Source Area Investigation Report for Fuel Leak Case No. RO0000324, Livermore Gas and Mini-Mart, 160 Holmes Street, Livermore, California

Date:
February 26, 2007

Project No.:
015-01-014

Prepared For:
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February 26, 2007
Project No.: 015-01-024

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Subject: Source Area Investigation Report for Fuel Leak Case No. RO0000324, Livermore Gas and Mini-Mart, 160 Holmes Street, Livermore, California

Dear Mr. and Mrs. Shuwayhat:

On your behalf, Allterra Environmental, Inc. (Allterra) has prepared this Source Area Investigation Report to document investigation activities recently completed at 160 Holmes Street in Livermore, California (Site). The purpose of the investigation was to evaluate the extent of petroleum hydrocarbons in soil and groundwater beneath and adjacent to the fuel dispenser area at the Site. The work was conducted pursuant to a September 12, 2006 *Work Plan for Source Area Investigation*, an October 16, 2006 *Revised Work Plan for Source Area Investigation*, and Alameda County Environmental Health – Local Oversight Program (ACEH) directives dated September 19 and October 27. 2006. Additionally, work was conducted in accordance with Tri-Regional and Zone 7 Alameda County Flood Control and Water Conservation District (Zone 7) guidelines and Allterra's field protocol presented in Appendix A.

Site Location and Description
The subject property is located at the northeast intersection of Holmes Street and Second Street, in Livermore, California (Figure 1). A Valero fuel station currently occupies the Site and the surrounding area is primarily residential with some retail businesses along 1st and 2nd Streets. The approximate surface elevation of the site is 465 feet above mean sea level (MSL) and slopes to the northwest. Pertinent site features, including the locations of the former underground storage tanks (USTs) and existing monitoring wells, are presented in Figure 2.

Site Geology and Hydrology
Site geology consists primarily of clayey sand and silty clay fill material from surface grade to approximately 8 feet below ground surface (bgs). Underlying the fill material, fine grain material generally consisting of silty clay, sandy silt, and silty sand occur to approximately 28 feet bgs. A generally continuous coarse-grained material layer consisting of sandy gravel with varying amounts of clay/silt occurs from approximately 28 feet bgs to depths ranging from approximately 54 to 69 feet bgs, where a sandy to silty clay layer exists. The thickness of the clay layer has not been determined; however, a thickness of at least five feet was confirmed in boring MW-1B.

Initial groundwater occurs beneath the upper layer of fine-grained material at a depth of approximately 28 feet bgs and a suspected clay aquitard underlies the coarse-grained layer at depths between approximately 54 and 69 feet bgs. The potentiometric surface, as measured in monitoring wells, occurs at depths between 18 and 24 feet bgs. This difference between initial and static groundwater levels suggests a partially confined shallow aquifer. Based on recent quarterly groundwater monitoring data, groundwater generally flows to the north-northwest at an estimated gradient of 0.008 foot per foot (ft/ft).

Source Area Investigation Activities

The following is a discussion of source area investigation activities completed at the Site in order to assess the subsurface contamination below and around the fuel dispenser area. This report includes the formal results of data collected during Geoprobe® soil boring installations completed in January 2007 (presented informally in the February 7, 2007 *Preliminary Source Area Investigation Data Submittal and Rationale for Not Installing Soil Gas Probes*).

Permitting

Prior to drilling activities, a drilling permit (no. 26209) was acquired from Zone 7. The Zone 7 permit is included in Appendix B.

Utility Checks

Cruz Brothers, a private utility locator, was contracted to identify underground utilities in the fuel dispenser and underground storage tank (UST) areas and Underground Service Alert (USA) was notified to identify the public service utilities in the area prior to commencing drilling activities. Additionally, Allterra personnel hand cleared each boring location from surface grade to 5 feet bgs in order to eliminate the risk of compromising the integrity of subsurface fuel piping.

Source Area Investigation

Geoprobe® Drilling

On January 10 and 11, 2007, Allterra supervised the installation of twenty Geoprobe® soil borings designated GP-1 through GP-19 and GP-6A. Two truck-mounted Geoprobe® drill rigs equipped with steam cleaned 2.5-inch-diameter push core drilling equipment were used to advance borings GP-1 through GP-19 and GP-6A to depths between approximately 15 and 38 feet bgs. The locations of the Geoprobe® soil borings are presented in Figure 3.

Soil Classification and Sample Collection

During drilling, soil samples were collected continuously from each boring for lithological description and continuously logged using the Unified Soil Classification System (USCS). Fifteen borings were continuously logged to approximately 30 feet bgs, one boring to 32 feet bgs, and three boring to 38 feet bgs. Additionally, one boring (GP-7) was terminated at 15 feet bgs due to probe refusal. Soil from the borings was field screened for volatile organic compounds (VOCs) using a photoionization detector (PID) and samples showing contamination with the PID were submitted for laboratory analysis. For borings without PID detections, soil

samples were collected at 8, 24, and 28 feet bgs. In total, sixty-five soil samples were selected for laboratory analyses. Logs of borings are presented in Appendix C.

Seventeen groundwater samples were collected from the Geoprobe® borings for submittal to a laboratory for analyses. Samples were not collected from borings GP-6, GP-7, and GP-15 because they did not produce water. Groundwater samples were collected from the top five feet of the water column in each boring using a peristaltic pump equipped with clean, inert, disposable sample tubing and clean, temporary well casing and screen (Appendix C).

Soil and Groundwater Sample Analyses
Soil and groundwater samples were submitted for chemical testing to McCampbell Analytical, Inc., of Pacheco, California, a state of California certified laboratory (ELAP #1644). Each sample submitted to the laboratory was analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015Cm and benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. Soil analytical data is presented in Table 1 and groundwater analytical data is presented in Table 2. Copies of the chain-of-custody records and analytical results for the soil samples are included in Appendix D.

Waste Disposal
Soil generated during drilling was temporarily stored on-site in labeled, U.S. Department of Transportation (DOT)-approved 55-gallon drums. Following waste profiling, the soil drums will be transported and disposed of.

Source Area Investigation Results
Subsurface Geology and Hydrogeology
Soil conditions encountered during drilling at the Site consisted of primarily brown or gray sand-gravel-silt and other sandy soils, and secondarily of brown or gray clayey silt from the ground surface to about 5 to 10 feet bgs. Soil from 10 to 30 feet bgs consisted primarily of brown or gray clayey silt, secondarily of sand-gravel-silt and other sandy soils, and thirdly of silty clay. Additionally, several feet of brown silty clay were encountered in borings GP-8, GP-9, and GP-10 between 0 and 18 feet bgs; however, the silty clay was laterally discontinuous, either not occurring or occurring in relatively small amounts in the other borings. First-encountered groundwater occurred in most borings at approximately 28 to 29 feet bgs; however, groundwater appears to occur at greater depths in some of the borings that were terminated in silt or clayey silt.

Soil Sample Analytical Data
Concentrations of petroleum hydrocarbons were detected in thirty-six of the sixty-five soil samples analyzed. TPHg was detected in twenty-seven samples at concentrations ranging from 1.5 milligrams per kilogram (mg/kg) in GP-15@19 to 320 mg/kg in GP-14@24. Benzene concentrations were detected in eleven samples at levels ranging from 0.0057 mg/kg (GP-6@28) to 0.47 mg/kg (GP-14@28). MTBE was detected in thirty samples at levels between 0.056 mg/kg in GP-6@28 and 140 mg/kg in GP-14@28. Soil analytical results are presented in Table 1.

Groundwater Sample Analytical Results

Concentrations of petroleum hydrocarbons were detected in all seventeen groundwater samples analyzed. TPHg was detected in each sample at concentrations ranging from 160 micrograms per liter (µg/L) in sample GP-16 to 210,000 µg/L in GP-14. Benzene concentrations were detected in sixteen samples at levels ranging from 1.4 µg/L (GP-11) to 11,000 µg/L (GP-14). Dissolved MTBE was detected in seventeen samples at concentrations from 61 µg/L in GP-1 to 1,500,000 µg/L in GP-14. Groundwater analytical results are presented in Table 2 and the distribution of dissolved hydrocarbons in groundwater is presented in Figure 4.

Conclusions

Based on the results of this investigation, Allterra concludes the following:

- Soil conditions encountered during drilling at the Site were generally consistent with previously investigations. In general, fine-grained material was encountered from the surface to approximately 28 feet below ground surface (bgs) and coarse-grained material was encountered from 28 feet to a total depth of approximately 38 feet bgs. Initial groundwater was encountered at approximately 28 feet bgs and static groundwater equilibrated between 20 and 24 feet bgs, suggesting confined or partially confined aquifer conditions

- Soil analytical data was consistent with previous investigation results, as non-detect to relatively low levels of petroleum hydrocarbons were detected in soil samples collected above the capillary-fringe (the capillary fringe is estimated to extend from approximately 24 to 28 feet bgs). The highest levels of hydrocarbons in soil were detected at 24 and 28 feet bgs, which is within the suspected capillary fringe area.

- PID and analytical results from shallow soils (approximately from ground surface to 12 feet bgs) suggest that over-excavation work completed in 1999 effectively removed the majority of the contaminant source (hydrocarbon-impacted soil) beneath the Site.

- High levels of petroleum hydrocarbons and MTBE were detected in the majority of groundwater samples collected from Geoprobe® borings. The highest levels of dissolved TPHg, benzene, and MTBE were detected near the two northern dispensers and west of the USTs.

- Based on the results of this investigation and previous drilling and dual-phase extraction investigations, Allterra determined that a soil gas probe investigation was not warranted and, therefore, was not completed.

Updated Hypothesis and Recommended Actions Regarding Future Corrective Action

Data collected during this investigation was evaluated in order to revise previous hypotheses and develop new hypotheses regarding subsurface conditions surrounding the Site. The following discussion presents Allterra's revised hypotheses for subsurface conditions along with recommended actions for future corrective action work.

Hypothesis 1	
Hypothesis	At this time, soil contamination beneath the Site appears to be sufficiently characterized.
Rationale	Previous subsurface investigations characterized soil contamination beneath the perimeter and down-gradient of the Site. This investigation characterized soil contamination beneath the middle of the property in the suspected source area.
Recommended Action	Unless circumstances change, additional soil contamination investigations are not warranted.

Hypothesis 2	
Hypothesis	The primary concern for future remediation is the very high levels of dissolved hydrocarbons and MTBE that exist at the top of the water table beneath the Site (from approximately 28 to 30 feet bgs).
Rationale	Groundwater samples from on-site borings indicated TPHg levels up to 210,000 µg/L and MTBE levels up to 1,500,000 µg/L. If left in place, significant contaminant levels will continue to migrate off-site.
Recommended Action	Continue with interim remediation activities at the Site; however, an additional extraction well (designated EW-3) should be installed immediately adjacent to boring GP-14. Once installed, all future interim extraction activities should be completed from EW-3.

Hypothesis 3	
Hypothesis	The highest levels of groundwater contamination occur at the top of the water table and interim remediation should target this relatively thin layer of contamination that occurs from approximately 28 to 30 feet bgs.
Rationale	Despite being located adjacent to the "hottest" well, MW-1A, extraction well EW-1 typically has contaminant levels one order of magnitude less than MW-1A. The difference in contaminant levels is a result of different well screen intervals; MW-1A is screened from 15 to 30 feet bgs while EW-1 is screened from 15 to 40 feet bgs, effectively diluting hydrocarbon concentrations by allowing less contaminated water at greater depths to enter the water column.
Recommended Action	Interim extraction well EW-1 should be screened to target the contaminant zone at the top of the water table from approximately 28 to 30 feet bgs.

Summary of Recommendations

Allterra recommends that a work plan be prepared to propose the installation of a new extraction well to address on-site groundwater contamination. Additionally, a Corrective Action Plan should be prepared to address future remedial goals.

Limitations

Allterra prepared this report for the use of Mr. Manwel and Mrs. Samira Shuwayhat and ACEH in evaluating site conditions at selected on-site locations at the time of this study. Statements, conclusions, and recommendations in this document are based solely on the field observations and analytical results related to work performed by Allterra and there is no warranty, expressed or implied. Site conditions and data can change over time; therefore, data presented in this report is only applicable to the timeframe of this study. Allterra's services have been performed in accordance with environmental principles generally accepted at this time and location.

Should you have any questions, please contact Allterra at (831) 425-2608.

Sincerely,
Allterra Environmental, Inc.

James Allen, R.E.A.
Project Manager

Michael Killoran, P.G. 6670
Senior Geologist

PROFESSIONAL GEOLOGIST
MICHAEL J. KILLORAN
No. 6670
STATE OF CALIFORNIA

Attachments:
Figure 1, Vicinity Map
Figure 2, Site Map
Figure 3, Boring Locations Plan
Figure 4, Concentrations of Fuel-Related Compounds in Groundwater

Table 1, Soil Analytical Results
Table 2, Groundwater Analytical Results

Appendix A, Allterra's Site Investigation Field Protocol
Appendix B, Drilling Permit
Appendix C, Boring Logs
Appendix D, Soil and Groundwater Analytical Reports and Chain of Custody Documentation

cc: Mr. Jerry Wickham, ACEH
State of California GeoTracker Database

FIGURES 1-4

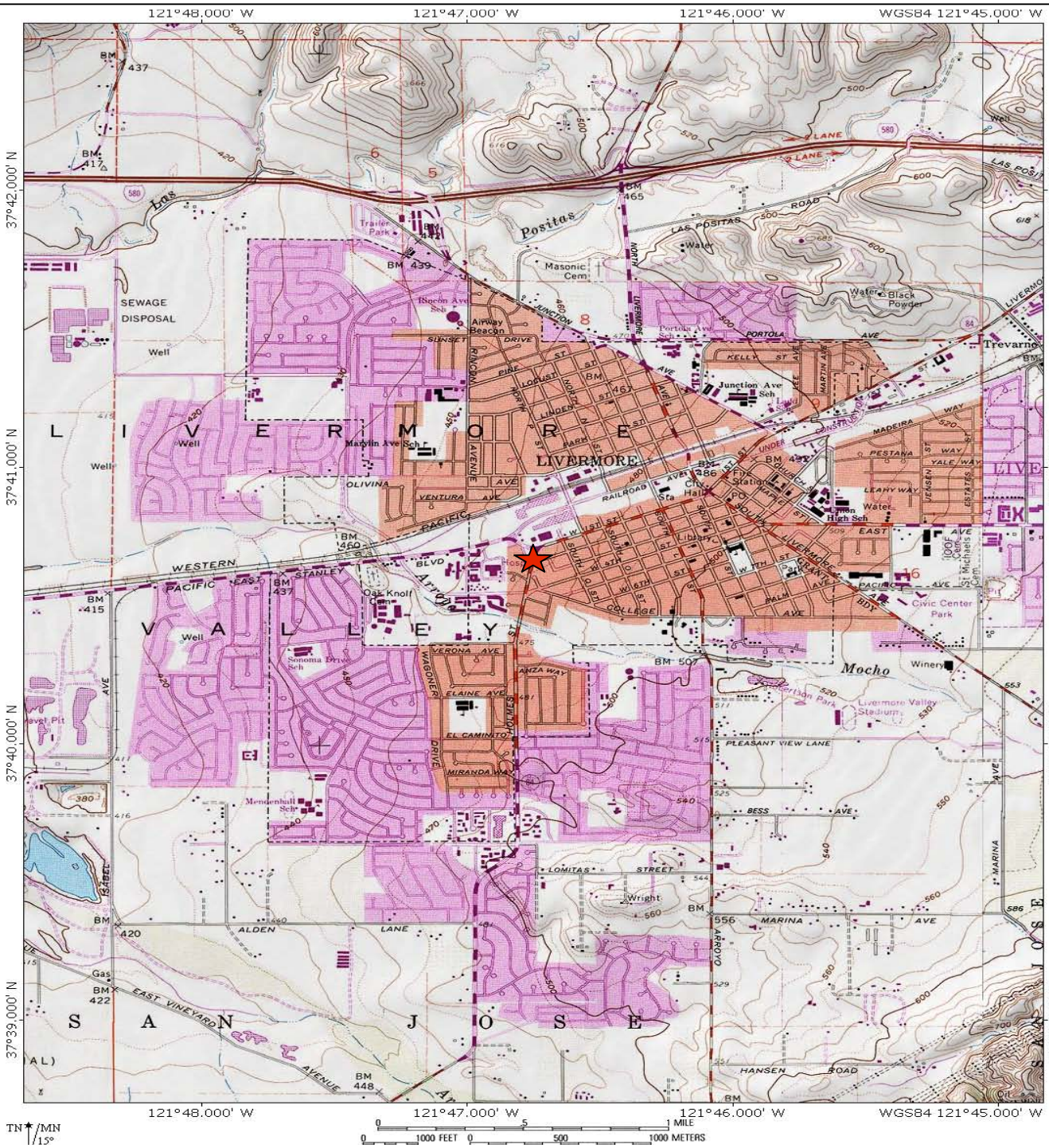

Figure 1	3/31/06

Vicinity Map

Livermore Gas and Mini-mart
160 Holmes Street
Livermore, California

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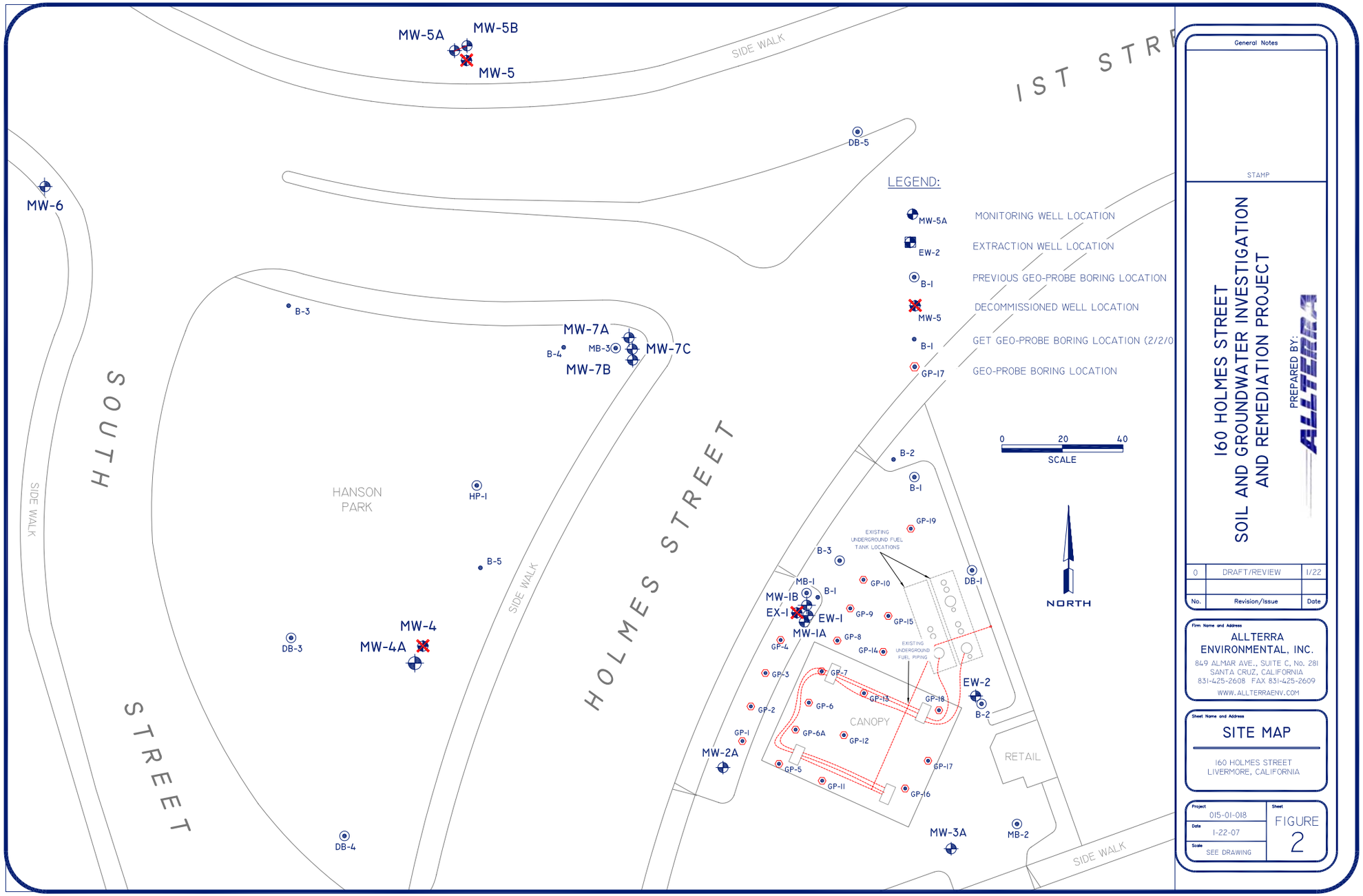

General Notes

STAMP

160 HOLMES STREET
SOIL AND GROUNDWATER INVESTIGATION
AND REMEDIATION PROJECT

PREPARED BY:
ALLTERRA

No.	Revision/Issue	Date
0	DRAFT/REVIEW	1/22

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Sheet Name and Address
SITE MAP
160 HOLMES STREET
LIVERMORE, CALIFORNIA

Project	Sheet
015-01-018	FIGURE 2
Date: 1-22-07	
Scale: SEE DRAWING	

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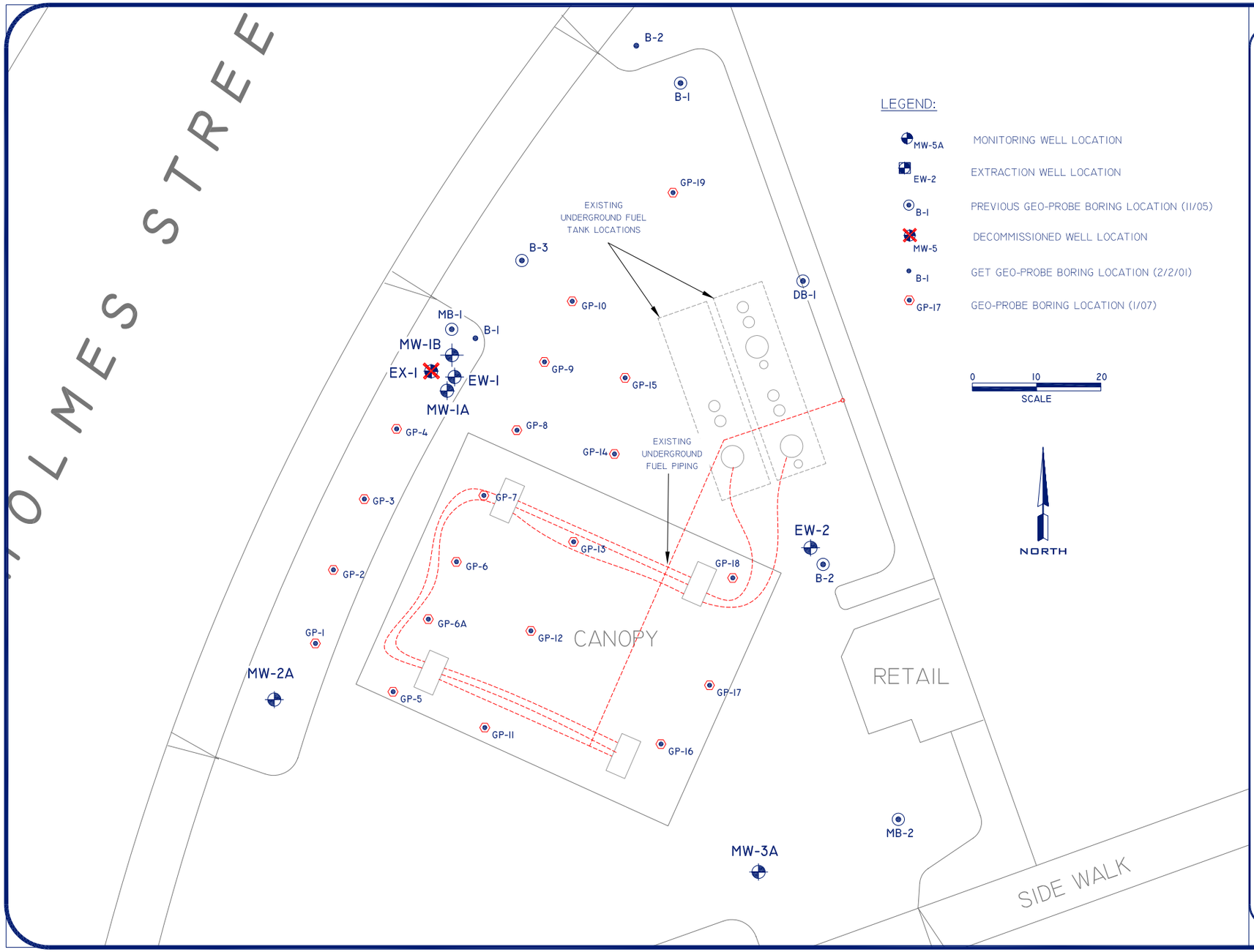

General Notes

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SOIL AND GROUNDWATER INVESTIGATION AND REMEDIATION PROJECT

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BORING LOCATION PLAN
160 HOLMES STREET
LIVERMORE, CALIFORNIA

Project	Sheet
015-01-018	FIGURE 3
Date: 1-22-07	
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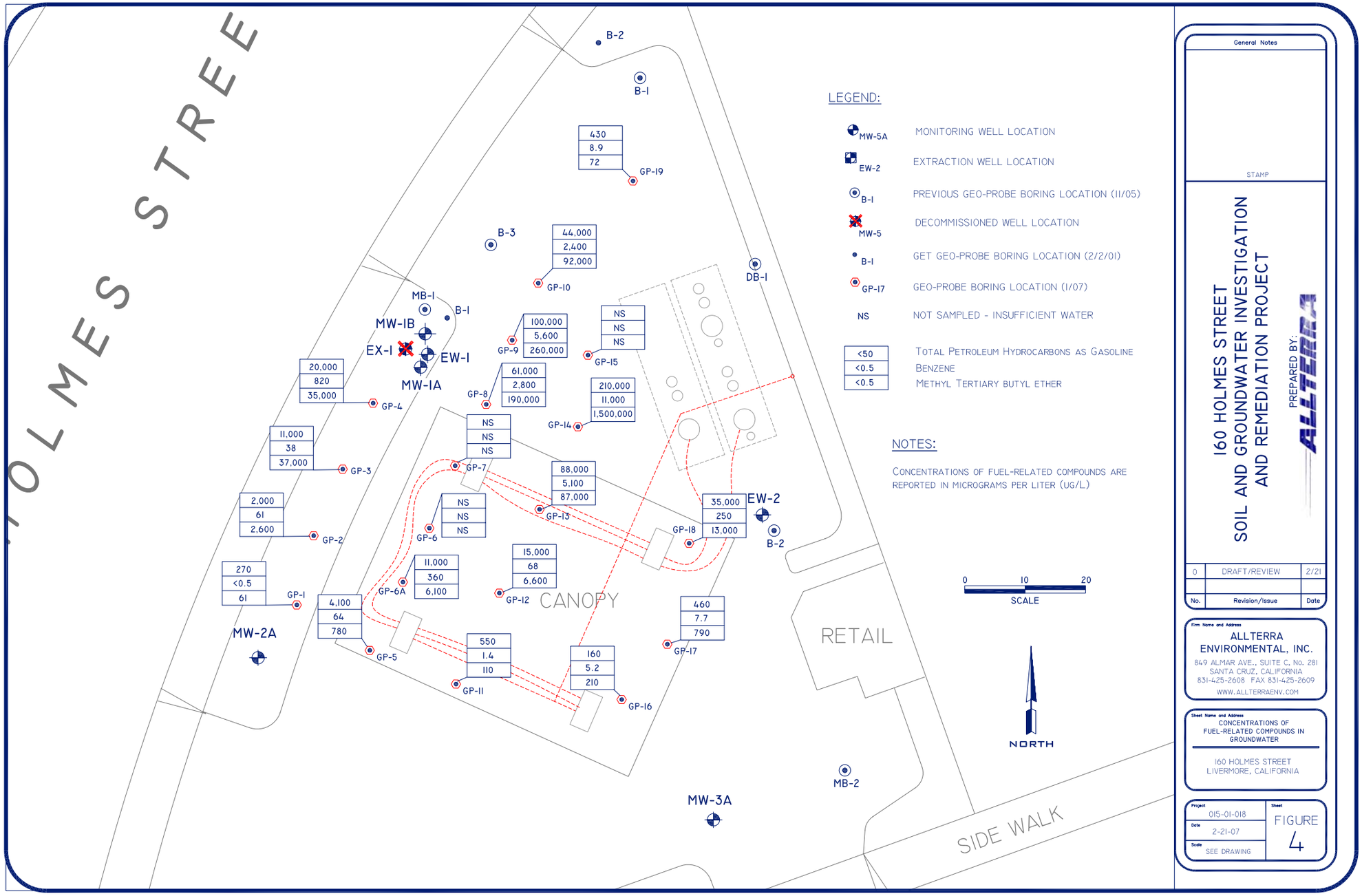

General Notes

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160 HOLMES STREET
SOIL AND GROUNDWATER INVESTIGATION AND REMEDIATION PROJECT

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No.	Revision/Issue	Date
0	DRAFT/REVIEW	2/21

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CONCENTRATIONS OF FUEL-RELATED COMPOUNDS IN GROUNDWATER

160 HOLMES STREET
LIVERMORE, CALIFORNIA

Project	Sheet
015-01-018	FIGURE 4
Date: 2-21-07	
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TABLES 1-2

Table 1
Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID (Field Point)	Sample Depth (feet)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MB-1	18	11/11/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MB-1	22	11/11/05	78	23	0.028	0.073	1.0	4.8	2.3
MB-1	26	11/11/05	110	18	0.27	0.51	2.0	1.7	14
MB-3	20	11/11/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MB-3	28	11/11/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MB-3	32	11/11/05	1,400	100	<0.5	5.0	20	67	<5.0
B-1	28	11/10/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
B-2	16	11/10/05	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
B-2	20	11/10/05	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
B-2	24	11/10/05	5.7	9.5	<0.005	0.018	0.076	0.25	1.7
B-2	28	11/10/05	11	2.4	0.075	0.073	0.26	0.14	7.2
B-3	16	11/10/05	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
B-3	20	11/10/05	<1.0	--	<0.005	0.0058	0.0071	0.024	<0.05
B-3	24	11/10/05	9.0	1.4	0.077	0.037	0.32	1.1	<1.0
B-3	28	11/10/05	48	6.1	0.053	0.20	0.53	0.49	<1.0
DB-1	26	11/10/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW-1B	61	2/23/06	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
MW-5B	55	2/27/06	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
MW-7C	70	2/27/06	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
EW-2	41.5	2/24/06	1.4	--	<0.005	<0.005	<0.005	<0.005	0.22
GP-1	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-1	24	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-1	28	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-2	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-2	24	1/10/07	51	--	<0.050	<0.050	0.13	0.20	<0.50
GP-3	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-3	24	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-3	28	1/10/07	100	--	<0.050	0.40	2.1	3.2	2.6
GP-4	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-4	16	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-4	28	1/10/07	13	--	0.021	0.096	0.24	0.32	4.4
GP-5	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-5	20	1/10/07	5.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-5	28	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05

Table 1
Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID (Field Point)	Sample Depth (feet)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
GP-6	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.090
GP-6	18	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-6	24	1/10/07	<1.0	--	<0.005	<0.005	<0.005	0.013	0.11
GP-6	28	1/10/07	23	--	0.0057	0.021	0.052	0.16	0.056
GP-6A	4	1/11/07	11	--	<0.005	<0.005	0.0081	<0.005	<0.10
GP-6A	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	0.011	<0.10
GP-6A	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-6A	20	1/11/07	1.6	--	<0.005	<0.005	0.0052	0.0065	0.066
GP-6A	24	1/11/07	2.0	--	<0.005	0.013	0.0062	0.015	0.44
GP-6A	28	1/11/07	17	--	<0.010	<0.010	0.40	0.028	0.34
GP-7	4	1/11/07	2.0	--	<0.005	0.014	0.0080	0.092	0.086
GP-7	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-7	14	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.062
GP-8	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-8	24	1/10/07	30	--	0.030	0.19	0.46	2.4	9.6
GP-9	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-9	12	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-9	24	1/10/07	110	--	0.27	1.2	1.6	9.5	22
GP-10	21	1/10/07	35	--	0.033	0.35	0.56	3.6	1.5
GP-10	24	1/10/07	2.2	--	0.0081	0.011	0.023	0.12	3.9
GP-11	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-11	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-11	28	1/11/07	3.7	--	<0.005	<0.005	<0.005	<0.005	0.057
GP-12	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.072
GP-12	24	1/11/07	15	--	<0.005	<0.005	0.13	0.14	0.092
GP-12	28	1/11/07	11	--	0.0061	<0.005	0.47	0.014	0.36
GP-13	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-13	24	1/11/07	9.1	--	<0.005	<0.005	<0.005	0.014	<0.05
GP-13	28	1/11/07	100	--	0.17	0.39	2.6	6.7	8.9
GP-14	8	1/11/07	6.4	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-14	12	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-14	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-14	24	1/11/07	320	--	0.43	14	7.0	40	50
GP-14	28	1/11/07	120	--	0.47	3.3	2.0	11	140
GP-15	12	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.078
GP-15	19	1/11/07	1.5	--	<0.005	0.012	0.026	0.054	0.49
GP-15	24	1/11/07	1.6	--	<0.005	0.0077	0.015	0.11	0.40
GP-15	28	1/11/07	6.7	--	0.047	0.24	0.13	0.72	9.5

Table 1
Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID (Field Point)	Sample Depth (feet)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
GP-16	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.061
GP-16	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.10
GP-16	28	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-17	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-17	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-17	28	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-18	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-18	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.070
GP-18	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-18	28	1/11/07	110	--	<0.010	0.16	0.37	1.3	0.20
GP-19	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-19	21	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05
GP-19	24	1/11/07	5.8	--	<0.005	0.0072	0.12	0.23	0.074

Notes:
-- : not analyzed
All results are in milligrams per kilogram (mg/kg)
TPHg was analyzed by EPA Method 8015CM
Benzene, toluene, ethylbenzene, xylenes, and MTBE were analyzed by EPA Method 8021B
TPHg: Total Petroleum Hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether

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Table 2
Preliminary Groundwater Analytical Results
160 Holmes Street, Livermore, California

Sample ID	Approximate Sample Depth (feet)	Date Collected	Total Petroleum Hydrocarbonss (µg/L)		Aromatic Volatile Organic Compounds (µg/L)				Oxygenated Volatile Organics (µg/L)								Lead Scavengers (µg/L)	
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	ethanol	methanol	EDB	1,2-DCA
MB-1-A**	28	11/11/05	21,000	4,300	970	<25	3,300	1200	--	<2,500	<25,000	<2,500	<2,500	100,000	--	--	--	--
MB-1-B	50	11/11/05	470	210	7.8	0.97	31	48	--	<25	<250	<25	<25	1,500	--	--	--	--
MB-1-C	70	11/11/05	990	--*	17	1.3	89	160	--	<25	<250	<25	<25	1,200	--	--	--	--
MB-2-A	28	11/10/05	<50	<50	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--
MB-2-B	50	11/11/05	<50	<50	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--
MB-3-A	28	11/11/05	40,000	41,000	120	130	1,700	2,800	--	<50	2,500	<50	<50	<4,500	--	--	--	--
MB-3-B	50	11/14/05	1,400	210	0.93	9.3	14	27	--	<50	6,200	<50	<50	190	--	--	--	--
MB-3-C	70	11/14/05	930	260	1.7	3.8	33	100	--	<100	16,000	<100	<100	330	--	--	--	--
DB-1-A	28	11/10/05	160	--*	<0.5	<0.5	<0.5	<0.5	--	<1.7	<17	<1.7	<1.7	86	--	--	--	--
DB-2-A	28	11/11/05	<50	<50	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--
DB-3-A	28	11/14/05	<50	51	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--
DB-4-A	28	11/14/05	<50	57	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--
DB-5-A	28	11/11/05	<50	910	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--
B-1-A	28	11/10/05	<50	230	<0.5	<0.5	<0.5	<0.5	--	<0.5	<5.0	<0.5	<0.5	28	--	--	--	--
B-2-A	28	11/10/05	25,000	6,200	900	<50	2,000	2,600	--	<1,700	<17,000	<1,700	<1,700	80,000	--	--	--	--
B-3-A	28	11/10/05	42,000	14,000	530	140	2,400	7,800	--	<500	<5,000	<500	<500	19,000	--	--	--	--
HP-1-A	28	11/14/05	<50	--*	<0.5	<0.5	<0.5	0.80	--	<50	24	<50	<50	12	--	--	--	--
MW-1B	55	3/13/06	<50	<50	<0.5	<0.5	<0.5	<0.5	8.2	<0.5	<5.0	<0.5	<0.5	7.9	<50	<500	<0.5	<0.5
MW-4A	30	3/13/06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.70	<50	<500	<0.5	<0.5
MW-5A	35	3/13/06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
MW-5B	55	3/13/06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.69	<50	<500	<0.5	<0.5
MW-7A	30	3/13/06	6,200	1,800	140	21	200	560	6,900	<100	4400	<100	<100	6,300	<10,000	<100,000	<100	<100
MW-7B	50	3/13/06	230	<50	1.8	4.7	<0.5	2.2	1,500	<50	7300	<50	<50	1,300	<5,000	<50,000	<50	<50
MW-7C	70	3/13/06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.60	<50	<500	<0.5	<0.5
EW-1	40	3/13/06	210	120	5.0	4.1	7.5	12	3,400	<50	<100	<50	<50	2,300	<5,000	<50,000	<50	<50
EW-2	40	3/13/06	<250	69	<2.5	<2.5	<2.5	<2.5	5,400	<100	<1,000	<100	<100	5,100	<10,000	<100,000	<100	<100

Table 2
Preliminary Groundwater Analytical Results
160 Holmes Street, Livermore, California

Sample ID	Approximate Sample Depth (feet)	Date Collected	Total Petroleum Hydrocarbonss (µg/L)		Aromatic Volatile Organic Compounds (µg/L)				Oxygenated Volatile Organics (µg/L)								Lead Scavengers (µg/L)	
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	ethanol	methanol	EDB	1,2-DCA
GP-1	28	1/10/07	270	--	<0.5	<0.5	2.6	0.85	61	--	--	--	--	--	--	--	--	--
GP-2	28	1/10/07	2,000	--	61	46	93	280	2,600	--	--	--	--	--	--	--	--	--
GP-3	28	1/10/07	11,000	--	38	27	1,100	980	37,000	--	--	--	--	--	--	--	--	--
GP-4	28	1/10/07	20,000	--	820	260	1,400	3,200	35,000	--	--	--	--	--	--	--	--	--
GP-5	28	1/10/07	4,100	--	64	6.6	13	550	780	--	--	--	--	--	--	--	--	--
GP-6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
GP-6A	28	1/11/07	11,000	--	360	150	1,500	480	6,100	--	--	--	--	--	--	--	--	--
GP-7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
GP-8	28	1/10/07	61,000	--	2,800	490	2,600	4,400	190,000	--	--	--	--	--	--	--	--	--
GP-9	28	1/10/07	100,000	--	5,600	3,400	3,500	24,000	260,000	--	--	--	--	--	--	--	--	--
GP-10	28	1/10/07	44,000	--	2,400	590	3,600	3,300	92,000	--	--	--	--	--	--	--	--	--
GP-11	28	1/11/07	550	--	1.4	1.3	2.1	36	110	--	--	--	--	--	--	--	--	--
GP-12	28	1/11/07	15,000	--	68	20	1,800	94	6,600	--	--	--	--	--	--	--	--	--
GP-13	28	1/11/07	88,000	--	5,100	<50	5,500	7,400	87,000	--	--	--	--	--	--	--	--	--
GP-14	28	1/11/07	210,000	--	11,000	26,000	4,600	21,000	1,500,000	--	--	--	--	--	--	--	--	--
GP-15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
GP-16	28	1/11/07	160	--	5.2	3.2	18	7.5	210	--	--	--	--	--	--	--	--	--
GP-17	28	1/11/07	460	--	7.7	4.8	8.0	7.4	790	--	--	--	--	--	--	--	--	--
GP-18	28	1/11/07	35,000	--	250	72	2,800	380	13,000	--	--	--	--	--	--	--	--	--
GP-19	28	1/11/07	430	--	8.9	1.6	24	31	430	--	--	--	--	--	--	--	--	--

Notes:

TPHg was analyzed by EPA Method 8015CM

Benzene, toluene, ethylbenzene, xylenes, and MTBE were analyzed by EPA Method 8021B

µg/L = micrograms per liter

-- = not analyzed

MTBE = methyl tertiary butyl ether

NS = not sampled

TAME - tert-Amyl Methyl Ether

TBA = tert-Butanol

1,2-DCA = 1,2-dichloroethane

EDB = 1,2-dibromoethane

ETBE = Ethyl tert-Butyl Ether

DIPE = Di-isoprpopyl Ether

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APPENDIX A
Site Investigation Field Protocol

APPENDIX A
Site Investigation Field Protocol

Geoprobe Boring Installations and Sampling: A truck-mounted Geoprobe rig hydraulically pushes a 4-foot steel core barrel (usually 2.5-inch diameter) equipped with an acetate liner into undisturbed soil. Four-foot core soil samples are collected in the acetate liner. The core barrel is extracted from the boring and the liner is removed. Soil samples from the necessary depth is cut from the acetate liner and capped with Teflon® sheets and plastic caps. The sample is labeled and stored on ice in an ice chest. The remainder of the acetate liner is then cut open and examined for lithology according to the Unified Soil Classification System. Job location, boring location, boring name, date, soil types, observations and activities are recorded on the boring logs. A portion of each sample is field screened using portable photo-ionization detector (PID). The core barrel is decontaminated between each boring. If groundwater samples are not necessary, the hole is filled with a cement grout and bentonite mixture from the bottom of the boring to surface grade.

Once the borings are advanced to the necessary depth, water samples are collected using a clean stainless steel bailer. If the boring does not stay open, a temporary well casing and screen is lowered into the boring to aid in water sample collection. Recovered water is transferred into labeled sample containers placed on ice. After the water samples are collected, the temporary well casing and screen are removed from the boring and is filled with a cement grout and bentonite mixture from the bottom of the boring to surface grade.

Monitoring Well Installation/Construction and Soil Sampling: A truck-mounted, hollow-stem auger drill rig is used to drill boreholes for monitoring wells. The borehole diameter is a minimum of 4-inches larger than the outside diameter of the casing when installing well screen. The hollow-stem auger provides minimal interruption of drilling while permitting soil sampling at desired intervals. An Allterra geologist or engineer will continuously log each borehole during drilling and will constantly check drill cuttings for indications of both the first recognizable occurrence of groundwater and volatile organic compounds using a portable photoionization detector (PID).

During drilling, soil samples are collected in 2-inch by 6-inch brass sleeves. Three brass tubes are placed in an 18-inch long split-barrel (spoon) sampler of the appropriate inside-diameter. The split-barrel sampler is driven its entire length using a 140-pound hammer, or until refusal. The sampler is extracted from the borehole and the bottom brass sleeve is capped with Teflon® sheets and plastic caps, labeled, and stored on ice. The two other brass sleeves are used for soil lithology classification (according to the Unified Soil Classification System) and field screening using a PID.

All soil borings not converted into monitoring wells are backfilled with a mixture of neat cement with 5% bentonite powder to surface grade.

Monitoring wells are constructed with blank and factory-perforated Schedule 40 polyvinyl chloride (PVC). The perforated interval consists of slotted casing, generally with 0.02-inch wide by 1.5-inch long slots, with 42 slots per foot. A threaded PVC cap is secured to the bottom of the casing. After setting the casing inside the hollow-stem auger, sand or gravel filter material is poured into the annular space to fill from boring bottom to generally 1 to 2 feet above the screened interval. A 1- to 2-foot thick bentonite seal is set above this sand/gravel pack. Neat cement containing approximately 5% bentonite is then tremmied into the annular space from the top of the bentonite plug to approximately 0.5 feet below ground surface. A traffic-rated well box is installed around each wellhead.

Monitoring Well Development: After installation, the wells are thoroughly developed to remove residual drilling materials from the wellbore and fine material from the filter pack. Typically, 10 well volumes are removed from the well and field parameters, such as pH, temperature, and conductivity, are recorded between each well volume. Well development techniques used may include surging, swabbing, bailing, and/or pumping All development water is collected either in drums or tanks for temporary storage, and properly disposed of pending laboratory analytical results. Following development, the well is typically allowed to stand undisturbed for a minimum of 48 hours before its first sampling.

Well Monitoring and Sample Collection: A Teflon bailer or submersible pump was used to purge a minimum of three well volumes of groundwater from each well. After each well volume is purged, field parameters such as pH, temperature, and conductivity are recorded. Wells are purged until field parameters have stabilized or a maximum of 10 well volumes of groundwater have been removed. If the well yield is low and the well was dewatered, the well is allowed to recharge to 80% of its original volume prior to sample collection. Field parameter measurements and pertinent qualitative observations, such as groundwater color and odor, are recorded in Groundwater Sampling Field Logs. Groundwater samples are collected in appropriate bottles and stored on ice for delivery, under chain-of-custody documentation, to a state-certified laboratory for analysis.

Sample Identification and Chain-Of-Custody Procedures: Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel, and any other pertinent field observations also recorded on the field excavation or boring log. During shipment, the person with custody or the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time.

Equipment Decontamination: All drilling, sampling, well construction, and well development equipment is cleaned in a solution of laboratory grade detergent and distilled water or steam cleaned before use at each sampling point.

Field Personnel: During groundwater sampling activities, sampling personnel will wear pertinent attire to minimize risks to health and safety. Field personnel will also use a pair of clean, powderless, surgical gloves for each successive sampling point. Used surgical gloves will be placed into waste drums for future disposal.

Waste Disposal: Soil generated during drilling will be stored in DOT-approved 55-gallon waste drums pending proper disposal. Water generated during well development, purging, and sampling activities will be placed into DOT-approved 55-gallon waste drums pending disposal and/or permitted discharge to the sanitary sewer.

APPENDIX B
Drilling Permit

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 454-5728

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 160 Holmes St.
Livermore, CA 94550

California Coordinates Source _____ ft. Accuracy _____ ft.
CCN _____ ft. CCE _____ ft.
APN 47-82-7-7

CLIENT
Name Manwel Shuwayhat
Address 54 Wolfe Canyon Rd. Phone _____
City Kentfield, CA Zip 94904

APPLICANT
Name Allterra Environmental, Inc. Fax (831) 425-2609
Address 849 Almar, Suite C-281 Phone (831) 425-2608
City Santa Cruz, CA Zip 95060

TYPE OF PROJECT
Well Construction
Cathodic Protection
Water Supply
Monitoring
Geotechnical Investigation
General
(Contamination)
Well Destruction

PROPOSED WELL USE
New Domestic
Municipal
Industrial
Dewatering
Irrigation
Remediation
Groundwater Monitoring
Other _____

DRILLING METHOD:
Mud Rotary
Air Rotary
Cable Tool
(Direct Push)
Hollow Stem Auger
Other _____

DRILLING COMPANY ECA
DRILLER'S LICEN 695970 (C-57)

WELL PROJECTS
Drill Hole Diameter _____ in.
Casing Diameter _____ in.
Surface Seal Depth _____ ft.
Maximum
Depth _____ ft.
Number _____

SOIL BORINGS
Number of Borings 19*
Hole Diameter 2.5 in.
Maximum
Depth 32 ft.

ESTIMATED STARTING DATE December 2006
ESTIMATED COMPLETION DATE Feb. 2007

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE James Allen Date 11/1/06
James Allen

ATTACH SITE PLAN OR SKETCH

PERMIT NUMBER 26209
WELL NUMBER _____
APN 097-0082-007-07

PERMIT CONDITIONS

(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
4. A sample port is required on the discharge pipe near the wellhead.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(D.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

(G.) SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after the completion of permitted work the well installation report including all soil and water laboratory analysis results.

Approved Wyman Hong Date 11/29/06
Wyman Hong

Revised: April 27, 2005

APPENDIX C
Boring Logs

Field Well/Boring Log

Field location of boring	**Boring ID** GP-1	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/10/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Casing installation data: N/A (GeoProbes - no wells) / Description
			1			6" concrete
			2			
			3		SM (Fill)	Brown sand/gravel/silt fill, moist, medium,
0		GP1-4	4			NPO
			5			
			6			
			7			
0		GP1-8	8	*	SM	Brown sand/gravel/silt/clay mixture, moist, medium,
			9			NPO; includes ~1-inch silty sand layers
			10			
			11			
0		GP1-12	12	*		Same
			13			
			14			
			15			
0		GP1-16	16	*		Brown clayey silt, moist, firm, NPO
			17			
			18			
			19			
0		GP1-20	20		ML	Same
			21			
			22			
			23			
0		GP1-24	24	*		Same, but soft and wet
			25			
			26			
			27			
0		GP1-28	28	*	CL/ML	Brown silty clay and clayey silt, wet, firm, NPO
			29			
			30			

Water Level Information		
Date	Time	Depth (feet)
1/10/07		~29'

Notes (total depth, etc.):

Boring advanced to 30' bgs and grouted to surface grade

Field Well/Boring Log

Field location of boring	**Boring ID** GP-2	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/10/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3		SM (Fill)	Brown sand/gravel/silt fill, moist, medium,
0		GP2-4	4			NPO
			5			
0			6			
			7			
0		GP2-8	8	*	ML	Brown silt, slightly moist, very stiff, NPO, rootlets
			9			
			10			
			11			
0		GP2-12	12			Same
			13			
			14			
			15			
0		GP2-16	16			Brown clayey silt, moist, firm, NPO
			17			
			18			
			19			
0		GP2-20	20			
			21			
			22			
			23			
2.7		GP2-24	24	*	SM	Brown sand/gravel/silt fill, moist, medium,
			25			NPO
			26			
			27			
		(No sample	28			
		recovery)	29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		~29'

Notes (total depth, etc.):

Boring advanced to 30' bgs and grouted to surface grade

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Field Well/Boring Log

Field location of boring	**Boring ID** GP-3	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/10/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
						6" concrete
			3		SM (Fill)	Brown sand/gravel/silt fill, moist, medium,
0			4			NPO
			5			
			6			
			7			
0		GP3-8	8	*		Brown silt, slightly moist, very stiff, NPO, rootlets
			9			
0			10			
			11			
0		GP3-12	12			Same
			13			
			14		CL/ML	Brown silty clay/clayey silt, moist, hard, NPO
			15			
			16			
0		GP3-17	17		SM/ML	Brown sand/gravel/silt/clay mixture, moist, medium,
			18			NPO. Varies from predominantly silty to sandy;
			19			becomes hard with increase in minor clay content
			20			
			21			
			22			
			23			
0		GP3-24	24	*	SM	Same
			25			
			26			
			27			
24		GP3-28	28	*		Same, but very moist
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		28.9

Notes (total depth, etc.):

Boring advanced to 30' bgs and grouted to surface grade

Field Well/Boring Log

Field location of boring

Boring ID GP-4 | Page 1 of 1

Project Number: 015-01-018
Date: 1/10/07
Location: 160 Holmes
Logged By: MK
Driller: ECA

Drilling Method/Boring Diameter (inches)

Casing installation data:
N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3		SM (Fill)	Brown sand/gravel/silt fill, moist, medium,
0		GP4-4	4			NPO
			5			
			6			
			7			
0		GP4-8	8	*		
			9			
			10			
			11			
0		GP4-12	12			
			13			
			14		ML	Brown clayey silt, moist, dense, PO
			15		SM	Brown gravel/sand/silt, moist, dense, PO
126		GP4-16	16	*		Brown clayey silt, moist, dense, PO
			17			
0			18			
			19			
0		GP4-20	20		ML	
			21			
			22			
			23			
0		GP4-24	24			Same
			25			
			26			
			27			
334		GP4-28	28	*		Same but very moist
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		~29'

Notes (total depth, etc.):

Boring advanced to 30' bgs and grouted to surface grade

Field Well/Boring Log

Field location of boring	**Boring ID** GP-5	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/10/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP5-4	4		ML	Brown clayey silt with gravel, moist, medium, NPO
			5			NPO
			6			
			7			
0		GP5-8	8	*	SM	Brown gravel/sand/silt, moist, medium, NPO
			9			
			10			
			11			
0		GP5-12	12		ML	Brown silt, moist, hard, NPO
			13			
			14			
			15			
			16			(No sample recovery)
			17			
			18			
			19			
4		GP5-20	20	*	ML	Brown silt, moist, hard, NPO
			21			
			22			
			23			
			24			(No sample recovery)
			25			
			26			
			27			
**		GP5-28	28	*	ML	Same, but very moist
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		28.9

Notes (total depth, etc.):

Boring advanced to 30' bgs and grouted to surface grade

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring	**Boring ID** GP-6	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
			4		ML	Dark brown silt/sand/gravel, moist, medium, NPO
			5			
			6			
			7			
0		GP6-8	8	*	SW	L. brown gravel/sand/silt, sl. moist, loose, NPO
			9			
			10			
			11			
		GP6-12	12			Same
			13			
			14			
			15		ML	L. brown silt, moist to very moist, stiff, NPO
			16			
			17			
0		GP6-18	18	*	SW	Brown sand/silt/gravel, moist, medium, NPO
			19			
			20			
			21			
			22			
			23			
11		GP6-24	24	*	ML	Brown silt and clayey silt, moist to very moist, stiff,
			25			FPO
			26			
			27			
**		GP6-28	28	*		Same
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		No water
		encountered

Notes (total depth, etc.):

Boring logged to 30' bgs, then advanced an additional 8 feet in an unsuccessful attempt to obtain water samples. Boring grouted to surface grade.

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring	**Boring ID** GP-6A	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP6A-4	4	*	ML (Fill)	Brown silt with sand and gravel, moist, stiff, NPO
			5			
			6			
			7			
0		GP6A-8	8	*		Brown clayey silt, moist, very stiff, NPO
			9			
			10			
			11			
0		GP6A-12	12			
			13		ML/CL	Brown clayey silt/silty clay, moist, hard, NPO
			14		CL	Brown silty clay, moist, hard, NPO
			15			
0		GP6A-16	16	*	ML	Brown clayey silt, moist, hard, NPO
			17			Brown sandy silt beg. @ 17' bgs
			18			
			19			
17		GP6A-20	20	*	SM	Brown to gray gravel/sand/silt, moist, dense, NPO
			21			
			22			
			23			
0		GP6A-24	24	*	ML	Brown silt and clayey silt, moist to very moist, stiff,
			25			NPO
			26			
			27			
12		GP6A-28	28	*		Same
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		~29

Notes (total depth, etc.):

Boring logged to 30' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring	**Boring ID** GP-7	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP7-4	4	*	ML	Brown silt with sand and gravel, moist, stiff, NPO
			5			
			6			
			7			
0		GP7-8	8	*	SM	Brown san/gravel/silt, moist, medium, NPO
			9			
			10			
			11			
			12			
			13		SM/ML	L. brown silty sand and sandy silt with clay, moist,
0		GP7-14	14	*		dense/very stiff, NPO
			15			
			16		(Rock)	Refusal at 15' bgs due to suspected cobble
			17			
			18			
			19			
			20			
			21			
			22			
			23			
			24			
			25			
			26			
			27			
			28			
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		Not
		encountered

Notes (total depth, etc.):

Boring logged to refusal depth of 15' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring

Boring ID GP-8 | Page 1 of 1

Project Number: 015-01-018
Date: 1/10/07
Location: 160 Holmes
Logged By: MK
Driller: ECA

Drilling Method/Boring Diameter (inches)

Casing installation data:
N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP8-4	4		CL	Dark brown silty clay with gravel, moist, stiff, NPO
			5			
			6			
			7			
0		GP8-8	8	*	SC/SM	Brown sand/gravel/clay/silt, moist, medium, NPO
			9			
			10			
			11			
0		GP8-12	12			
			13		CL/ML	Brown silty clay/clayey silt, moist, stiff, NPO
			14			
			15			
0		GP8-16	16			
			17			
			18			
5		GP8-19	19		SM/SC	Brown sand/gravel/clay/silt, moist, medium, NPO
			20			
			21			
			22			
			23			
485		GP8-24	24	*	ML	Brown silt, moist, stiff, NPO
			25			
			26			
			27			
			28			
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		~29'

Notes (total depth, etc.):

Boring logged to a depth of 30' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring

Boring ID GP-9 | Page 1 of 1

Project Number: 015-01-018
Date: 1/10/07
Location: 160 Holmes
Logged By: MK
Driller: ECA

Drilling Method/Boring Diameter (inches)

Casing installation data:
N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
			4			
			5			
			6			
			7			
0		GP9-8	8	*	SM	Brown sand/gravel/silt, moist, medium, NPO
			9			Grades down into clayey silt
			10			
			11			
0		GP9-12	12	*		
			13		ML	Brown silty clay/clayey silt, moist, stiff, NPO
			14			
			15		CL	
			16			
			17			
			18			
			19		SC/SM	Brown sand/gravel/clay/silt, moist, medium, NPO
			20			
			21			
			22			
			23			
567		GP9-24	24	*	ML/CL	Brown silt, moist, stiff, NPO
			25			
			26			
			27			
			28			
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		~29

Notes (total depth, etc.):

Boring logged to refusal depth of 30' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring	**Boring ID** GP-10	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/10/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
			4			
0		GP10-5	5		SM (Fill)	Brown sand/gravel/silt, moist, medium, NPO
			6			
			7			
			8			
			9			
0		GP10-10	10		SM/SC	Brown grev
			11			
			12			
			13			
0		GP10-14	14			
			15		CL	L. brown silty clay/clayey silt and gravelly clay
			16			horizons, moist, stiff, NPO
			17			
			18			
0		GP10-19	19		SC/SM	Brown sand/gravel/clay/silt, moist, medium, NPO
			20			
335		GP10-21	21	*		
			22			
			23			
**		GP10-24	24	*	ML/CL	Brown silt, moist, stiff, NPO
			25			
			26			
			27			
			28			
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/10/07		~29 (initial)
1/10/07		23.43 (static)

Notes (total depth, etc.):

Boring logged to depth of 30' bgs and grouted to surface grade.

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring	**Boring ID** GP-11	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP11-4	4		SM	Dark brown gravel/sand/silt, moist, medium,
			5			NPO
			6			
			7			
0		GP11-8	8	*		Same, but clayier
			9			
			10			
			11			
0		GP11-12	12			Brown clayey silt from ~11' - 12', moist, stiff, NPO
			13			Brown silt, moist, stiff, NPO
			14			
			15			
0		GP11-16	16			
			17			
			18		ML	Same but gray with additional sand and gravel
			19			17.5 - 19'
0		GP11-20	20			
			21			
			22			
			23			
0		GP11-24	24	*		
			25			Same, but gray-brown, highly plastic, and very
			26			moist to wet
			27			
**		GP11-28	28	*		Same
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		~29'

Notes (total depth, etc.):

Boring logged to depth of 30' bgs and grouted to surface grade.

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring

Boring ID GP-12 | Page 1 of 1

Project Number: 015-01-018
Date: 1/11/07
Location: 160 Holmes
Logged By: MK
Driller: ECA

Drilling Method/Boring Diameter (inches)

Casing installation data:
N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP12-4	4			
			5			
			6			
			7			
0		GP12-8	8	*	SM	Dark brown sand/gravel/silt, moist, medium, NPO
			9			
			10			
			11			
0		GP12-12	12		ML	Brown silt with clay, moist to very moist, very stiff, NPO
			13			
			14			
			15			
			16			
			17			
0		GP12-18	18			Same but gray with additional sand and gravel
			19			17.5 - 19'
			20			
			21			
			22		SM	Gray sand/gravel/silt, very moist to wet, medium, SPO
			23			
0		GP12-24	24	*		Gray-brown clayey silt, highly plastic, very
			25		ML	moist to wet, very soft, SPO
			26			
			27			
0		GP12-28	28	*		Same
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		~29

Notes (total depth, etc.):

Boring logged to depth of 30' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring	**Boring ID** GP-13	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Casing installation data: N/A (GeoProbes - no wells) / Description
			1			6" concrete
			2			
			3			
0		GP13-4	4		SM	Brown sand/gravel/silt, moist to very moist, medium,
			5			NPO
			6			
			7			
0		GP13-8	8	*		Brown silt with clay, sl. moist, stiff, NPO
			9			
			10		ML	
			11			
0		GP13-12	12			
			13			
			14			
			15		SM	Brown sand/gravel/silt, moist to very moist, medium,
0		GP13-16	16			NPO
			17			
			18	*	ML	Brown silt with clay to clayey silt with variable amts.
			19			of sand, sl. moist, very stiff, NPO
0		GP13-20	20			
			21			
			22			
			23			
**		GP13-24	24	*	SM	Brown sand/gravel/silt, moist to very moist, medium,
			25			SPO (beginning at ~ 24')
			26			
			27			
**		GP13-28	28	*		Same
			29			
			30			

Water Level Information		
Date	Time	Depth (feet)
1/11/07		~29'

Notes (total depth, etc.):

Boring logged to 30' bgs and grouted to surface grade.

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring	**Boring ID** GP-14	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Casing installation data: N/A (GeoProbes - no wells) / Description
			1			6" concrete
			2			
			3			
			4		SM (Fill)	Brown silty sand and gravel, moist, medium,
			5			NPO
			6			
			7			
**		GP14-8	8	*	SM/ML	Brown sand/gravel/silt ranging from predominantly
			9			sand to silt, moist, medium/stiff, NPO
			10			
			11			
**		GP14-12	12	*	ML	Brown silt, moist to very moist, stiff, NPO
			13		ML/SM	Brown sand/gravel/silt ranging from predominantly
			14			sand to silt, moist, medium/stiff, NPO
			15			
**		GP14-16	16	*	ML	Brown silt with clay, moist to very moist, medium,
			17			NPO
			18			
			19			
**		GP14-20	20	*	SM	Gray sand/gravel/silt, moist, medium/stiff, NPO
			21			
			22			
			23			
**		GP14-24	24	*	ML	Gray-brown silt, moist to very moist,very stiff, PO
			25			
			26			
			27			
301		GP14-28	28	*		Same but SPO
			29			
			30			

Water Level Information		
Date	Time	Depth (feet)
1/11/07		29'

Notes (total depth, etc.):

Boring logged to 30' bgs and grouted to surface grade.

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring						**Boring ID** GP-15	Page 1 of 1
						Project Number:	015-01-018
						Date:	1/11/07
						Location:	160 Holmes
						Logged By:	MK
Drilling Method/Boring Diameter (inches)						Driller:	ECA
PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Casing installation data: N/A (GeoProbes - no wells)	
						Description	
			1			6" concrete	
			2				
			3				
			4		SM (Fill)	Brown silty sand and gravel, very moist, medium,	
			5			NPO	
			6				
			7				
			8			Brown sand/gravel/silt ranging from predominantly	
			9			sand to silt, moist, medium/stiff, NPO	
			10				
			11				
**		GP15-12	12	*	ML	Brown silt, moist, stiff, NPO	
			13				
			14				
			15				
			16				
			17				
			18				
**		GP15-19	19	*	SM/ML	Gray sand and silt, very moist, medium/stiff, PO	
			20				
			21				
			22				
			23				
**		GP15-24	24	*	SM	Gray and brown silty sand and gravel, moist to	
			25			very moist,medium, PO	
			26				
			27				
**		GP15-28	28	*		Same	
			29				
			30				

Water Level Information		
Date	Time	Depth (feet)
1/11/07		Not
		encountered

Notes (total depth, etc.):

Boring logged to 30' bgs, then advanced an additional 8 feet in an unsuccessful attempt to obtain water samples. Boring grouted to surface grade.

** PID malfunctioning; new functioning PID delivered to Site on 1/11/07 during advancement of boring GP-13

Field Well/Boring Log

Field location of boring

Boring ID GP-16 | Page 1 of 1

Project Number: 015-01-018
Date: 1/11/07
Location: 160 Holmes
Logged By: MK
Driller: ECA

Drilling Method/Boring Diameter (inches)

Casing installation data:
N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			
0		GP16-4	4		ML	Dark brown silt/sand/gravel, moist, medium, NPO
			5			
			6			
			7			
0		GP16-8	8	*		Brown clayey silt and silty clay with var. sand, moist,
			9			stiff, NPO
			10			
			11			
0		GP16-12	12			
			13			
			14			
			15			
0		GP16-16	16	*	ML/CL	Same
			17			
			18			
			19			
0		GP16-20	20			
			21			
			22			
			23			
0		GP16-24	24	*		Gray and brown silty sand and gravel, moist to
			25			very moist,medium, PO
			26			
			27			
0		GP16-28	28	*	ML	Same
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		29'

Notes (total depth, etc.):

Boring logged to 30' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring						**Boring ID** GP-17	Page 1 of 1
						Project Number:	015-01-018
						Date:	1/11/07
						Location:	160 Holmes
						Logged By:	MK
Drilling Method/Boring Diameter (inches)						Driller:	ECA
PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Casing installation data: N/A (GeoProbes - no wells)	
						Description	
			1			6" concrete	
			2				
			3			Dark brown silt, moist, soft, NPO	
0		GP17-4	4		ML		
			5			Dark brown silt with gravel, moist, soft, NPO	
			6				
			7				
0		GP17-8	8	*	SM	Brown gravel/sand/silt, moist, loose, NPO	
			9				
			10				
			11				
0		GP17-12	12				
			13				
			14				
			15				
0		GP17-16	16		ML	Brown silt, moist, very stiff, NPO	
			17				
			18				
			19				
0		GP17-20	20				
			21			Same with increased clay and gravel	
			22				
			23				
21		GP17-24	24	*		Brown and gray gravel/sand/silt, moist, dense, FPO	
			25				
			26				
			27				
0		GP17-28	28	*	ML	Same	
			29				
			30				

Water Level Information		
Date	Time	Depth (feet)
1/11/07		~29'

Notes (total depth, etc.):

Boring logged to 30' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring	**Boring ID** GP-18	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3			Dark brown clayey silt with sand and gravel, moist, soft, NP
0		GP18-4	4		ML	
			5			
			6			
			7			
0		GP18-8	8	*	SM	Brown silty sand and gravel, slightly moist, loose, NPO
			9			
			10			
			11		SP	Brown sand, fine-grained, moist, loose, NPO
0		GP18-12	12		SM	Brown sand/gravel/silt, moist, loose, NPO. Brick
			13			fragments
			14			
			15			
0		GP18-16	16	*	ML	Brown silt, moist to very moist, very soft, NPO
			17			
			18			
			19			
0		GP18-20	20			
			21			
			22			
			23			
2		GP18-24	24	*	SM	Brown and gray gravel/sand/silt, moist, dense, FPO
			25			
			26			
			27			
99		GP18-28	28	*	ML	Brown silt to 32' bgs, very moist, soft, PO
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		~31'

Notes (total depth, etc.):

Boring logged to 32' bgs and grouted to surface grade.

Field Well/Boring Log

Field location of boring	**Boring ID** GP-19	Page 1 of 1
	Project Number:	015-01-018
	Date:	1/11/07
	Location:	160 Holmes
	Logged By:	MK
Drilling Method/Boring Diameter (inches)	Driller:	ECA

Casing installation data: N/A (GeoProbes - no wells)

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1			6" concrete
			2			
			3		SM	Brown sand/gravel/silt, moist, medium, NPO
0		GP19-4	4			
			5			
			6			
			7			
0		GP19-8	8	*		Same
			9			
			10			
			11			
0		GP19-12	12			Same, but gray and brown
			13			
			14			
			15			
			16			
0		GP19-17	17	*	ML	Brown silt, very moist, stiff, NPO
			18			
			19			
			20			
1.2		GP19-21	21	*		Brown sand/gravel/silt, moist, medium, NPO
			22			
			23			
192		GP19-24	24	*	SM	Same
			25			
			26			
			27			
66		GP19-28	28	*	ML	Gray clayey silt with gravel, very moist, soft, PO
			29			
			30			

Water Level Information

Date	Time	Depth (feet)
1/11/07		Not
		encountered

Notes (total depth, etc.):

Boring logged to 30' bgs, then advanced an additional 8 feet in an unsuccessful attempt to obtain water samples. Boring grouted to surface grade.

APPENDIX D
Soil and Groundwater Analytical Reports and Chain of Custody Documentation

McCampbell Analytical, Inc.
"When Quality Counts"

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

Allterra Environmental, Inc 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060	Client Project ID: 160 Holmes, Livermore, CA	Date Sampled: 01/10/07
		Date Received: 01/16/07
	Client Contact: James Allen	Date Reported: 01/24/07
	Client P.O.:	Date Completed: 01/24/07

WorkOrder: 0701280

January 24, 2007

Dear James:

Enclosed are:

1). the results of **82** analyzed samples from your **160 Holmes, Livermore, CA project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0701280 AHS

Chain of Custody Record

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

Turn Around Time (circle one) RUSH 24HR 48HR 72HR (5 Day)

Report and Bill to: Allterra Environmental, Inc.
Project Number:
Project Location: 160 Holmes, Livermore, CA
Project Name:
Sampler Signature:

Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
GP-1	01-10-07		3	VOA		X								X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-2	↓		↓	↓		↓								X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-3														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-4														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-5	↓													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-6A	01-11-07													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-8	01-10-07													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-9	↓													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-10	↓													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-11	01-11-07													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-12	↓													X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-13														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-14														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-16														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-17														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-18														X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GP-19	↓		↓	↓		↓								X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Sampled By:		Date: 1-12-07	Time:	Received By: 1/11/07 9:20 AM
Received By:		Date:	Time:	Received By:
Received By:		Date:	Time:	Received By:

Comments: ICE/t° AD
GOOD CONDITION ✓ APPROPRIATE ✓
HEAD SPACE ABSENT ____ CONTAINERS
DECHLORINATED IN LAB ____ PRESERVED IN LAB ____

PRESERVATION	VOAS	O&G	METALS	OTHER

Chain of Custody Record

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

Turn Around Time (circle one) RUSH 24HR 48HR 72HR 5 Day

Report and Bill to: Allterra Environmental, Inc.
Project Number:
Project Location: 160 Holmes, Livermore, CA
Project Name:
Sampler Signature:

Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
GP1-8	1-10-07		1				X							X														
GP1-12	↓		↓				↓																					
GP1-16																												
GP1-24														X														
GP1-28														X														
GP2-8														X														
GP2-24														X														
GP3-8														X														
GP3-24														X														
GP3-28														X														
GP4-8														X														
GP4-16														X														
GP4-28														X														
GP5-8														X														
GP5-20														X														
GP5-28	↓													X														
GP6-8	1-11-07													X														
GP6-18														X														
GP6-24														X														
GP6-28	↓		↓				↓							X														

Sampled By:	Date: 01-12-07	Time:	Received By:	1/10/07
Received By:	Date:	Time:	Received By:	
Received By:	Date:	Time:	Received By:	

Comments:

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

Chain of Custody Record

Turn Around Time (circle one) RUSH 24HR 48HR 72HR (5 Day)

Report and Bill to: Allterra Environmental, Inc.
Project Number:
Project Location: 160 Holmes, Livermore, CA
Project Name:
Sampler Signature:

Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
GP6A-4	1-11-07						X							X														
GP6A-8	↓						↓							X														
GP6A-16														X														
GP6A-20														X														
GP6A-24														X														
GP6A-28														X														
GP7-4														X														
GP7-8														X														
GP7-14	↓													X														
GP8-8	1/10/07													X														
GP8-24														X														
GP9-8														X														
GP9-12														X														
GP9-24														X														
GP10-21														X														
GP10-24	↓													X														
GP11-8	1-11-07													X														
GP11-24	↓													X														
GP11-28							↓							X														

Sampled By:	Date:	Time:	Received By:
	01-12-07		
Received By:	Date:	Time:	Received By:
Received By:	Date:	Time:	Received By:

Comments:

Chain of Custody Record

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

Turn Around Time (circle one) RUSH 24HR 48HR 72HR (5 Day)

Report and Bill to: Allterra Environmental, Inc.
Project Number:
Project Location: 160 Holmes, Livermore, CA
Project Name:
Sampler Signature:

Sample ID	Sample Collection		Sample Containers		Matrix					Preservation				TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
	Date	Time	Number of Containers	Container Type	Air	Water	Soil	Sludge	Other	Ice	HCl	HNO_3	Other																
GP12-8	1-11-07						X							X															
GP12-24														X															
GP12-28														X															
GP13-8														X															
GP13-24														X															
GP13-28														X															
GP14-8														X															
GP14-12														X															
GP14-16														X															
GP14-20																													
GP14-24														X															
GP14-28														X															
GP15-8																													
GP15-12														X															
GP15-19														X															
GP15-24														X															
GP15-28														X															

Sampled By:	Date: 01-12-07	Time:	Received By: 1/16/07
Received By:	Date:	Time:	Received By:
Received By:	Date:	Time:	Received By:

Comments:

Chain of Custody Record

ALLTERRA
849 Almar Avenue, Suite C. #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

Turn Around Time (circle one) RUSH 24HR 48HR 72HR ~~5 Day~~

Report and Bill to: Allterra Environmental, Inc.
Project Number:
Project Location: 160 Holmes, Livermore, CA
Project Name:
Sampler Signature:

Sample ID	Sample Collection		Sample Containers		Matrix					Preservation				TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
	Date	Time	Number of Containers	Container Type	Air	Water	Soil	Sludge	Other	Ice	HCl	HNO_3	Other																
GP16-8	1-11-07		1											X															
GP16-16	↓																												
GP16-24														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP16-28														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP17-8														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP17-24														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP17-28														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP18-8														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP18-16														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP18-24														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP18-28														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP19-8														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP19-17														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP19-21														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GP19-24														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Sampled By:	Date:	Time:	Received By:	Comments:
	1-12-07		Myl Vall 1/14/07	
Received By:	Date:	Time:	Received By:	
Received By:	Date:	Time:	Received By:	

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0701280 **ClientID: ATRS**

☐ EDF ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
James Allen
Allterra Environmental, Inc
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060

Email: allterraenvironmental@yahoo.com
TEL: 831-425-2608 FAX: 831-425-2609
ProjectNo: 160 Holmes, Livermore, CA
PO:

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
amanda@allterraenv.com

Requested TAT: 5 days

Date Received: **01/16/2007**
Date Printed: **01/16/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0701280-001	GP-1	Water	01/10/2007	☐		A										
0701280-002	GP-2	Water	01/10/2007	☐		A										
0701280-003	GP-3	Water	01/10/2007	☐		A										
0701280-004	GP-4	Water	01/10/2007	☐		A										
0701280-005	GP-5	Water	01/10/2007	☐		A										
0701280-006	GP-6A	Water	01/11/2007	☐		A										
0701280-007	GP-8	Water	01/10/2007	☐		A										
0701280-008	GP-9	Water	01/10/2007	☐		A										
0701280-009	GP-10	Water	01/10/2007	☐		A										
0701280-010	GP-11	Water	01/11/2007	☐		A										
0701280-011	GP-12	Water	01/11/2007	☐		A										
0701280-012	GP-13	Water	01/11/2007	☐		A										
0701280-013	GP-14	Water	01/11/2007	☐		A										
0701280-014	GP-16	Water	01/11/2007	☐		A										
0701280-015	GP-17	Water	01/11/2007	☐		A										

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0701280 **ClientID: ATRS**

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Allterra Environmental, Inc
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Santa Cruz, CA 95060

Email: allterraenvironmental@yahoo.com
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ProjectNo: 160 Holmes, Livermore, CA
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Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
amanda@allterraenv.com

Requested TAT: 5 days

Date Received: **01/16/2007**
Date Printed: **01/16/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0701280-016	GP-18	Water	01/11/2007	☐		A										
0701280-017	GP-19	Water	01/11/2007	☐		A										
0701280-018	GP1-8	Soil	01/10/2007	☐	A											
0701280-021	GP1-24	Soil	01/10/2007	☐	A											
0701280-022	GP1-28	Soil	01/10/2007	☐	A											
0701280-023	GP2-8	Soil	01/10/2007	☐	A											
0701280-024	GP2-24	Soil	01/10/2007	☐	A											
0701280-025	GP3-8	Soil	01/10/2007	☐	A											
0701280-026	GP3-24	Soil	01/10/2007	☐	A											
0701280-027	GP3-28	Soil	01/10/2007	☐	A											
0701280-028	GP4-8	Soil	01/10/2007	☐	A											
0701280-029	GP4-16	Soil	01/10/2007	☐	A											
0701280-030	GP4-28	Soil	01/10/2007	☐	A											
0701280-031	GP5-8	Soil	01/10/2007	☐	A											
0701280-032	GP5-20	Soil	01/10/2007	☐	A											

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0701280 **ClientID: ATRS**

☐ EDF ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
James Allen
Allterra Environmental, Inc
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060

Email: allterraenvironmental@yahoo.com
TEL: 831-425-2608 FAX: 831-425-2609
ProjectNo: 160 Holmes, Livermore, CA
PO:

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
amanda@allterraenv.com

Requested TAT: 5 days

Date Received: **01/16/2007**
Date Printed: **01/16/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0701280-033	GP5-28	Soil	01/10/2007	☐	A											
0701280-034	GP6-8	Soil	01/11/2007	☐	A											
0701280-035	GP6-18	Soil	01/11/2007	☐	A											
0701280-036	GP6-24	Soil	01/11/2007	☐	A											
0701280-037	GP6-28	Soil	01/11/2007	☐	A											
0701280-038	GP6A-4	Soil	01/11/2007	☐	A											
0701280-039	GP6A-8	Soil	01/10/2007	☐	A											
0701280-040	GP6A-16	Soil	01/10/2007	☐	A											
0701280-041	GP6A-20	Soil	01/10/2007	☐	A											
0701280-042	GP6A-24	Soil	01/10/2007	☐	A											
0701280-043	GP6A-28	Soil	01/10/2007	☐	A											
0701280-044	GP7-4	Soil	01/10/2007	☐	A											
0701280-045	GP7-8	Soil	01/10/2007	☐	A											
0701280-046	GP7-14	Soil	01/10/2007	☐	A											
0701280-047	GP8-8	Soil	01/10/2007	☐	A											

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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

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Pittsburg, CA 94565-1701
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CHAIN-OF-CUSTODY RECORD

WorkOrder: 0701280 **ClientID: ATRS**

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Report to:
James Allen
Allterra Environmental, Inc
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060

Email: allterraenvironmental@yahoo.com
TEL: 831-425-2608 FAX: 831-425-2609
ProjectNo: 160 Holmes, Livermore, CA
PO:

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
amanda@allterraenv.com

Requested TAT: 5 days

Date Received: **01/16/2007**
Date Printed: **01/16/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0701280-048	GP8-24	Soil	01/11/2007	☐	A											
0701280-049	GP9-8	Soil	01/11/2007	☐	A											
0701280-050	GP9-12	Soil	01/11/2007	☐	A											
0701280-051	GP9-24	Soil	01/11/2007	☐	A											
0701280-052	GP10-21	Soil	01/11/2007	☐	A											
0701280-053	GP10-24	Soil	01/11/2007	☐	A											
0701280-054	GP11-8	Soil	01/11/2007	☐	A											
0701280-055	GP11-24	Soil	01/11/2007	☐	A											
0701280-056	GP11-28	Soil	01/11/2007	☐	A											
0701280-057	GP12-8	Soil	01/11/2007	☐	A											
0701280-058	GP12-24	Soil	01/11/2007	☐	A											
0701280-059	GP12-28	Soil	01/11/2007	☐	A											
0701280-060	GP13-8	Soil	01/11/2007	☐	A											
0701280-061	GP13-24	Soil	01/11/2007	☐	A											
0701280-062	GP13-28	Soil	01/11/2007	☐	A											

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0701280 **ClientID: ATRS**

☐ EDF ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

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					1	2	3	4	5	6	7	8	9	10	11	12
0701280-063	GP14-8	Soil	01/11/2007	☐	A											
0701280-064	GP14-12	Soil	01/11/2007	☐	A											
0701280-065	GP14-16	Soil	01/11/2007	☐	A											
0701280-067	GP14-24	Soil	01/11/2007	☐	A											
0701280-068	GP14-28	Soil	01/11/2007	☐	A											
0701280-070	GP15-12	Soil	01/11/2007	☐	A											
0701280-071	GP15-19	Soil	01/11/2007	☐	A											
0701280-072	GP15-24	Soil	01/11/2007	☐	A											
0701280-073	GP15-28	Soil	01/11/2007	☐	A											
0701280-074	GP16-8	Soil	01/11/2007	☐	A											
0701280-076	GP16-24	Soil	01/11/2007	☐	A											
0701280-077	GP16-28	Soil	01/11/2007	☐	A											
0701280-078	GP17-8	Soil	01/11/2007	☐	A											
0701280-079	GP17-24	Soil	01/11/2007	☐	A											
0701280-080	GP17-28	Soil	01/11/2007	☐	A											

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0701280-081	GP18-8	Soil	01/11/2007	☐	A											
0701280-082	GP18-16	Soil	01/11/2007	☐	A											
0701280-083	GP18-24	Soil	01/11/2007	☐	A											
0701280-084	GP18-28	Soil	01/11/2007	☐	A											
0701280-085	GP19-8	Soil	01/11/2007	☐	A											
0701280-087	GP19-21	Soil	01/11/2007	☐	A											
0701280-088	GP19-24	Soil	01/11/2007	☐	A											

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
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Comments:

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Allterra Environmental, Inc	Client Project ID: 160 Holmes, Livermore, CA	Date Sampled: 01/10/07-01/11/07
849 Almar Ave, Ste. C #281		Date Received: 01/16/07
Santa Cruz, CA 95060	Client Contact: James Allen	Date Extracted: 01/16/07-01/24/07
	Client P.O.:	Date Analyzed 01/17/07-01/24/07

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0701280

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	GP-1	W	270,b,i	61	ND	ND	2.6	0.85	1	78
002A	GP-2	W	2000,a,i	2600	61	46	93	280	1	121
003A	GP-3	W	11,000,a,i	37,000	38	27	1100	980	10	111
004A	GP-4	W	20,000,a,i	35,000	820	260	1400	3200	10	106
005A	GP-5	W	4100,a,i	780	64	6.6	13	550	10	92
006A	GP-6A	W	11,000,a,i	6100	360	150	1500	480	10	106
007A	GP-8	W	61,000,a,i	190,000	2800	490	2600	4400	10	111
008A	GP-9	W	100,000,a,i	260,000	5600	3400	3500	24,000	50	101
009A	GP-10	W	44,000,a,i	92,000	2400	590	3600	3300	10	120
010A	GP-11	W	550,b,m,i	110	1.4	1.3	2.1	36	1	89
011A	GP-12	W	15,000,a,i	6600	68	20	1800	94	10	119
012A	GP-13	W	88,000,a,i	87,000	5100	ND<50	5500	7400	100	110
013A	GP-14	W	210,000,a,i	1,500,000	11,000	26,000	4600	21,000	100	93
014A	GP-16	W	160,a,i	210	5.2	3.2	18	7.5	1	97
015A	GP-17	W	460,a,i	790	7.7	4.8	8.0	7.4	1	106
016A	GP-18	W	35,000,a,i	13,000	250	72	2800	380	10	---#
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Santa Cruz, CA 95060	Client Contact: James Allen	Date Extracted: 01/16/07-01/24/07
	Client P.O.:	Date Analyzed 01/17/07-01/24/07

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0701280

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
017A	GP-19	W	430,a,i	72	8.9	1.6	24	31	1	109
018A	GP1-8	S	ND	ND	ND	ND	ND	ND	1	85
021A	GP1-24	S	ND	ND	ND	ND	ND	ND	1	78
022A	GP1-28	S	ND	ND	ND	ND	ND	ND	1	76
023A	GP2-8	S	ND	ND	ND	ND	ND	ND	1	81
024A	GP2-24	S	51,b	ND<0.50	ND<0.050	ND<0.050	0.13	0.20	10	85
025A	GP3-8	S	ND	ND	ND	ND	ND	ND	1	92
026A	GP3-24	S	ND	ND	ND	ND	ND	ND	1	93
027A	GP3-28	S	100,a	2.6	ND<0.050	0.40	2.1	3.2	10	94
028A	GP4-8	S	ND	ND	ND	ND	ND	ND	1	89
029A	GP4-16	S	ND	ND	ND	ND	ND	ND	1	79
030A	GP4-28	S	13,a	4.4	0.021	0.096	0.24	0.32	2	88
031A	GP5-8	S	ND	ND	ND	ND	ND	ND	1	84
032A	GP5-20	S	5.0,g	ND	ND	ND	ND	ND	1	99
033A	GP5-28	S	ND	ND	ND	ND	ND	ND	1	89
034A	GP6-8	S	ND	0.090	ND	ND	ND	ND	1	99
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
		S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

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

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0701280

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
035A	GP6-18	S	ND	ND	ND	ND	ND	ND	1	92
036A	GP6-24	S	ND	0.11	ND	ND	ND	0.013	1	85
037A	GP6-28	S	23,g,m	0.056	0.0057	0.021	0.052	0.16	1	90
038A	GP6A-4	S	11,g	ND<0.10	ND	ND	0.0081	ND	1	82
039A	GP6A-8	S	ND	ND<0.10	ND	ND	ND	0.011	1	94
040A	GP6A-16	S	ND	ND	ND	ND	ND	ND	1	93
041A	GP6A-20	S	1.6,b	0.066	ND	ND	0.0052	0.0065	1	87
042A	GP6A-24	S	2.0,b	0.44	ND	0.013	0.0062	0.015	1	82
043A	GP6A-28	S	17,b,m	0.34	ND<0.010	ND<0.010	0.40	0.028	2	86
044A	GP7-4	S	2.0,b	0.086	ND	0.014	0.0080	0.092	1	89
045A	GP7-8	S	ND	ND	ND	ND	ND	ND	1	94
046A	GP7-14	S	ND	0.062	ND	ND	ND	ND	1	89
047A	GP8-8	S	ND	ND	ND	ND	ND	ND	1	86
048A	GP8-24	S	30,b,m	9.6	0.030	0.19	0.46	2.4	1	102
049A	GP9-8	S	ND	ND	ND	ND	ND	ND	1	91
050A	GP9-12	S	ND	ND	ND	ND	ND	ND	1	87
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

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

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0701280

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
051A	GP9-24	S	110,b,m	22	0.27	1.2	1.6	9.5	2	115
052A	GP10-21	S	35,b,m	1.5	0.033	0.35	0.56	3.6	5	91
053A	GP10-24	S	2.2,a	3.9	0.0081	0.011	0.023	0.12	1	89
054A	GP11-8	S	ND	ND	ND	ND	ND	ND	1	99
055A	GP11-24	S	ND	ND	ND	ND	ND	ND	1	85
056A	GP11-28	S	3.7,g	0.057	ND	ND	ND	ND	1	83
057A	GP12-8	S	ND	0.072	ND	ND	ND	ND	1	95
058A	GP12-24	S	15,b,m	0.092	ND	ND	0.13	0.14	1	89
059A	GP12-28	S	11,b,m	0.36	0.0061	ND	0.47	0.014	1	84
060A	GP13-8	S	ND	ND	ND	ND	ND	ND	1	101
061A	GP13-24	S	9.1,g	ND	ND	ND	ND	0.014	1	90
062A	GP13-28	S	100,b,m	8.9	0.17	0.39	2.6	6.7	10	118
063A	GP14-8	S	6.4,g	ND	ND	ND	ND	ND	1	83
064A	GP14-12	S	ND	ND	ND	ND	ND	ND	1	88
065A	GP14-16	S	ND	ND	ND	ND	ND	ND	1	89
067A	GP14-24	S	320,b,m	50	0.43	14	7.0	40	25	102
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
		S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

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

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0701280

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
068A	GP14-28	S	120,b,m	140	0.47	3.3	2.0	11	20	80
070A	GP15-12	S	ND	0.078	ND	ND	ND	ND	1	89
071A	GP15-19	S	1.5,b	0.49	ND	0.012	0.026	0.054	1	91
072A	GP15-24	S	1.6,b	0.40	ND	0.0077	0.015	0.11	1	90
073A	GP15-28	S	6.7,a	9.5	0.047	0.24	0.13	0.72	1	96
074A	GP16-8	S	ND	0.061	ND	ND	ND	ND	1	87
076A	GP16-24	S	ND	0.10	ND	ND	ND	ND	1	80
077A	GP16-28	S	ND	ND	ND	ND	ND	ND	1	94
078A	GP17-8	S	ND	ND	ND	ND	ND	ND	1	82
079A	GP17-24	S	ND	ND	ND	ND	ND	ND	1	107
080A	GP17-28	S	ND	ND	ND	ND	ND	ND	1	88
081A	GP18-8	S	ND	ND	ND	ND	ND	ND	1	85
082A	GP18-16	S	ND	0.070	ND	ND	ND	ND	1	77
083A	GP18-24	S	ND	ND	ND	ND	ND	ND	1	88
084A	GP18-28	S	110,g,m	0.20	ND<0.010	0.16	0.37	1.3	2	90
085A	GP19-8	S	ND	ND	ND	ND	ND	ND	1	92
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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"When Quality Counts"

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Allterra Environmental, Inc	Client Project ID: 160 Holmes, Livermore, CA	Date Sampled: 01/10/07-01/11/07
849 Almar Ave, Ste. C #281		Date Received: 01/16/07
Santa Cruz, CA 95060	Client Contact: James Allen	Date Extracted: 01/16/07-01/24/07
	Client P.O.:	Date Analyzed 01/17/07-01/24/07

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0701280

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
087A	GP19-21	S	ND	ND	ND	ND	ND	ND	1	97
088A	GP19-24	S	5.8,b,m	0.074	ND	0.0072	0.12	0.23	1	96

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25731 Spiked Sample ID: 0701277-028A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	108	102	5.32	109	103	6.35	70 - 130	30	70 - 130	30
MTBE	ND	0.10	92.6	89.8	3.05	98.5	100	1.47	70 - 130	30	70 - 130	30
Benzene	ND	0.10	92.6	93.8	1.31	92.9	109	16.0	70 - 130	30	70 - 130	30
Toluene	ND	0.10	84.5	86.2	2.01	84.3	99.1	16.1	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	93.2	95.6	2.57	93.4	104	11.1	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	90.7	91.3	0.733	90.7	107	16.2	70 - 130	30	70 - 130	30
%SS:	84	0.10	78	83	6.21	100	98	2.36	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25731 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-018	1/10/07	1/16/07	1/17/07 5:33 PM	0701280-021	1/10/07	1/16/07	1/17/07 6:33 PM
0701280-022	1/10/07	1/16/07	1/17/07 9:32 PM	0701280-023	1/10/07	1/16/07	1/17/07 11:31 PM

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

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

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

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25743 Spiked Sample ID: 0701280-043a

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	3.6	0.60	NR	NR	NR	101	108	6.40	70 - 130	30	70 - 130	30
MTBE	0.34	0.10	NR	NR	NR	94.6	90.9	4.00	70 - 130	30	70 - 130	30
Benzene	ND<0.010	0.10	91.4	102	11.0	93.9	90.2	3.99	70 - 130	30	70 - 130	30
Toluene	ND<0.010	0.10	82.4	90.6	9.49	85.3	82.3	3.52	70 - 130	30	70 - 130	30
Ethylbenzene	0.4	0.10	NR	NR	NR	94	92.4	1.66	70 - 130	30	70 - 130	30
Xylenes	0.028	0.30	81.7	81.3	0.367	91.3	90.3	1.10	70 - 130	30	70 - 130	30
%SS:	86	0.10	85	100	16.2	85	87	2.33	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25743 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-024	1/10/07	1/16/07	1/19/07 2:16 AM	0701280-025	1/10/07	1/16/07	1/17/07 9:38 PM
0701280-026	1/10/07	1/16/07	1/17/07 10:11 PM	0701280-027	1/10/07	1/16/07	1/19/07 2:48 AM
0701280-028	1/10/07	1/16/07	1/17/07 11:16 PM	0701280-029	1/10/07	1/16/07	1/17/07 11:48 PM
0701280-030	1/10/07	1/16/07	1/19/07 3:52 AM	0701280-031	1/10/07	1/16/07	1/18/07 12:53 AM
0701280-032	1/10/07	1/16/07	1/23/07 3:11 AM	0701280-033	1/10/07	1/16/07	1/20/07 8:45 AM
0701280-034	1/11/07	1/16/07	1/19/07 5:27 AM	0701280-035	1/11/07	1/16/07	1/20/07 10:22 AM
0701280-036	1/11/07	1/16/07	1/18/07 5:43 AM	0701280-037	1/11/07	1/16/07	1/20/07 12:34 PM
0701280-038	1/11/07	1/16/07	1/18/07 6:46 AM	0701280-039	1/10/07	1/16/07	1/18/07 7:18 AM
0701280-040	1/10/07	1/16/07	1/18/07 7:50 AM	0701280-041	1/10/07	1/16/07	1/19/07 1:44 AM
0701280-042	1/10/07	1/16/07	1/18/07 8:55 AM	0701280-043	1/10/07	1/16/07	1/18/07 9:49 PM

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

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

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

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25744 Spiked Sample ID: 0701280-061A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	105	97.5	7.68	108	98	9.72	70 - 130	30	70 - 130	30
MTBE	ND	0.10	89.8	91	1.33	90.9	94.6	4.00	70 - 130	30	70 - 130	30
Benzene	ND	0.10	91.2	91.4	0.227	90.6	93.1	2.69	70 - 130	30	70 - 130	30
Toluene	ND	0.10	81.6	83.1	1.84	82.7	84.3	1.97	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	70.3	89.3	23.8	91.3	89.1	2.44	70 - 130	30	70 - 130	30
Xylenes	0.014	0.30	82.8	72.8	12.1	90.7	82.3	9.63	70 - 130	30	70 - 130	30
%SS:	90	0.10	88	88	0	83	89	6.98	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25744 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-044	1/10/07	1/16/07	1/17/07 11:46 PM	0701280-045	1/10/07	1/16/07	1/18/07 10:00 PM
0701280-046	1/10/07	1/16/07	1/18/07 12:45 AM	0701280-047	1/10/07	1/16/07	1/18/07 10:32 PM
0701280-048	1/11/07	1/16/07	1/18/07 2:13 AM	0701280-048	1/11/07	1/16/07	1/18/07 10:19 PM
0701280-049	1/11/07	1/16/07	1/18/07 2:42 AM	0701280-050	1/11/07	1/16/07	1/18/07 3:11 AM
0701280-051	1/11/07	1/16/07	1/18/07 3:40 AM	0701280-051	1/11/07	1/16/07	1/18/07 10:48 PM
0701280-052	1/11/07	1/16/07	1/18/07 11:17 PM	0701280-053	1/11/07	1/16/07	1/18/07 11:47 PM
0701280-054	1/11/07	1/16/07	1/20/07 8:52 AM	0701280-055	1/11/07	1/16/07	1/22/07 3:20 PM
0701280-056	1/11/07	1/16/07	1/19/07 1:15 AM	0701280-057	1/11/07	1/16/07	1/18/07 8:03 AM
0701280-058	1/11/07	1/16/07	1/19/07 1:44 AM	0701280-059	1/11/07	1/16/07	1/19/07 2:42 AM
0701280-060	1/11/07	1/16/07	1/19/07 4:09 AM	0701280-060	1/11/07	1/16/07	1/20/07 8:22 AM
0701280-061	1/11/07	1/16/07	1/22/07 2:26 PM	0701280-062	1/11/07	1/16/07	1/22/07 12:19 PM
0701280-063	1/11/07	1/16/07	1/22/07 3:36 PM				

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

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

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

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25745 Spiked Sample ID: 0701280-087A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	117	112	4.49	98.8	107	7.85	70 - 130	30	70 - 130	30
MTBE	ND	0.10	90.1	91.5	1.56	101	98.2	2.77	70 - 130	30	70 - 130	30
Benzene	ND	0.10	92.1	94.6	2.68	99.8	100	0.438	70 - 130	30	70 - 130	30
Toluene	ND	0.10	83.3	85.4	2.48	89.3	91.2	2.12	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	91.5	91.4	0.0282	98.1	101	3.08	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	90.7	93	2.54	94.7	100	5.48	70 - 130	30	70 - 130	30
%SS:	97	0.10	86	85	1.17	84	86	2.35	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25745 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-064	1/11/07	1/16/07	1/22/07 3:01 PM	0701280-065	1/11/07	1/16/07	1/22/07 1:51 PM
0701280-067	1/11/07	1/16/07	1/22/07 12:49 PM	0701280-068	1/11/07	1/16/07	1/19/07 7:34 AM
0701280-068	1/11/07	1/16/07	1/20/07 6:26 AM	0701280-070	1/11/07	1/16/07	1/19/07 5:07 AM
0701280-071	1/11/07	1/16/07	1/20/07 6:55 AM	0701280-072	1/11/07	1/16/07	1/20/07 7:53 AM
0701280-073	1/11/07	1/16/07	1/19/07 11:22 AM	0701280-073	1/11/07	1/16/07	1/19/07 4:01 PM
0701280-074	1/11/07	1/16/07	1/18/07 9:05 AM	0701280-076	1/11/07	1/16/07	1/18/07 9:38 AM
0701280-077	1/11/07	1/16/07	1/18/07 10:11 AM	0701280-078	1/11/07	1/16/07	1/18/07 10:44 AM
0701280-079	1/11/07	1/16/07	1/23/07 4:15 AM	0701280-080	1/11/07	1/16/07	1/23/07 2:07 AM
0701280-081	1/11/07	1/16/07	1/18/07 11:17 AM	0701280-082	1/11/07	1/16/07	1/18/07 11:50 AM
0701280-083	1/11/07	1/16/07	1/22/07 5:21 PM	0701280-084	1/11/07	1/16/07	1/20/07 10:20 PM
0701280-085	1/11/07	1/16/07	1/22/07 3:50 PM	0701280-087	1/11/07	1/16/07	1/24/07 9:26 AM

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

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

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

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25746 Spiked Sample ID: 0701288-001A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	4.9	0.60	NR	NR	NR	104	110	5.21	70 - 130	30	70 - 130	30
MTBE	ND	0.10	99.6	97.8	1.82	98.5	110	11.3	70 - 130	30	70 - 130	30
Benzene	0.11	0.10	NR	NR	NR	96.5	105	8.39	70 - 130	30	70 - 130	30
Toluene	0.13	0.10	NR	NR	NR	105	115	8.75	70 - 130	30	70 - 130	30
Ethylbenzene	0.29	0.10	NR	NR	NR	102	109	6.80	70 - 130	30	70 - 130	30
Xylenes	1	0.30	NR	NR	NR	113	120	5.71	70 - 130	30	70 - 130	30
%SS:	100	0.10	94	105	11.1	88	93	5.52	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25746 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-088	1/11/07	1/16/07	1/20/07 7:24 AM				

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

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

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

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25729 Spiked Sample ID: 0701191-001B

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	103	110	6.34	100	89.7	11.1	70 - 130	30	70 - 130	30
MTBE	25	10	66.7, F1	72.2	1.72	74.5	81.5	9.06	70 - 130	30	70 - 130	30
Benzene	ND	10	90.8	94.6	4.13	86.9	107	20.3	70 - 130	30	70 - 130	30
Toluene	ND	10	90.9	93.5	2.87	86.9	96	9.95	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	94.1	97.2	3.19	89.4	88.8	0.655	70 - 130	30	70 - 130	30
Xylenes	0.52	30	105	108	3.08	100	100	0	70 - 130	30	70 - 130	30
%SS:	101	10	93	93	0	92	109	16.6	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

BATCH 25729 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-001	1/10/07	1/18/07	1/18/07 3:32 PM	0701280-002	1/10/07	1/18/07	1/18/07 4:06 PM
0701280-002	1/10/07	1/19/07	1/19/07 11:46 PM	0701280-003	1/10/07	1/18/07	1/18/07 4:40 PM
0701280-003	1/10/07	1/20/07	1/20/07 12:19 AM	0701280-004	1/10/07	1/18/07	1/18/07 5:13 PM
0701280-004	1/10/07	1/20/07	1/20/07 12:51 AM	0701280-005	1/10/07	1/20/07	1/20/07 2:28 AM
0701280-006	1/11/07	1/18/07	1/18/07 6:20 PM	0701280-006	1/11/07	1/20/07	1/20/07 3:00 AM
0701280-007	1/10/07	1/19/07	1/19/07 2:29 AM	0701280-007	1/10/07	1/20/07	1/20/07 4:04 AM
0701280-008	1/10/07	1/19/07	1/19/07 3:01 AM	0701280-008	1/10/07	1/20/07	1/20/07 5:08 AM

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

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

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

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

McCampbell Analytical, Inc.
"When Quality Counts"

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25742 Spiked Sample ID: 0701285-001A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	98.1	99.6	1.47	99.8	98	1.81	70 - 130	30	70 - 130	30
MTBE	ND	10	86.5	89.3	3.08	80.5	82.2	2.09	70 - 130	30	70 - 130	30
Benzene	ND	10	101	101	0	97.2	96.3	0.929	70 - 130	30	70 - 130	30
Toluene	ND	10	100	100	0	96.9	97	0.0516	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	83.1	98.3	16.8	95.4	93.9	1.60	70 - 130	30	70 - 130	30
Xylenes	ND	30	91	90.7	0.367	90	86	4.55	70 - 130	30	70 - 130	30
%SS:	98	10	110	115	3.66	108	110	1.53	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25742 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-011	1/11/07	1/18/07	1/18/07 9:46 PM	0701280-011	1/11/07	1/19/07	1/19/07 8:09 PM
0701280-012	1/11/07	1/19/07	1/19/07 8:39 PM	0701280-012	1/11/07	1/22/07	1/22/07 7:53 PM
0701280-013	1/11/07	1/18/07	1/18/07 10:45 PM	0701280-013	1/11/07	1/22/07	1/22/07 8:23 PM
0701280-014	1/11/07	1/23/07	1/23/07 5:49 PM	0701280-015	1/11/07	1/18/07	1/18/07 11:45 PM
0701280-015	1/11/07	1/20/07	1/20/07 12:06 AM	0701280-016	1/11/07	1/19/07	1/19/07 12:14 AM
0701280-016	1/11/07	1/20/07	1/20/07 2:05 AM	0701280-017	1/11/07	1/20/07	1/20/07 3:04 AM

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

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

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

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0701280

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 25795 Spiked Sample ID: 0701352-002A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	99.7	107	7.06	102	98.9	2.77	70 - 130	30	70 - 130	30
MTBE	ND	10	110	98.2	11.1	83.4	82.3	1.37	70 - 130	30	70 - 130	30
Benzene	ND	10	88.2	94.6	6.97	93.7	90.9	2.96	70 - 130	30	70 - 130	30
Toluene	ND	10	86.9	96.4	10.3	92.8	90.2	2.90	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	88.3	91.5	3.55	96.8	91.7	5.45	70 - 130	30	70 - 130	30
Xylenes	ND	30	81	86	5.99	110	103	6.25	70 - 130	30	70 - 130	30
%SS:	84	10	100	105	4.51	92	92	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25795 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0701280-009	1/10/07	1/19/07	1/19/07 5:42 AM	0701280-009	1/10/07	1/21/07	1/21/07 3:15 AM
0701280-010	1/11/07	1/21/07	1/21/07 2:42 AM				

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

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

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

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