379	13.4%	1.02	102%
Toluene	0.808	0.866	7.2%	1.09	109%
Ethylbenzene	0.462	0.505	9.3%	0.94	94%
m,p-Xylene	0.543	0.601	10.7%	2.02	101%
o-Xylene	0.527	0.565	7.2%	0.93	93%
Naphthalene	0.649	0.616	5.1%	0.83	83%
TPH (gasoline range)	0.935	0.955	2.1%	---	---
TPH (diesel range)	6.99	6.61	5.5%	465	93%
Methane	0.0321	0.0315	2.0%	7760	97%