

ALLIED ENGINEERING & PRODUCTION CORP.

2421 BLANDING AVE. (P.O. BOX 1230), ALAMEDA, CA 94501
(510) 522-1500 • FAX (510) 522-2868 • www.alliedeng.com

RECEIVED

2:17 pm, Aug 03, 2007

Alameda County
Environmental Health

July 23, 2007

Mr. Steven Plunkett
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Fuel Leak Case RO0002601

Dear Mr. Plunkett:

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document are true and correct to the best of my knowledge.

Sincerely,

Sharon L. Miller

Sharon L. Miller
President

July 18, 2007

Mr. Steven Plunkett
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

**RE: Report of Soil and Groundwater Investigation
Allied Engineering Co., 2421 Blanding Avenue, Alameda, CA
Fuel Leak Case No. RO0002601**

Dear Mr. Plunkett:

Based on your previous letters dated September 22, 2006 and March 28, 2005, Geo-Logic prepared a work plan dated March 16, 2007 for a soil and groundwater investigation at the above-referenced site. The work plan was reviewed by you and revisions were requested in a letter dated April 10, 2007. The revisions to the work plan were prepared and submitted on April 23, 2007, and were conditionally approved by you in a letter dated May 24, 2007. This report documents the implementation of the (revised) work plan.

SITE DESCRIPTION

The subject site is located on the northeastern side of Blanding Avenue, southeast of Park Street, on the eastern perimeter of Alameda, Alameda County, California. The site is located adjacent to the tidal canal of Alameda Harbor. At the site, a 2,000-gallon gasoline tank, dispenser and the related product piping were removed. A Site Plan (Figure 1) showing the location of these features is attached to this report.

PREVIOUS FIELD ACTIVITIES

On January 7, 2004, one 2,000-gasoline tank was removed. Mr. Bill Oyas, Fire Inspector with the City of Alameda, and Mr. Rob Weston of Alameda County Environmental Health (ACEH) witnessed the tank removal. Mr. Weston also directed the soil and groundwater sampling.

The tank was constructed of single wall steel, and appeared to have been covered with a tar paper that was largely dissolved. The tank, which measured approximately six feet in diameter and ten feet in length, appeared to be in good condition and no holes were observed. The fill port for the tank was located on the eastern end of the tank, and had consisted of a "T" fitting that was plumbed to a remote fill location and a fill port directly over the tank. The tank was transported under manifest to ECI in Richmond, California.

Odors of hydrocarbons were detected in the excavated soils and sidewalls, and in the groundwater. Groundwater collected in the tank pit excavation at approximately nine feet below grade.

The tank pit backfill material appeared to be a silty fine-grained sand which was stained dark gray to black. The native material in the sidewalls, beneath about 1.5 feet of fill material, appeared to be clayey silt and silty clay, which was dark brown to about five feet below grade, where the color changed to olive green.

Following tank removal, a "grab" groundwater sample was collected from the tank pit excavation. The sample was collected using a disposable teflon bailer. Some oily product appeared to have collected on the surface of the water, which may have been the result of the dissolving of the tar paper that was originally on the tank. The sample was decanted into VOAS, which were labeled and then stored on ice prior to same day delivery to the analytical laboratory. The groundwater sample had a moderate odor of weathered fuel.

One soil sample, designated as TP-W (7.25'), was collected from the sidewall of the western end of the tank pit excavation at the depth indicated. The soil at this location consisted of dark gray to black silty sand backfill with a moderate odor of weathered fuel. A second sample, designated as TP-N (8'), was collected from the northern sidewall of the excavation. The soil at this location consisted of green clayey silt/silty clay, which also had a moderate odor of weathered fuel. The locations of the sample points are shown on Figure 1.

One soil sample, designated as P1 (3.5'), was collected at a 90 degree elbow location in the product piping trench, approximately 1.5 foot below the excavation bottom. No odors of hydrocarbons were observed at this location. Another soil sample, designated as Disp. (3.5'), was collected from beneath the former dispenser location. A moderate odor of weathered fuel was observed on this sample. The materials at these locations consisted of native dark gray clayey silt/silty clay. The locations of these sample points are shown on Figure 1.

In addition, a four-part composite sample was collected from the excavated soils, which consisted of about 75 cubic yards of dark gray to black silty fine-grained sand. The sample had a slight to moderate odor of weathered fuel.

The soil samples were all collected from bulk material excavated by backhoe, except for the stockpile sample, which was collected by inserting liners directly into points approximately one foot below the surface of the stockpile.

The soil and groundwater samples were analyzed for TPH as gasoline, benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA method 8020, and for total lead. All of the soil and groundwater samples were also analyzed for the eight fuel oxygenates by EPA Method 8260. The groundwater sample was also analyzed for organic lead.

Elevated concentrations of TPH as gasoline and BTEX were detected in the soil and groundwater samples. MTBE and the eight fuel oxygenates were non-detectable. 8.4 parts per billion of 1,2-dichloroethane was detected in the grab groundwater sample. Total Lead was detected in the samples at what appears to be naturally-occurring background concentrations. Organic Lead was non-detectable in the grab ground water sample.

FIELD ACTIVITIES – THIS INVESTIGATION

On March 8, 2007, one four-part composite sample was collected from approximately 100 cubic yards of soil that had remained on site since the tank removal. The soil was underlain by plastic tarps. The composite sample was collected by inserting brass liners directly into points approximately one foot within the stockpile. The ends of the liners were covered with teflon tape and plastic caps. The samples were labeled, entered on a chain of custody, and placed in a cooler, on ice, prior to delivery to the analytical laboratory.

The stockpile sample was analyzed for TPH as gasoline, BTEX, and MTBE by EPA method 8020, and for total lead and STLC lead. The analytical results are summarized in Table 1, and the laboratory data sheets are attached to this report. The soil was profiled for disposal at the Altamont Landfill in Livermore, California.

On June 27, 2007, six of the eight proposed borings were completed to groundwater, and other shallow borings were completed. Prior to drilling, a health and safety plan was prepared, and the site was marked for Underground Service Alert. Also, a permit was obtained from Alameda County Public Works.

Borings B1, B5, B6 and B8 were completed at the proposed locations. Due to access limitations (the presence of concrete near the bank and trees overhead), boring B2 was not completed at the proposed location and B3 was relocated midway between the originally proposed locations of B2 and B3. Boring B4 could not be completed with the drilling rig due to the presence of trees. Two attempts were made using a hand auger. The first attempt, designated as B4A, encountered sheet metal at about one foot, proximal to a sheet metal building. The second attempt, designated as B4B, encountered metal shavings at about one foot below grade, and the hole was terminated due

to refusal.

Boring 7 was attempted three times at or near the original location with the drill rig but encountered concrete about one foot below grade. As it was observed that there was an active storm drain that outletted to the estuary underlying this area, the boring was relocated and completed to the northwest. This location was desirable to provide delineation both of the hydrocarbons in water, and possible metal debris near the bank.

The borings were completed using a geoprobe rig provided by Vironex of Pacheco, California, a state-licensed driller. The locations of the borings are shown on Figure 1. The borings were continuously cored and the subsurface soils were examined for evidence of contamination. A photo-ionization detector (PID) was also used to screen the soil for contamination. Samples were selected from about five feet below grade, at the capillary fringe (about 7.5 feet below grade), and at about 12.5 feet and 15 feet below grade. The 12.5 foot samples generally corresponded to the last part of a layer of low permeability soils that appeared to contain hydrocarbons in many of the holes. The sample at the total depth (about 15 feet below grade) was generally in higher permeability water-bearing sandy soils and no odor of hydrocarbons was apparent.

The samples selected for analyses were cut from the plastic liners and then ends covered with teflon tape and plastic caps. The samples were then labeled, entered on a chain of custody, and placed in a cooler, on ice, prior to delivery to the analytical laboratory.

The groundwater samples were collected by placing one-inch diameter slotted PVC casing into casings placed within the boreholes, or placed within the hydropunch or within the rods when using a disposable tip. The samples were then retrieved by using small diameter vinyl tubing fitted with a chuck ball tip. A peristaltic pump was used to retrieve the water sample from B7C.

During the groundwater sampling of B7C, an attempt was first made when the rods had been extended to 15 feet below grade, but there was insufficient water to sample. A hydropunch was extended to 19 feet below grade, but the chuck ball fitting on the vinyl tubing came off in the rods and the rods had to be retracted. Casing was then placed in the hole to 18 feet below grade and VOAs were collected, but a full container for metals analyses could not be filled. Therefore the rods were retracted again and a hydropunch successfully completed to 22 feet below grade.

The groundwater samples were decanted into VOAs, labeled, placed in an ice chest, and entered on a chain of custody form prior to same day delivery to the laboratory. Groundwater from B3 and B7C, to be analyzed for the Cam 17 metals, was decanted into amber liters and later transferred into 500 ml plastic containers preserved with nitric acid. All of the soil and groundwater samples were analyzed for TPH as gasoline, BTEX, and MTBE by EPA Methods 8015 and 8020. The ground water samples were analyzed for the fuel oxygenates and lead scavengers by EPA Method 8260. Selected soil samples from B3, B7B and B7C from a depth of four to 4.5 feet below grade, and the groundwater samples from B3 and B7C, were analyzed for

the CAM 17 metals. The soil from B7B and B7C at that interval had visible metal debris in it.

Soil cuttings from the borings were stored in two 5-gallon pails pending analyses. The borings were backfilled with neat cement grout using the casings as tremmie pipes. Ms. Vicky Hamlin of the Alameda County Department of Public Works witnessed the sealing of some of the holes. Mr. Steven Plunkett of ACDEH witnessed most of the drilling and sampling.

RESULTS

The analytical results of the soil samples indicated predominantly non-detectable results for petroleum hydrocarbons, except at the capillary fringe (about 7.5 feet below grade). The samples from B3, which was about 1.5 foot higher in elevation than the tank pit borings, had an elevated TPH as gasoline concentration at 12.5 feet below grade and non-detectable results at 7.5 feet below grade. The sample from 4.5 feet below grade near the former dispenser location at B5 also had elevated concentrations of hydrocarbons. The concentrations of hydrocarbons in soil are summarized in Table 1, and are depicted on Figures 2 and 4.

The analytical results of the grab groundwater samples indicated dissolved concentrations of hydrocarbons in groundwater in all of the borings except B7C, which was non-detectable. The concentrations of hydrocarbons in groundwater are summarized in Table 3, and are depicted on Figures 3 and 4. The concentrations of benzene in groundwater attenuate to very low (2.4 ppb in B3) to non-detectable to the north and east. The concentrations are not defined below about 100 to 160 ppb to the west and south. It is reasonable to assume that they attenuate over similar distances from the source.

The analytical results for the CAM 17 metals in B3 at 4.5 feet below grade, which appeared to be native soil, did not indicate any metals above the ESLs. The sample from B7B at four feet below grade, which contained abundant metal debris, had concentrations of nine of the CAM 17 metals above the ESLs. This sample, which contained the highest concentration of chromium of the soil samples analyzed, was also analyzed for hexavalent chromium by method E218.6m, which indicated a concentration of hexavalent chromium of 500 ppm. Arsenic and chromium concentrations exceeded their respective ESLs in the soil sample from B7C at 4.5 feet below grade, which also appeared to be historical fill material similar to the sample from B7B.

The analytical results for the CAM 17 metals in groundwater indicated concentrations of 14 metals above their respective ESLs in B3, and eleven metals above their respective ESLs in B7C. Except for lead and molybdenum, the concentrations of metals in the groundwater sample from B7C are significantly lower than the concentrations in B3. The collection of the sample in B7C was difficult and the rods were retracted three times, making it possible that metal debris from shallower depth affected the water sample analyses. The extent of metal impacts in groundwater are undefined, and additional investigation appears warranted.

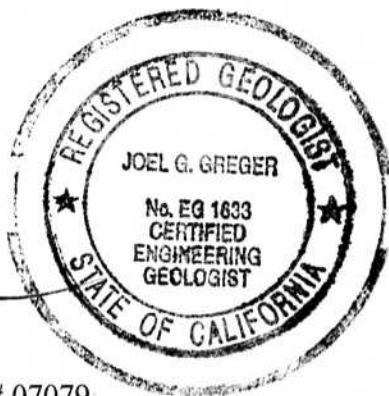
In the consideration of performing additional overexcavation of hydrocarbon impacts in soil (Figures 2 and 4), it can be seen that except for the western tank pit sidewall sample and the dispenser sample taken in 2004, and the sample from B5 at 4.5 feet collected during this investigation, all of the residual concentrations near the source are similar to capillary fringe concentrations farther from the source. Based on that, additional overexcavation of the tank pit, except perhaps at the western sidewall, would appear to have little benefit. Further excavation around the former dispenser, while potentially advantageous, may be difficult due to proximity to the building footing.

With regards to the metals in soil and groundwater, it is Geo-Logic's understanding from a discussion with Mr. Steven Plunkett that it may be possible to cap or cover the metal debris with concrete to encapsulate it and minimize impacts to groundwater. This remedial option may also help mitigate potential migration of hydrocarbons to groundwater. Geo-Logic will develop a work plan for additional necessary work at the site following review of this report and discussion with the ACEH.

Should you have any questions regarding this work plan, please do not hesitate to call me at (510) 593-5382.

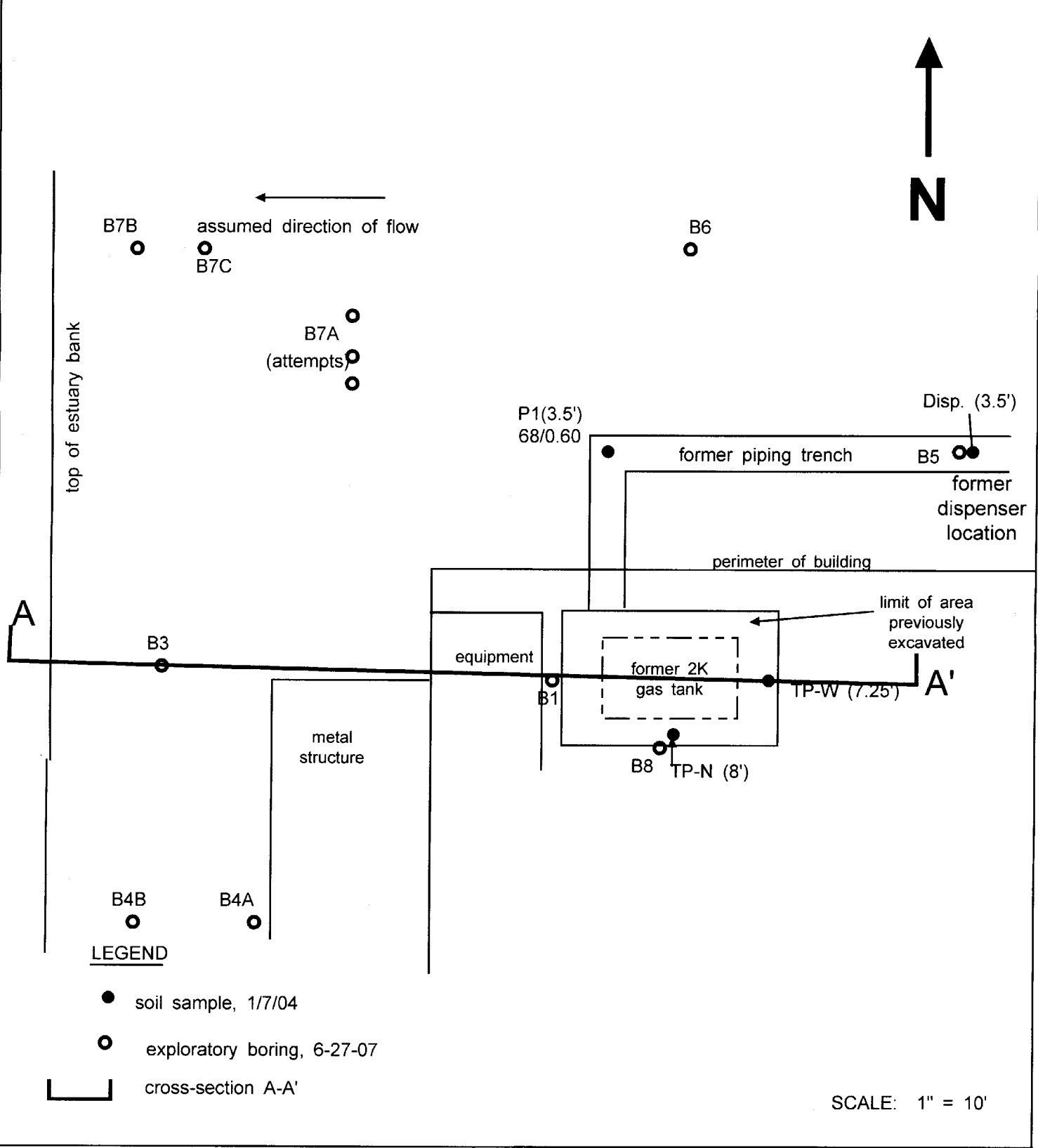
Sincerely,

Geo-Logic



Joel G. Greger
CEG # EG1633, REA # 07079

Attachments: Figures 1-4
Tables 1-4
Boring Logs
Laboratory Analytical Data Sheets and Chain of Custody



Allied Engineering & Production Co.
 2421 Blanding Avenue
 Alameda, California

Figure No:
1

Date: July 11, 2007

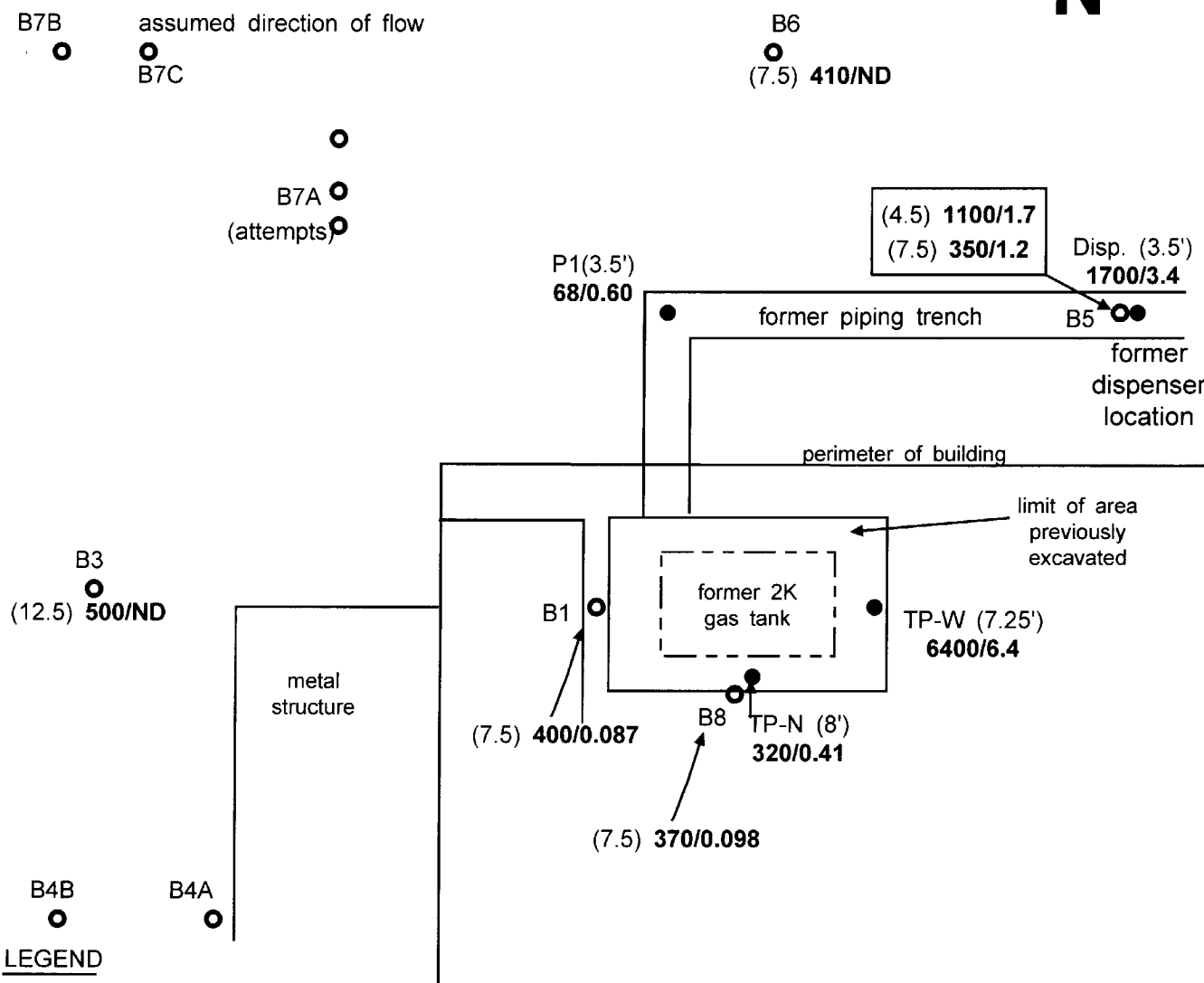
Drawn By: JG/Geo-Logic

Site Plan - Boring Locations



← assumed direction of flow

top of estuary bank



LEGEND

- soil sample, 1/7/04
- exploratory boring, 6-27-07
- 6400/6.4 concentration of TPH as gasoline/benzene in soil, parts per million

SCALE: 1" = 10'

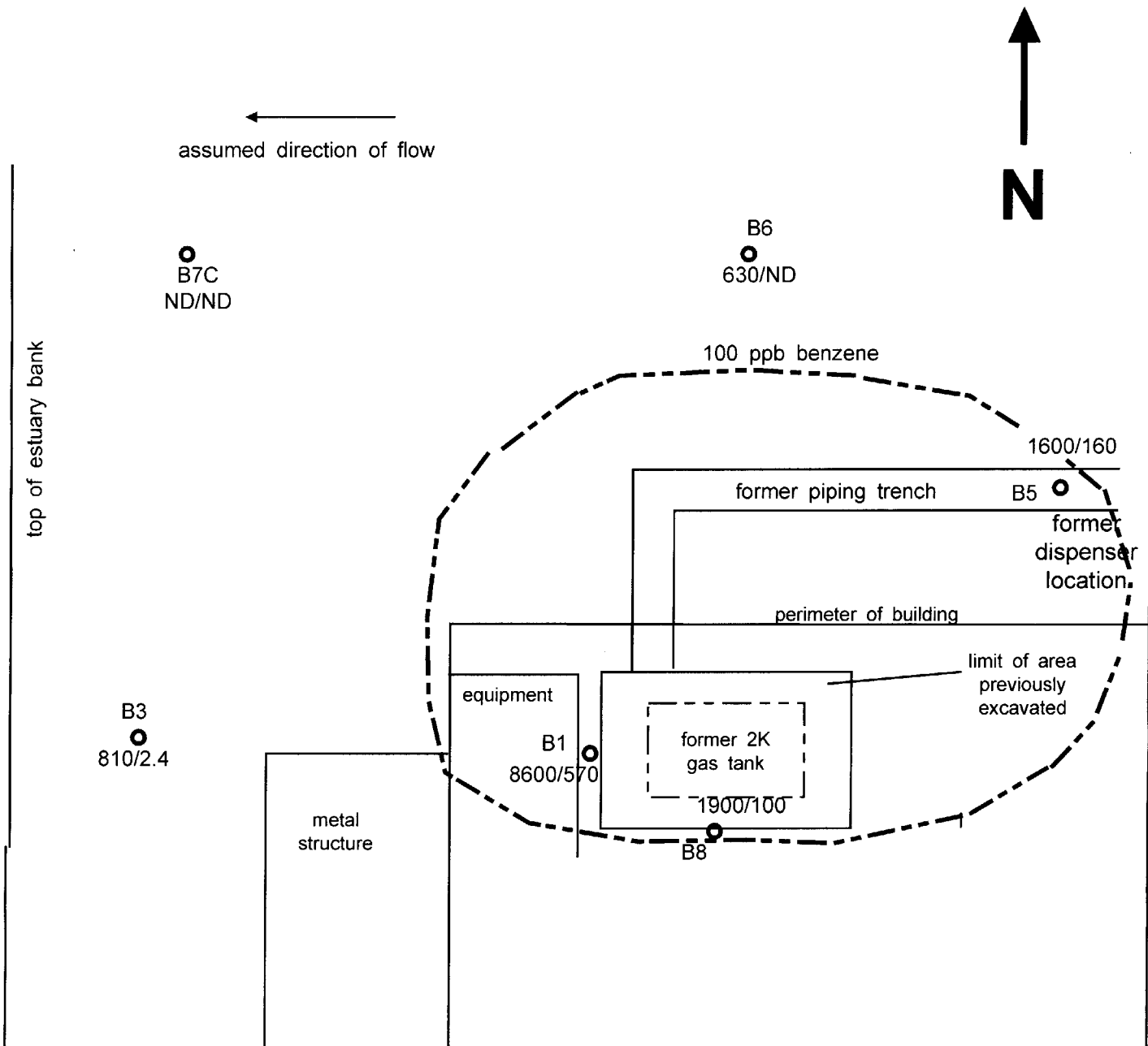
Allied Engineering & Production Co.
 2421 Blanding Avenue
 Alameda, California

Figure No:
2

Date: June 30, 2007

Drawn By: JG/Geo-Logic

Hydrocarbons in Soil



LEGEND

6400/6.4 concentration of TPH as gasoline/
benzene in groundwater, parts per billion

○ exploratory boring, 6-27-07

----- line of 100 ppb of benzene, estimated

SCALE: 1" = 10'

Allied Engineering & Production Co.
2421 Blanding Avenue
Alameda, California

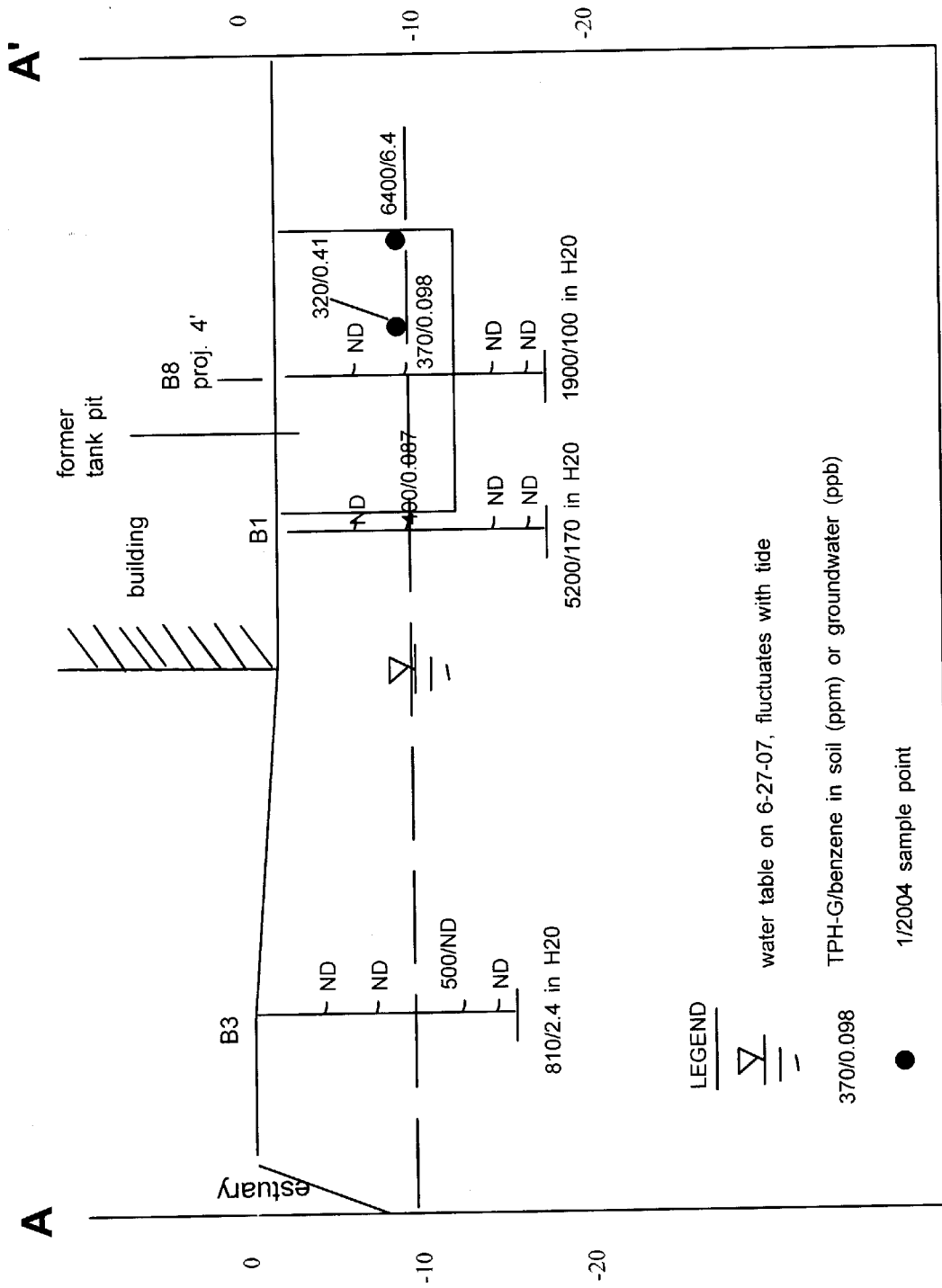
Figure No:

3

Date: July 13, 2007

Drawn By: JG/Geo-Logic

Benzene in Groundwater



SCALE: 1" = 10'

JULY 2007

**Figure 4 - CROSS-SECTION A-A'
2421 Blanding Avenue, Alameda, CA**

Sample/ Depth (feet)	Date	TPH-g (ppm)	Benzene (ppm)	Ethylbenzene (ppm)	Toluene (ppm)	Xylenes (ppm)	MTBE (ppm)	Lead (ppm)
TP-W (7.25')	1/7/04	6400	6.4	7.4	<1.0	8.6	<0.10	33
TP-N (8')	1/7/04	320	0.41	0.81	<0.050	0.31	<0.025	7.2
PI (3.5')	1/7/04	68	0.60	0.81	3.3	3.4	<0.033	11
Disp. (3.5')	1/7/04	1700	3.4	19	0.60	4.5	<0.10	19
Comp S1	1/7/04	560	2.1	2.2	0.41	4.4	<1.0*	40
Comp S1	3/8/2007	10	0.017	0.030	0.011	0.090	<0.05	57
B1d 4.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B1d 7.5	6/27/07	400	0.087	1.5	<0.050	0.14	<0.50	NA
B1 d 12.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B1 d 14.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B3 d 4.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	5.9
B3 d 7.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B3 d 12.5	6/27/07	500	<0.17	4.2	<0.17	3.8	<1.7	NA
B3 d 14.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B5 d 4.5	6/27/07	1,100	1.7	27	<1.0	2.0	<10	NA
B5 d 7.5	6/27/07	350	1.2	8.3	<0.50	6.2	<5.0	NA
B5 d 11.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B5 d 14.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B6 d 5	6/27/07	7.7	<0.005	<0.005	0.012	0.043	<0.05	NA
B6 d 7.5	6/27/07	410	<0.050	0.098	0.27	1.4	<0.50	NA
B6 d 14.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B7C d 4.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	310
B7C d 7.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B7C d 12.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B7C d 14.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B8 d 4.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B8 d 7.5	6/27/07	370	0.098	1.1	<0.050	0.59	<0.50	NA
B8 d 12.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
B8 d 14.5	6/27/07	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	NA
ESLs-Table A/B		100/400	0.044/0.38	3.3/13	2.9/9.3	1.5/1.5	0.023/5.6	750/750

EXPLANATION:

ppm = parts per million

NA = Not analyzed

* by EPA Method 8021B.

ESL = Environmental Screening Level

ANALYTICAL METHODS:

TPH_g = Total Petroleum Hydrocarbons as gasoline by EPA Method 8015-Modified.

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes according to EPA Method 8020.

MTBE = methyl tert-butyl ether according to EPA Method 8260 except as shown (Comp S1).

TABLE 2 - SOIL ANALYTICAL RESULTS - METALS
 Allied Engineering and Production Co.
 2421 Blanding Avenue, Alameda, CA
 Samples collected on 6/27/07

Sample No	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybenum	Nickel	Silver	Vanadium	Zinc
B3 d 4.5'	<0.5	1.9	210	0.55	<0.25	57	6.7	26	5.9	<0.05	<0.5	63	<0.5	52	54
B7B d 4'	43	19	180	<0.5	50	2,800*	56	390	8,100	0.34	360	1,800	8.1	38	1,000
B7C d4.5'	1.2	7.0	190	0.56	0.53	92	13	32	310	0.15	3.8	110	<0.5	41	200
ESL	40	5.5	1500	80	7.4	58	80	230	750	10	40	150	40	200	600
Background	0.15-1.95	0.6-11	133-1400	0.25-2.7	0.05-1.7	23-1579	2.7-46.9	9.1-96.4	12.4-97.1	0.05-0.90	0.1-9.6	9-509	0.10-8.30	39-288	88-236
STLC	15.0	5.0	100.0	0.75	1.0	5.0	80.0	25.0	5.0	0.2	350.0	20.0	5.0	24.0	250.0
TTLC	500	500	10000	75	100	500	8000	2500	1000	20	3500	2000	500	2400	5000

EXPLANATION:

Results are in parts per million.

ESLs = Environmental Screening Levels, commercial, Tables A/B.

Selenium and thallium were non-detectable.

STLC = Soluble Threshold Limit Concentration. TTLC = Total Threshold Limit Concentration.

Background ranges from Bradford et al, 1986

* Hexavalent chromium was detected at a concentration of 500 ppm by Method E218.6m.

Sample/ Depth (feet)	Date	TPH-g (ppb)	Benzene (ppb)	Ethylbenzene (ppb)	Toluene (ppb)	Xylenes (ppb)	MTBE (ppb)	Oxygenates (ppb)
Tank Pit Water	1/7/2004	8,600	570	150	480	400	<1.7	8.4 1,2-DCA
B1-water	6/27/2007	5,200	170	86	14	47	<80	ND
B3-water	6/27/2007	810	2.4	<0.5	1.0	0.71	<5.0	0.93 MTBE
B5-water	6/27/2007	1,600	160	87	3.8	55	<5.0	ND
B6-water	6/27/2007	630	<0.5	<0.5	<0.5	<0.5	<5.0	0.81 MTBE
B7-water (B7C)	6/27/2007	<1.0	<0.5	<0.5	<0.5	<0.5	<5.0	ND
B8-water	6/27/2007	1,900	100	19	8.2	21	<35	ND
ESL	100/400	100/500	1.0/46	30/290	40/130	13	5.0/1800	

EXPLANATION:

ppb = parts per billion

ESL - Environmental Screening Level - groundwater is/is not considered a resource.

ANALYTICAL METHODS:

TPH-g/TPHd = Total Petroleum Hydrocarbons as gasoline or diesel by EPA Method 8015-Modified.

3TEX = Benzene, Toluene, Ethylbenzene, and Xylenes according to EPA Method 8021B.

MTBE = methyl tert-butyl ether according to EPA Method 8260. DCA = dichloroethane.

TABLE 4 - GROUNDWATER ANALYTICAL RESULTS - METALS

Allied Engineering and Production Co.

2421 Blanding Avenue, Alameda, CA

Samples collected on 6/27/07

Sample No	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
B3 water	<1.0	82	6,100	5.5	5,300	2,900	330	930	2,900	4.8	42	3,000	3.6	4.6	1.9	1,900	2,600
B7 water	1.9	16	680	0.71	16	390	28	130	3,300	0.31	38	230	0.90	0.54	<0.5	180	610
ESL	6.0/30	36	1,000	2.7	2.2	50/180	3.0	3.1	2.5	0.012	35/240	8.2	5.0	0.19	2.0/20	15/19	81

EXPLANATION:

Results are in parts per billion.

ESLs = Environmental Screening Levels, Tables A/B.

BORING LOG

Project No.	Boring diameter :- 2"	Logged By: Joel Greger Geo-Logic
Project: 2421 Blanding	Elevation: not measured	Date drilled: 6-27-07
Boring No. B1	Drilling Method: Geoprobe	Drilling Company: Vironex

Sample intervals	PID	Sample Depth (ft)	Stratigraphy (USCS)	Description
		0		@0' - 4" of concrete then dark gray silty clay (CL), sl. moist, stiff, no odor.
d 4.5'	0	5 x	CL	@6' - Light green silty clay (CL), moist, stiff, becoming sandy clay (CL) at 7.5 w/ moderate odor of hydrocarbons, saturated, stiff.
d 7.5'	309	x	▽	@7.5' - strong odor of hydrocarbons
		10		@ 10' - No odor, sandy clay (CL), as above.
d 12.5'	1	x		
d 14.5'	0	15 x	ML	@ 13' - grades into silty sand (ML), saturated, dense, little or no odor.
				Total depth - 15'.
		20		
		25		
		30		

Allied Engineering 2421 Blanding Ave. Alameda, CA	Figure No:	Date: 6-30-07
	B1	Drawn By: JG

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BORING LOG

Project No.	Boring diameter: - 2"	Logged By: Joel Greger Geo-Logic
Project: 2421 Blanding	Elevation: not measured	Date drilled: 6-27-07
Boring No. B3	Drilling Method: Geoprobe	Drilling Company: Vironex

Sample intervals	PID	Sample Depth (ft)	Stratigraphy (USCS)	Description
		0		@0' - 3" of concrete then loose silt w/ rounded gravels to 2" diameter, voids, roots (fill).
d 4.5'	0	5	ML	@4' - Dark brown silt (ML), moist, stiff. @5' - Tan to light brown clayey silt and silt (ML), locally with roots, v. moist, stiff.
d 7.5'		x	∇	@8' - grades to light green clayey silt (ML) with strong odor of hydrocarbons, saturated, stiff.
	38	10		@10'. Grades to sandy clay (CL), saturated, stiff, sand v. fine-grained'.
d 12.5'	772	x	CL	
d 14.5'	0	15	ML	@13.5' - grades to silty sand (ML), saturated, little or no odor.
Total depth - 15'				
		20		
		25		
		30		

Allied Engineering 2421 Blanding Ave. Alameda, CA	Figure No:	Date: 6-30-07
	B3	Drawn By: JG

--

BORING LOG

Project No.

Boring diameter: - 2"

Logged By: Joel Greger
Geo-Logic

Project: 2421 Blanding

Elevation: not measured

Date drilled: 6-27-07

Boring No. B5

Drilling Method: Geoprobe

Drilling Company: Vironex

Sample intervals

PID

Sample Depth (ft)

Stratigraphy (USCS)

Description

0

@0' - 1' of concrete pavement then v. dark gray silty clay (CL), sl. moist, stiff.

d 4.5'

201

5

CL

@5' - odor of hydrocarbons.

d 7.5'

28

x

@5.5' - Lt. green silty to sandy clay, (CL), moist, moderate odor.

d 11.5'

22

10



@8 - 10' - sandy clay (CL), saturated, stiff, moderate odor.

20

x

SC-ML

@10 - 12' - light green sandy clay (CL), stiff, saturated, moderate odor, grades to clayey to silty sand (SC-ML)) at 11.3'. Sand v. fine-grained, dense, less odor.

d 14.5'

0

15

x

Installed casing at 12', no water after 15 minutes. Extended rods with "water tip" to 15', groundwater rose to 9.72'

Total depth - 15'.

20

25

30

Allied Engineering
2421 Blanding Ave.
Alameda, CA

Figure No:

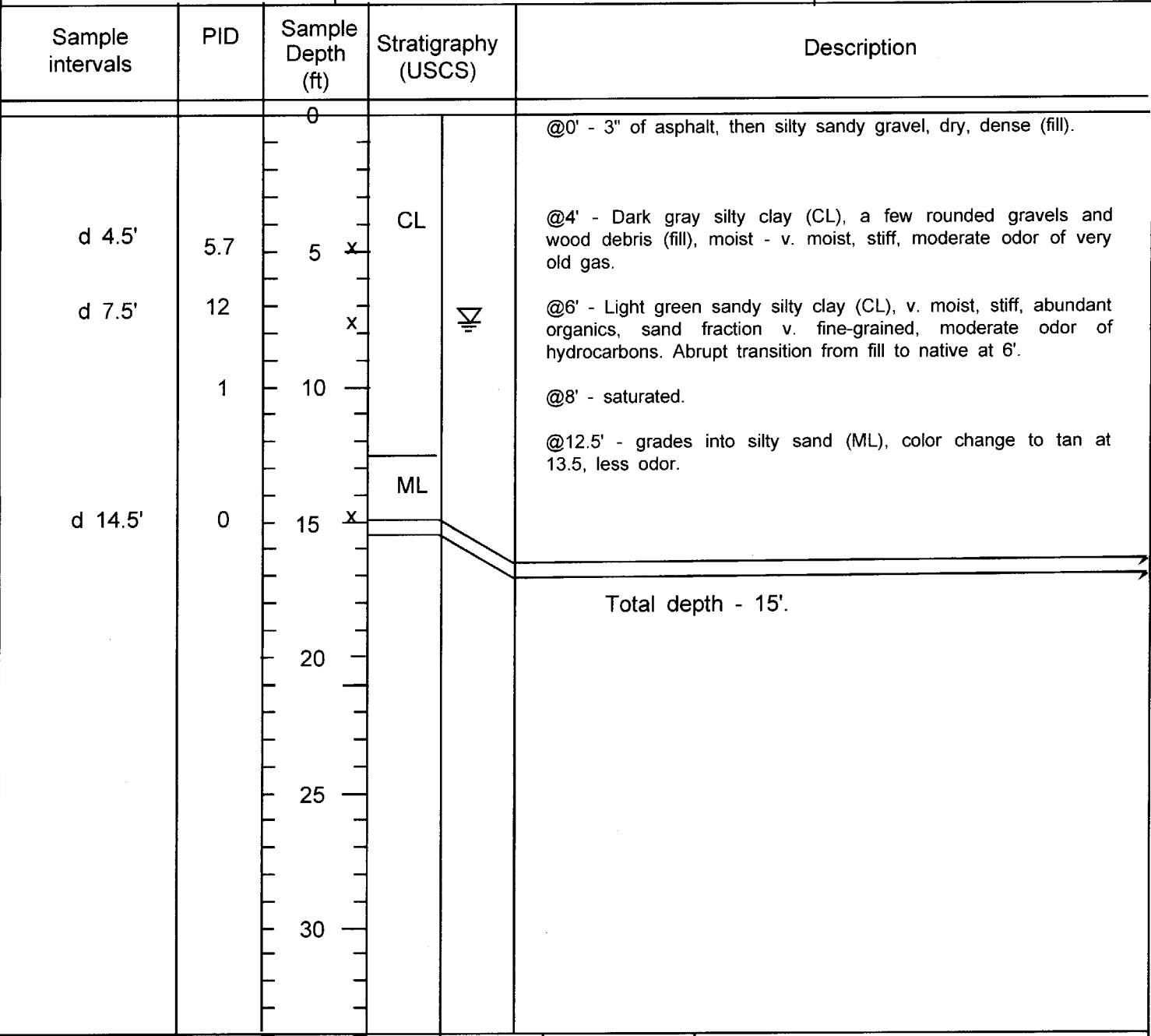
Date: 6-30-07

B5

Drawn By: JG

BORING LOG

Project No.	Boring diameter: - 2"	Logged By: Joel Greger Geo-Logic
Project: 2421 Blanding	Elevation: not measured	Date drilled: 6-27-07
Boring No. B6	Drilling Method: Geoprobe	Drilling Company: Vironex



Allied Engineering 2421 Blanding Ave. Alameda, CA	Figure No:	Date: 6-30-07
	B6	Drawn By: JG

BORING LOG

Project No.	Boring diameter :- 2"	Logged By: Joel Greger Geo-Logic
Project: 2421 Blanding	Elevation: not measured	Date drilled: 6-27-07
Boring No. B7B	Drilling Method: Geoprobe	Drilling Company: Vironex

Sample intervals	PID	Sample Depth (ft)	Stratigraphy (USCS)	Description
d 4'		0		@0' - 4' Silty gravel with pieces of concrete (fill).
		5	fill x concrete	@ 4' - brick fragments and reddish brown silt with metal debris (fill). @4.5 - 5' - concrete (refusal)
		10		Total depth - 5'.
		15		
		20		
		25		
		30		

Allied Engineering 2421 Blanding Ave. Alameda, CA	Figure No:	Date: 6-30-07
	B7B	Drawn By: JG

--

BORING LOG

Project No.	Boring diameter: - 2"	Logged By: Joel Greger Geo-Logic
Project: 2421 Blanding	Elevation: not measured	Date drilled: 6-27-07
Boring No. B7C	Drilling Method: Geoprobe	Drilling Company: Vironex

Sample intervals	PID	Sample Depth (ft)	Stratigraphy (USCS)	Description
		0		
d 4.5'	0	5	x (fill)	<p>@0' - 3.7' - gravelly silt and silty gravel, dry-slightly moist, some fine-grained sand (fill).</p> <p>@3.7' - 5' reddish brown to dark gray silt (ML) w/ metal debris.</p> <p>@ 4.5' - no odor</p> <p>@ 5' - Poor recovery to 6.3', then dark gray silt (ML), moist, stiff, no apparent metal.</p> <p>@7.5' - Dark gray silty clay (CL), becoming lt. green at 8', saturated, stiff.</p> <p>@ 10' - clayey silt (ML), grading to clayey sand (SC) at 12', saturated, stiff to dense, no odor.</p> <p>@ 14' - grades to silty sand (ML), saturated, dense, no odor.</p> <p>@ 15' - Insufficient water to sample, extended hydropunch to 19' and exposed 4' screen. Lost chuck ball in rods, pulled rods and put casing in to 18'. Collected VOAs and part of a liter but hole watered using peristaltic pump. Retracted rods and extended hydropunch to 22', exposing 4' of screen. Abundant water, filled liter.</p>
d 7.5'		x	ML	
		10	CL	
d 12.5'	0	x	ML	
		15	SC	
d 14.5'	0	x	ML	
		20	not cored	
		25		Total depth - 22'.
		30		

Allied Engineering 2421 Blanding Ave. Alameda, CA	Figure No:	Date: 6-30-07
	B7C	Drawn By: JG

BORING LOG

Project No.

Boring diameter: - 2"

Logged By: Joel Greger
Geo-Logic

Project: 2421 Blanding

Elevation: not measured

Date drilled: 6-27-07

Boring No. B8

Drilling Method: Geoprobe

Drilling Company: Vironex

Sample intervals

PID

Sample Depth (ft)

Stratigraphy (USCS)

Description

0

@0' - 4" concrete then brown silt (ML), becoming v. dark gray clayey silt at 2.5', slightly moist, stiff, no odor.

d 4.5'

0

5

CL

@6' - Light green silty clay (CL), moist, stiff, becoming sandy clay (CL) at 7.5 w/ moderate odor of hydrocarbons, saturated, stiff.

d 7.5'

197

X

1

10

▽

@ 10' - No odor, sandy clay (CL), as above.

d 12.5'

177

X

d 14.5'

0

15

ML

@ 13' - grades into silty sand (ML), saturated, dense, little or no odor.

Total depth - 15'.

20

25

30

Allied Engineering
2421 Blanding Ave.
Alameda, CA

Figure No:

B8

Date: 6-30-07

Drawn By: JG



McC Campbell Analytical, Inc.

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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: #2421 Blanding	Date Sampled: 03/08/07
		Date Received: 03/09/07
	Client Contact: Joel Greger	Date Extracted: 03/09/07
	Client P.O.:	Date Analyzed 03/12/07

Lead by ICP*

Extraction method SW3050B Analytical methods 6010C Work Order: 0703207


Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0703207-001A	Comp S1	S	TTLIC	57	1	102

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

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

 Angela Rydelius, Lab Manager



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Telephone: 877-252-9262 Fax: 925-252-9269

Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: #2421 Blanding	Date Sampled: 03/08/07
		Date Received: 03/09/07
	Client Contact: Joel Greger	Date Extracted: 07/02/07-07/04/07
	Client P.O.:	Date Analyzed 07/05/07

Lead by ICP*

Extraction method CA Title 22 Analytical methods SW6010C Work Order: 0703207

Lab ID	Client ID	Matrix	Extraction Type	Lead	DF	% SS
0703207-001A	Comp SI	S	STLC	3.2	1	N/A


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

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

 Angela Rydelius, Lab Manager



QC SUMMARY REPORT FOR SW6010C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0703207

EPA Method SW6010C	Extraction CA Title 22			BatchID: 27512			Spiked Sample ID: N/A					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Lead	N/A	1	N/A	N/A	N/A	104	99.8	4.25	N/A	N/A	80 - 120	20
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE												

BATCH 27512 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0703207-001A	03/08/07 2:13 PM	07/02/07	07/05/07 5:24 PM				

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

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

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

N/A = not applicable to this method.

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

QA/QC Officer



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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: 2421 Blanding	Date Sampled: 06/27/07
		Date Received: 06/27/07
	Client Contact: Joel Greger	Date Extracted: 06/30/07-07/02/07
	Client P.O.:	Date Analyzed 06/30/07-07/02/07

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0706717

Lab ID	0706717-023B	0706717-024B	0706717-025B	0706717-026B	Reporting Limit for DF =1
Client ID	B6 Water	B5 Water	B1 Water	B8 Water	
Matrix	W	W	W	W	
DF	1	10	10	10	

Compound	Concentration				ug/kg	ug/L
	tert-Amyl methyl ether (TAME)	ND	ND<5.0	ND<5.0	ND<5.0	NA
t-Butyl alcohol (TBA)	ND	ND<50	ND<50	ND<50	NA	5.0
1,2-Dibromoethane (EDB)	ND	ND<5.0	ND<5.0	ND<5.0	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<5.0	ND<5.0	ND<5.0	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<5.0	ND<5.0	ND<5.0	NA	0.5
Ethanol	ND	ND<500	ND<500	ND<500	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND<5.0	ND<5.0	ND<5.0	NA	0.5
Methanol	ND	ND<5000	ND<5000	ND<5000	NA	500
Methyl-t-butyl ether (MTBE)	0.81	ND<5.0	ND<5.0	ND<5.0	NA	0.5

Surrogate Recoveries (%)


%SSI:	103	101	96	80
Comments	i	j,i	j,i	j,i

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

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

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

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

 Angela Rydelius, Lab Manager



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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: 2421 Blanding	Date Sampled: 06/27/07
		Date Received: 06/27/07
	Client Contact: Joel Greger	Date Extracted: 06/30/07-07/02/07
	Client P.O.:	Date Analyzed 06/30/07-07/02/07

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

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0706717

Lab ID	0706717-027B	0706717-028B			Reporting Limit for DF =1
Client ID	B3 Water	B7 Water			
Matrix	W	W			
DF	I	I			

Compound	Concentration				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND			NA	0.5
t-Butyl alcohol (TBA)	ND	ND			NA	5.0
1,2-Dibromoethane (EDB)	ND	ND			NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND			NA	0.5
Diisopropyl ether (DIPE)	ND	ND			NA	0.5
Ethanol	ND	ND			NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND			NA	0.5
Methanol	ND	ND			NA	500
Methyl-t-butyl ether (MTBE)	0.93	ND			NA	0.5

Surrogate Recoveries (%)

%SS1:	98	103			
Comments	i	i			

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

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

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

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: 2421 Blanding	Date Sampled: 06/27/07
		Date Received: 06/27/07
	Client Contact: Joel Greger	Date Extracted: 06/27/07
	Client P.O.:	Date Analyzed 06/30/07-07/03/07

CAM / CCR 17 Metals*

Lab ID	0706717-016A	0706717-018A	0706717-019A		Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	B3d4.5'	B7Bd4'	B7Cd4.5'			
Matrix	S	S	S		S	W
Extraction Type	TTLC	TTLC	TTLC		mg/Kg	mg/L

ICP-MS Metals, Concentration*

Analytical Method: 6020A	Extraction Method: SW3050B			Work Order: 0706717	
Dilution Factor	1	1	1	1	1
Antimony	ND	43	1.2	0.5	NA
Arsenic	1.9	19	7.0	0.5	NA
Barium	210	180	190	5.0	NA
Beryllium	0.55	ND	0.56	0.5	NA
Cadmium	ND	50	0.53	0.25	NA
Chromium	57	2800	92	0.5	NA
Cobalt	6.7	56	13	0.5	NA
Copper	26	390	32	0.5	NA
Lead	5.9	8100	310	0.5	NA
Mercury	ND	0.34	0.15	0.05	NA
Molybdenum	ND	360	3.8	0.5	NA
Nickel	63	1800	110	0.5	NA
Selenium	ND	ND	ND	0.5	NA
Silver	ND	8.1	ND	0.5	NA
Thallium	ND	ND	ND	0.5	NA
Vanadium	52	38	41	0.5	NA
Zinc	54	1000	200	5.0	NA
%SS	95	105	95		

Comments

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; J) analyte detected below quantitation limits; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: 2421 Blanding	Date Sampled: 06/27/07
		Date Received: 06/27/07
	Client Contact: Joel Greger	Date Extracted: 06/27/07
	Client P.O.:	Date Analyzed 06/29/07-07/03/07

CAM / CCR 17 Metals*

Lab ID	0706717-027C	0706717-028C			Reporting Limit for DF = 1, ND means not detected above the reporting limit	
Client ID	B3 Water	B7 Water			S	W
Matrix	W	W			mg/kg	µg/L
Extraction Type	TTLIC	TTLIC				

ICP-MS Metals, Concentration*


Analytical Method: E200.8	Extraction Method: E200.8		Work Order: 0706717	
Dilution Factor	2	1		
Antimony	ND<1.0	1.9		NA 0.5
Arsenic	82	16		NA 0.5
Barium	6100	680		NA 5.0
Beryllium	5.5	0.71		NA 0.5
Cadmium	5300	16		NA 0.25
Chromium	2900	390		NA 0.5
Cobalt	330	28		NA 0.5
Copper	930	130		NA 0.5
Lead	2900	3300		NA 0.5
Mercury	4.8	0.31		NA 0.012
Molybdenum	42	38		NA 0.5
Nickel	3000	230		NA 0.5
Selenium	3.6	0.90		NA 0.19
Silver	4.6	0.54		NA 0.5
Thallium	1.9	ND		NA 0.5
Vanadium	1900	180		NA 0.5
Zinc	2600	610		NA 5.0
%SS	106	110		

Comments k,i i

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; J) analyte detected below quantitation limits; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

 Angela Rydelius, Lab Manager



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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: 2421 Blanding	Date Sampled: 06/27/07
		Date Received: 06/27/07
	Client Contact: Joel Greger	Date Extracted: 06/27/07-07/03/07
	Client P.O.:	Date Analyzed 06/27/07-07/03/07

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0706717

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	B6d5'	S	7.7,b,m	ND	ND	0.012	ND	0.043	1	90
002A	B6d7.5'	S	410,g,m	ND<0.50	ND<0.050	0.27	0.098	1.4	10	---#
003A	B6d14.5'	S	ND	ND	ND	ND	ND	ND	1	88
004A	B5d4.5'	S	1100,b,m	ND<10	1.7	ND<1.0	27	2.0	200	---#
005A	B5d7.5'	S	350,b,m	ND<5.0	1.2	ND<0.50	8.3	6.2	100	---#
006A	B5d11.5'	S	ND	ND	ND	ND	ND	ND	1	84
007A	B5d14.5'	S	ND	ND	ND	ND	ND	ND	1	88
008A	B1d4.5'	S	ND	ND	ND	ND	ND	ND	1	86
009A	B1d7.5'	S	400,g,m	ND<0.50	0.087	ND<0.050	1.5	0.14	10	---#
010A	B1d12.5'	S	ND	ND	ND	ND	ND	ND	1	95
011A	B1d14.5'	S	ND	ND	ND	ND	ND	ND	1	87
012A	B8d4.5'	S	ND	ND	ND	ND	ND	ND	1	81
013A	B8d7.5'	S	370,g,m	ND<0.50	0.098	ND<0.050	1.1	0.59	10	---#
014A	B8d12.5'	S	ND	ND	ND	ND	ND	ND	1	81
015A	B8d14.5'	S	ND	ND	ND	ND	ND	ND	1	88
016A	B3d4.5'	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.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell 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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Geo-Logic 1140 5th Avenue Crockett, CA 94525	Client Project ID: 2421 Blanding	Date Sampled: 06/27/07
		Date Received: 06/27/07
	Client Contact: Joel Greger	Date Extracted: 06/27/07-07/03/07
	Client P.O.:	Date Analyzed 06/27/07-07/03/07

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0706717


Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
017A	B3d7.5'	S	ND	ND	ND	ND	ND	ND	1	92
019A	B7Cd4.5'	S	ND	ND	ND	ND	ND	ND	1	87
020A	B7Cd7.5'	S	ND	ND	ND	ND	ND	ND	1	83
021A	B7Cd12.5'	S	ND	ND	ND	ND	ND	ND	1	76
022A	B7Cd14.5'	S	ND	ND	ND	ND	ND	ND	1	87
023A	B6 Water	W	630,m,i	ND	ND	ND	ND	ND	1	101
024A	B5 Water	W	1600,a,i	ND	160	3.8	87	55	1	104
025A	B1 Water	W	5200,a,i	ND<80	170	14	86	47	10	98
026A	B8 Water	W	1900,a,i	ND<35	100	8.2	19	21	2	116
027A	B3 Water	W	810,a,m,i	ND	2.4	1.0	ND	0.71	1	104
028A	B7 Water	W	ND,i	ND	ND	ND	ND	ND	1	94
029A	B3d12.5	S	500,g,m	ND<1.7	ND<0.17	ND<0.17	4.2	3.8	33	95
030A	B3d14.5	S	ND	ND	ND	ND	ND	ND	1	75

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 McC Campbell 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.

 Angela Rydelius, Lab Manager



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0706717

EPA Method SW8260B	Extraction SW5030B			BatchID: 28995			Spiked Sample ID: 0706718-005A					
	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
tert-Amyl methyl ether (TAME)	ND	10	100	103	2.81	105	101	3.52	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	104	108	3.28	100	101	0.432	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	102	102	0	104	105	0.731	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	109	110	1.07	108	110	1.65	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	121	120	1.39	124	122	1.48	70 - 130	30	70 - 130	30
Ethanol	ND	500	106	104	2.65	102	107	5.38	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	110	109	1.07	112	112	0	70 - 130	30	70 - 130	30
Methanol	ND	2500	102	101	0.513	102	102	0	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	12	10	91.9	94.7	1.29	110	112	1.21	70 - 130	30	70 - 130	30
%SSI:	102	10	103	106	2.35	104	104	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 28995 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-023B	06/27/07 7:41 AM	06/30/07	06/30/07 12:42 PM	0706717-024B	06/27/07 8:52 AM	06/30/07	06/30/07 1:26 PM
0706717-025B	06/27/07 9:20 AM	06/30/07	06/30/07 2:11 PM	0706717-026B	06/27/07 9:45 AM	06/30/07	06/30/07 2:55 PM
0706717-027B	06/27/07 10:50 AM	07/02/07	07/02/07 6:03 PM	0706717-028B	06/27/07 1:14 PM	06/30/07	06/30/07 4:23 PM

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

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

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

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

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



QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0706717

EPA Method E200.8 Analyte	Extraction E200.8			BatchID: 28999					Spiked Sample ID: 0706717-028C			
	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
Antimony	1.9	10	75.8	92.1	15.7	96.9	97.6	0.709	75 - 125	20	85 - 115	20
Arsenic	16	10	87.2	95.6	3.33	101	99	1.87	75 - 125	20	85 - 115	20
Barium	680	100	83.4	116	4.15	97.1	96.8	0.351	75 - 125	20	85 - 115	20
Beryllium	0.71	10	96.6	104	6.54	106	106	0	75 - 125	20	85 - 115	20
Cadmium	16	10	84.9	95.2	4.20	97.1	96.8	0.351	75 - 125	20	85 - 115	20
Chromium	390	10	NR	NR	NR	98.4	97.1	1.35	75 - 125	20	85 - 115	20
Cobalt	28	10	NR	69.9, F1	NR	93	93.6	0.632	75 - 125	20	85 - 115	20
Copper	130	10	75	98	1.72	97.6	96.7	0.854	75 - 125	20	85 - 115	20
Lead	3300	10	NR	NR	NR	101	102	0.689	75 - 125	20	85 - 115	20
Mercury	0.31	0.25	88.2	102	6.42	91.5	90.9	0.614	75 - 125	20	85 - 115	20
Molybdenum	38	10	82.6	101	3.81	91.5	94.8	3.48	75 - 125	20	85 - 115	20
Nickel	230	10	NR	75	NR	98.7	97.8	0.977	75 - 125	20	85 - 115	20
Selenium	0.90	10	87	91.2	4.27	95.3	96.4	1.11	75 - 125	20	85 - 115	20
Silver	0.54	10	88.9	90.6	1.76	97.4	97.9	0.461	75 - 125	20	85 - 115	20
Thallium	ND	10	90.6	93	2.60	100	101	0.991	75 - 125	20	85 - 115	20
Vanadium	180	10	NR	NR	NR	101	99.3	2.11	75 - 125	20	85 - 115	20
Zinc	610	100	NR	92.2	NR	95.8	95.8	0	75 - 125	20	85 - 115	20
%SS:	110	750	109	116	6.58	91	92	1.08	70 - 130	20	70 - 130	20

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

NONE

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

BATCH 28999 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-027C	06/27/07 10:50 AM	06/27/07	07/03/07 12:32 AM	0706717-027C	06/27/07 10:50 AM	06/27/07	07/03/07 12:39 AM
0706717-027C	06/27/07 10:50 AM	06/27/07	07/03/07 12:46 AM	0706717-028C	06/27/07 1:14 PM	06/27/07	06/29/07 8:55 AM
0706717-028C	06/27/07 1:14 PM	06/27/07	07/01/07 2:02 AM	0706717-028C	06/27/07 1:14 PM	06/27/07	07/01/07 2:11 AM

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

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

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

N/A = not applicable to this method.

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

QA/QC Officer



QC SUMMARY REPORT FOR 6020A

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0706717

EPA Method 6020A		Extraction SW3050B					BatchID: 28918			Spiked Sample ID 0706639-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Antimony	1.2	50	122	123	0.577	10	99.9	99	0.835	75 - 125	20	80 - 120	20
Arsenic	7.8	50	104	104	0	10	100	101	1.01	75 - 125	20	80 - 120	20
Barium	240	500	105	108	1.96	100	99.3	99.8	0.512	75 - 125	20	80 - 120	20
Beryllium	ND	50	97.3	98.1	0.811	10	87	88	1.21	75 - 125	20	80 - 120	20
Cadmium	0.39	50	99.7	101	1.62	10	98.9	101	1.68	75 - 125	20	80 - 120	20
Chromium	56	50	94.2	99.4	2.50	10	98.4	98	0.326	75 - 125	20	80 - 120	20
Cobalt	11	50	95.2	97.9	2.25	10	100	99.8	0.300	75 - 125	20	80 - 120	20
Copper	37	50	101	104	1.49	10	103	106	2.97	75 - 125	20	80 - 120	20
Lead	39	50	103	106	1.93	10	104	104	0	75 - 125	20	80 - 120	20
Mercury	0.073	1.25	89.1	91.5	2.50	0.25	96.9	95.1	1.92	75 - 125	20	80 - 120	20
Molybdenum	0.74	50	97.8	99.8	1.99	10	91.4	94	2.80	75 - 125	20	80 - 120	20
Nickel	66	50	103	106	1.35	10	95.3	95.2	0.136	75 - 125	20	80 - 120	20
Selenium	ND	50	96.6	97.6	0.964	10	94	91.8	2.38	75 - 125	20	80 - 120	20
Silver	ND	50	99.4	101	1.56	10	98.9	99.6	0.756	75 - 125	20	80 - 120	20
Thallium	ND	50	97.5	99.2	1.77	10	104	104	0	75 - 125	20	80 - 120	20
Vanadium	65	50	96.3	102	2.36	10	102	100	1.98	75 - 125	20	80 - 120	20
Zinc	120	500	98.5	100	1.57	100	106	107	1.22	75 - 125	20	80 - 120	20
%SS:	98	250	101	104	3.19	250	98	98	0	70 - 130	20	70 - 130	20

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

BATCH 28918 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-016A	16/27/07 10:17 AM	06/27/07	06/30/07 3:40 PM	0706717-018A	16/27/07 11:20 AM	06/27/07	06/30/07 4:13 PM
0706717-018A	16/27/07 11:20 AM	06/27/07	07/03/07 2:00 AM	0706717-018A	16/27/07 11:20 AM	06/27/07	07/03/07 9:04 PM
0706717-019A	16/27/07 11:26 AM	06/27/07	06/30/07 4:20 PM	0706717-019A	16/27/07 11:26 AM	06/27/07	07/03/07 2:15 AM
0706717-019A	16/27/07 11:26 AM	06/27/07	07/03/07 2:23 AM				

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

$\% \text{ Recovery} = 100 * (\text{MS-Sample}) / (\text{Amount Spiked}); \text{RPD} = 100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2).$

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

N/A = not applicable to this method.

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

 QA/QC Officer



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0706717

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 28966			Spiked Sample ID: 0706679-014A			
	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) ^f	ND	0.60	93.2	103	10.2	109	108	1.09	70 - 130	30	70 - 130	30
MTBE	ND	0.10	93.6	95.2	1.73	103	103	0	70 - 130	30	70 - 130	30
Benzene	ND	0.10	93.7	96.8	3.29	101	105	3.81	70 - 130	30	70 - 130	30
Toluene	ND	0.10	88.9	92.5	3.82	93.9	97.6	3.86	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	94.7	99.9	5.35	105	107	2.24	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	107	110	3.08	100	103	3.28	70 - 130	30	70 - 130	30
%SS:	84	0.10	95	76	21.7	95	97	2.05	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 28966 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-001A	06/27/07 7:20 AM	06/27/07	06/27/07 10:00 PM	0706717-002A	06/27/07 7:25 AM	06/27/07	06/29/07 4:47 PM
0706717-003A	06/27/07 7:32 AM	06/27/07	06/28/07 3:36 AM	0706717-004A	06/27/07 8:02 AM	06/27/07	06/28/07 10:44 PM
0706717-005A	06/27/07 8:06 AM	06/27/07	06/28/07 11:51 PM	0706717-006A	06/27/07 8:10 AM	06/27/07	07/03/07 2:28 AM
0706717-007A	06/27/07 8:28 AM	06/27/07	06/28/07 4:06 AM	0706717-008A	06/27/07 8:41 AM	06/27/07	06/28/07 7:38 AM
0706717-009A	06/27/07 8:52 AM	06/27/07	06/29/07 7:26 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.

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0706717

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 28969			Spiked Sample ID: 0706717-022A			
	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 ^f)	ND	0.60	96.1	98.5	2.50	114	102	10.8	70 - 130	30	70 - 130	30
MTBE	ND	0.10	93.6	108	14.2	110	112	2.38	70 - 130	30	70 - 130	30
Benzene	ND	0.10	88.6	96.6	8.60	101	97.8	2.95	70 - 130	30	70 - 130	30
Toluene	ND	0.10	76.5	84	8.79	114	111	2.60	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	89.5	97.7	8.73	107	106	1.69	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	85.7	91.7	6.77	120	113	5.71	70 - 130	30	70 - 130	30
%SS:	87	0.10	76	93	19.4	96	94	1.80	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 28969 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-010A	06/27/07 8:59 AM	06/27/07	07/03/07 12:09 AM	0706717-011A	06/27/07 8:59 AM	06/27/07	07/03/07 5:48 AM
0706717-012A	06/27/07 9:11 AM	06/27/07	07/01/07 5:55 AM	0706717-013A	06/27/07 9:15 AM	06/27/07	06/29/07 6:53 PM
0706717-014A	06/27/07 9:21 AM	06/27/07	07/03/07 6:55 AM	0706717-015A	06/27/07 9:21 AM	06/27/07	06/28/07 5:07 AM
0706717-016A	06/27/07 10:17 AM	06/27/07	07/03/07 12:47 AM	0706717-017A	06/27/07 10:23 AM	06/27/07	07/03/07 1:12 AM
0706717-019A	06/27/07 11:26 AM	06/27/07	06/28/07 5:37 AM	0706717-020A	06/27/07 11:29 AM	06/27/07	07/03/07 12:41 AM
0706717-021A	06/27/07 11:32 AM	06/27/07	06/29/07 8:34 PM	0706717-022A	06/27/07 11:39 AM	06/27/07	06/28/07 8:08 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.

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0706717

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 28991			Spiked Sample ID: 0706709-002A			
	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	96.4	91.7	5.03	98.1	84.4	15.0	70 - 130	30	70 - 130	30
MTBE	ND	10	112	117	4.28	116	102	12.7	70 - 130	30	70 - 130	30
Benzene	ND	10	108	90.9	16.8	109	97.1	11.1	70 - 130	30	70 - 130	30
Toluene	ND	10	96.1	85.2	12.0	106	97.8	7.65	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	102	93.6	9.06	105	99.2	5.96	70 - 130	30	70 - 130	30
Xylenes	ND	30	100	93.3	6.90	100	91.7	8.70	70 - 130	30	70 - 130	30
%SS	90	10	103	95	7.77	112	101	9.92	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 28991 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-023A	06/27/07 7:41 AM	07/03/07	07/03/07 1:46 AM	0706717-024A	06/27/07 8:52 AM	07/01/07	07/01/07 8:53 AM
0706717-025A	06/27/07 9:20 AM	06/30/07	06/30/07 9:43 AM	0706717-026A	06/27/07 9:45 AM	07/01/07	07/01/07 4:33 AM

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

QA/QC Officer



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0706717

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 28998			Spiked Sample ID: 0706718-003A				
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 _f)	ND	60	92.6	98.8	6.42	91.9	99.3	7.81	70 - 130	30	70 - 130	30
MTBE	ND	10	100	105	3.92	90.5	96.1	6.01	70 - 130	30	70 - 130	30
Benzene	ND	10	87.7	94.8	7.84	92.2	97.1	5.18	70 - 130	30	70 - 130	30
Toluene	ND	10	91.1	96.2	5.49	92.5	96.9	4.62	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	91.8	97.9	6.37	96.4	99.1	2.73	70 - 130	30	70 - 130	30
Xylenes	ND	30	86.3	95	9.56	107	110	3.08	70 - 130	30	70 - 130	30
%SS:	99	10	99	101	2.24	91	93	1.74	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 28998 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-027A	06/27/07 10:50 AM	07/02/07	07/02/07 10:43 PM	0706717-028A	06/27/07 1:14 PM	06/30/07	06/30/07 10:32 AM

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0706717

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 29079			Spiked Sample ID: 0707007-012A			
	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	104	101	3.14	111	114	2.68	70 - 130	30	70 - 130	30
MTBE	ND	0.10	98.5	118	18.0	113	110	2.69	70 - 130	30	70 - 130	30
Benzene	ND	0.10	97.3	107	9.40	103	101	1.90	70 - 130	30	70 - 130	30
Toluene	ND	0.10	93.5	97.1	3.84	95.4	94.3	1.18	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	101	112	11.1	101	101	0	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	96.7	107	9.84	96.7	96.7	0	70 - 130	30	70 - 130	30
%SS:	97	0.10	91	100	8.55	93	94	1.08	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 29079 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-029A	06/27/07	07/02/07	07/03/07 2:41 PM	0706717-030A	06/27/07	07/02/07	07/03/07 7:07 PM

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR E218.6m

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0706717

EPA Method E218.6m	Extraction SW3060A			BatchID: 29176			Spiked Sample ID: 0706480-004a					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Hexachrome	ND	40	94.1	98.2	4.26	108	110	1.74	80 - 120	20	90 - 110	10

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

BATCH 29176 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-018A	06/27/07 11:20 AM	07/10/07	07/13/07 7:26 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.
 % Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.
 N/A = not applicable to this method.
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer



QC SUMMARY REPORT FOR WET CHEMISTRY TESTS

Test Method: pH

Matrix: S

WorkOrder: 0706717

Method Name: SW9045C

Units ±, pH units @ °C

BatchID: 29196

SampleID	Sample	DF	Dup / Ser. Dil.	DF	RD	Acceptance Criteria
0706717-018A	7.74 @ 23.6°C	1	7.73 @ 23.5°C	1	0.01	±0.05


BATCH 29196 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706717-018A	06/27/07 11:20 AM	07/10/07	07/10/07 7:10 PM				

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

RD = Absolute Value {Sample - Duplicate}; RPD = 100 * (Sample - Duplicate) / [(Sample + Duplicate) / 2].

DHS ELAP Certification N° 1644

 QA/QC Officer



McCAMPBELL ANALYTICAL, INC.
 1534 WILLOW PASS ROAD
 PITTSBURG, CA 94565-1701
 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
 TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
 GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Joel Greger Bill To: Geo Logic
 Company: Geo-Logic
1140 - 5th Ave.
Crockett CA 94525 E-Mail: case2used@aol.com
 Tele: (50) 5935382 Fax: (50) 7871957
 Project #: _____ Project Name: 2421 Blanding
 Project Location: 2421 Blanding Ave, Alameda
 Sampler Signature: Joel Greger

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505 / 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 200.8 / 6010 / 6020)	LIFT 5 Metals (250.7 200.8 / 6010 / 6020)	Lead (200.7 200.8 / 6010 / 6020)	Filter Samples for Metals analysis: Yes / No								
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other																									
B8D14.5		6/27/07	9:21Am	1	Can		X				X																												
B3D4.5			1017Am	1			X				X																												
B3D7.5			1023Am	1			X				X																												
B7B04			1120Am	1			X				X																												
B7C04.5			1126Am	1			X				X																												
B7C07.5			11:27Am	1			X				X																												
B7C012.5			1132Am	1			X				X																												
B7C014.5			1139Am	1			X				X																												

Relinquished By: Joel Greger Date: 6/27/07 Time: 3:09pm
 Received By: ENVIRO-TECH SERVICES AA
 Relinquished By: _____ Date: _____ Time: _____
 Received By: _____
 Relinquished By: _____ Date: _____ Time: _____
 Received By: _____

ICMA" GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

