

CAMBRIA

June 18, 1999

*Received
June 23, 99*

Mr. Amir Gholami, REHS
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Soil and Groundwater Investigation Report**
2856 Helen Street
Oakland, California 94608
Cambria Project #193-1521-1
STID: 170

Dear Mr. Gholami:

On behalf of W. Taylor Partch, Cambria Environmental Technology, Inc. (Cambria) is submitting the results of the subsurface investigation for the above-referenced site. The objective of the subsurface investigation was to investigate soil and groundwater in the vicinity of the former underground storage tanks (USTs). The site background, investigation procedures, investigation results, low-risk soils case criteria, and our case closure justification and recommendations are presented below.

SITE BACKGROUND

The following information has been compiled from a site visit, review of Mr. Partch's files, and our review of files for nearby sites available at the Alameda County Department of Environmental Health (ACDEH).

Site Description: The site is located on the east side of Helen Street, between 34th and 28th Streets, in a residential and light industrial area in Oakland, California. The site consists of a former mechanical contractor facility with a parking lot south of the building, and a vacant lot north of the building. Approximately three years ago a fire damaged the building, and the building was abandoned. Stockpiled soil and wood and miscellaneous debris are located in the southern parking area, while the northern lot is used for storage. The site owners recently began actively trying to sell the property.

August 1996 UST Removal and Sampling Results: On August 6, 1996, two 1,000-gallon underground storage tanks (USTs) were removed from the site by Bamer Construction of Castro Valley, California. According to site owner Mr. Partch, the USTs were used for gasoline only and were last used in 1978. The UST and sampling locations and analytic results are included in Attachment A. On June 14, 1999, Mr. Johnathon Bamer of Bamer Construction told Paul Waite of Cambria that the tank pit samples collected in 1996 were from the walls of the excavations at approximately 8 ft below the surface level. TPH-g and BTEX concentrations were detected in soil




ENVIRONMENTAL
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Oakland, CA
Sonoma, CA
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samples from the southern UST excavation at maximum concentrations of 290, 6.5, 17, 1.5, and 7.6 ppm, respectively. Trace petroleum hydrocarbons were detected in soil beneath the northern UST, with a maximum TPHg concentration of 0.49 ppm. No TPHg or BTEX were detected in a grab water sample collected from the excavation pit for the southern UST. While no chain-of-custody was in the reviewed files, the analytic laboratory received the water sample on August 12, 1996. In a letter dated September 22, 1997, Bamer Construction stated that county inspector Brian Oliva authorized collection of the unwitnessed water sample collection - Mr. Oliva missed the scheduled sampling due to an emergency. No formal UST removal report was prepared, but tank disposal certifications were enclosed with the September 22, 1997 letter. The northern UST pit was backfilled up to grade while approximately 5 cubic yards of stockpiled soil remains adjacent to the southern UST.

Groundwater: To estimate the groundwater gradient at the site, Cambria reviewed available file information for sites located at 3455 Ettie Street, 3456 Ettie Street, and 327 34th Street. Site-specific groundwater elevation data was available for 3456 Ettie Street (a few blocks away) and 327 34th Street (much farther away and near Broadway and 580). According to groundwater elevation data from site wells at 3456 Ettie, the groundwater gradient is west-northwest at approximately 0.012 ft/ft. Depth to groundwater at the site was estimated to be approximately 8 ft below ground surface.

Surface Waters: The San Francisco Bay is approximately on-half mile northwest of the site

INVESTIGATION PROCEDURES

The following work was performed in accordance with the May 10, 1999 Soil and Groundwater Investigation Workplan prepared by Cambria. Workplan approval was received from the ACDEH in a letter dated May 17, 1999, which stated that Cambria's workplan was "generally acceptable" and that additional soil and groundwater samples needed to be taken from the most perceived downgradient location at the site.

Our procedures for the subsurface investigation are summarized below. Analytic results for soil and groundwater are presented as Attachment A. Boring logs are presented as Attachment B. Our standard field procedures are presented as Attachment C.

Soil Borings

Personnel Present: Cambria Engineer Paul Waite conducted the field sampling efforts, working under the supervision of Professional Engineer Bob Clark-Riddell. Amir Gholami of the ACDEH was onsite to observe the sampling operations.

Drilling Company: Vironex, Inc. of Hayward, California (License C-57 705-927)

- Drilling Date:** May 24, 1999
- Permits:** Alameda County Department of Public Works soil boring permit.
- Sampling Methods:** Geoprobe hydraulic-push sampling system with a 2-inch diameter sampler.
- Number of Borings:** Five soil borings (S-1, S-2, N-1, N-2, and N-3).
- Water Sample Collection:** Cambria collected a grab groundwater sample from boring N-1 by installing a temporary 1-inch diameter well casing with a screen interval of 14-24 ft depth. Water samples were collected from the open boreholes of the other four borings.
- Boring Locations and Depths:** Borings S-1 and S-2 were installed to 16 and 20 ft depth, respectively, near the southern former tank location. Borings N-1 and N-2 were installed to 24 ft depth near the northern former tank location. At the request of Mr. Gholami, boring N-3 was installed to 24 ft depth near the northwest corner of the property in order to collect soil and groundwater from the farthest possible location downgradient of the former tanks.
- Sample Screening:** All samples were visually and physically screened in the field for the presence of petroleum hydrocarbons.
- Sediment Lithology:** Clayey silts were encountered in each of the soil borings through the entire explored depth of 24 ft.
- Chemical Analyses:** As proposed in the workplan, selected soil and groundwater samples were analyzed for:
- Total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015;
 - Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020; and,
 - Methyl tert-butyl ether (MTBE) by EPA Method 8020.
- In addition, as requested by Mr. Gholami on May 24, 1999, selected soil and water samples were analyzed for lead by EPA Methods 6010/200.7 (soil) and 239.2 (water).
- Waste Disposal:** No soil cuttings were generated



Additional Scope of Work Investigation

As mentioned above, during his site visit on May 24, Mr. Gholami requested performance of several items in this investigation that were not proposed in Cambria's May 10, 1999 workplan. These items include:

- Soil and water sampling in the northwest corner of the site to investigate for migrating hydrocarbons;
- Completion of borings deeper than usual, and analysis of soil samples below the water table to investigate for sinking MTBE; and,
- Analysis of soil and water samples for lead.

In addition to the extended field and reporting time, these requests added approximately 3 soil hydrocarbon analyses, 1 groundwater hydrocarbon analysis, and 15 soil and water lead analyses to the project scope.

INVESTIGATION RESULTS

Hydrocarbon Concentrations in Soil: No TPHg, BTEX, or MTBE were detected in any of the soil samples collected from five borings on site. The maximum TTLC lead concentration detected in the soil samples was 39 mg/kg.

Hydrocarbon Concentrations in Groundwater: No TPHg, BTEX, or MTBE were detected in the five groundwater samples collected from the onsite borings. The maximum dissolved lead concentration detected in the groundwater samples was 0.43 mg/L.

LOW-RISK SOILS CASE CRITERIA

The California Regional Water Quality Control Board - San Francisco Bay Region (RWQCB) released guidelines for clean-up of low-risk soil sites impacted by petroleum hydrocarbons. According to the RWQCB, a low-risk soils site has the following characteristics:

- The leak has stopped and the hydrocarbon source has been removed;
- The site is adequately characterized,
- No water wells or other sensitive receptors are likely to be impacted.

- Little or no groundwater impact currently exists and no contaminants are found at levels above established MCLs or other applicable water quality objectives;
dissolved lead is above MCL of 50 ppb
- The site presents no significant risk to human health; and
- The site presents no significant risk to the environment.

A discussion of site conditions relative to the RWQCB criteria for low-risk soil sites is presented below.



The leak has stopped and the hydrocarbon source has been removed: The two former 1,000-gallon gasoline USTs were removed in 1996 and had not been used since 1978.

The site is adequately characterized: No TPHg, BTEX, or MTBE were detected in soil and groundwater from five borings in the vicinity of the former tanks. Residual petroleum hydrocarbons, if still present, appear to be limited to the immediate tank pit areas.

No water wells or other sensitive receptors are likely to be impacted: No petroleum hydrocarbons were detected in the 1996 grab groundwater sample from the southern UST excavation, and none were detected in the five recent groundwater samples. Therefore, it is unlikely that groundwater or sensitive receptors in the area have been impacted.

The site presents no significant risk to human health: The residual gasoline compounds in the vicinity of the former USTs, if still present, do not represent a significant mass of petroleum hydrocarbons.

The site presents no significant risk to the environment: No potential exposure pathways that would adversely impact surface water, wetlands, or other sensitive receptors have been identified in the vicinity of the site. As such, the site does not pose a significant risk to the environment.

CASE CLOSURE JUSTIFICATION AND RECOMMENDATIONS

Based on our review of site conditions, we believe this site should be classified as a *low-risk soils case* and that full case closure should be granted. This recommendation is supported by the following considerations:

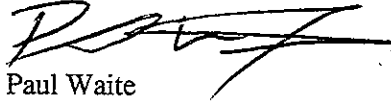
- The USTs have been removed;
- The site has been adequately characterized;
- The presence of residual hydrocarbons in soil in the former tank pits do not pose a significant health risk to either onsite occupants or the environment;
- No TPHg, BTEX, or MTBE were detected in the 1999 soil sampling;
- No TPHg, BTEX, or MTBE were detected in the 1996 or 1999 groundwater sampling.

We propose backfilling the southern tank pit with the previously excavated soil and closing the case. Since a potential property transaction is pending at this site, we would appreciate any efforts to expedite the review of this closure request. To further assist the ACDEH consideration for case closure, Cambria has submitted an electronic copy of a Case Closure Summary form, via e-mail, to Mr. Gholami (Attachment E). Bob Clark-Riddell, Principal Engineer at Cambria, has also discussed the case with Mr. Thomas Peacock of the ACDEH.



Thank you for your continued assistance with this project. If you have any questions or comments regarding this report, please call Bob Clark-Riddell at (510) 420-3303.

Sincerely,
Cambria Environmental Technology, Inc.



Paul Waite
Project Engineer



Bob Clark-Riddell, P.E.
Principal Engineer



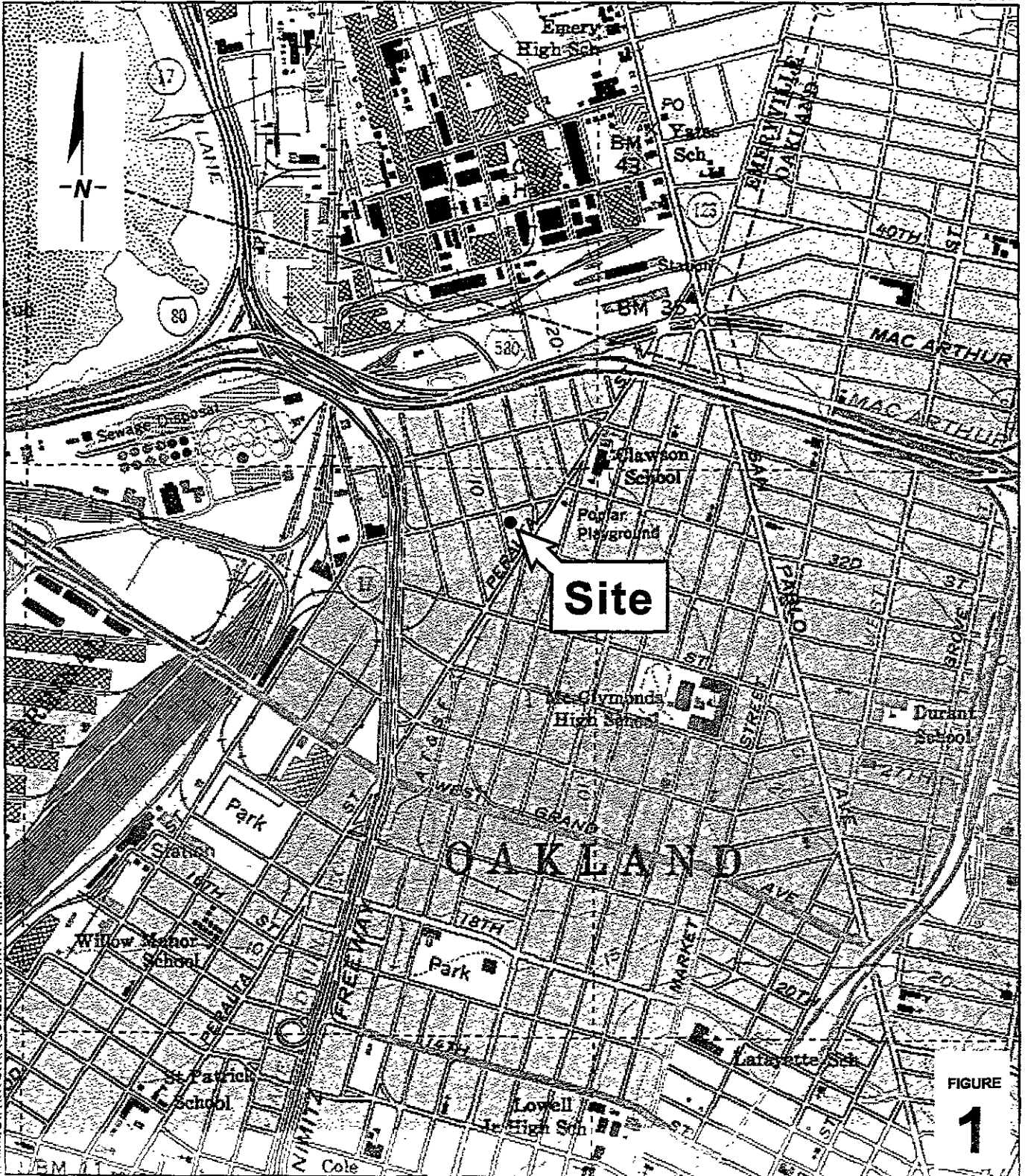
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Figures: 1 - Vicinity Map
2 - Site Map and Boring Locations

Table: 1 - Soil Sample Analytical Data
2 - Groundwater Analytical Data

Attachments: A - Standard Field Procedures for Soil Borings
B - Soil Boring Logs
C - Laboratory Analytical Report
D - Permit
E - Case Closure Summary Form

cc: W. Taylor Partch, 2051 San Jose Avenue, Alameda, California 94501
Elizabeth McCune, 20068 Summerridge Drive, Castro Valley, California 94552



W.T. PARTCH FIGURES VICINITY MAP A1

FIGURE 1

0 1/8 1/4 1/2 1
SCALE 1 1/4 MILE

W.T. Partch
2862 Helen Street
Oakland, California



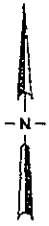
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Vicinity Map

34th STREET

EXPLANATION

- N-3 ● Geoprobe Boring Location
- ← Estimated Ground Water Flow Direction



HELEN STREET

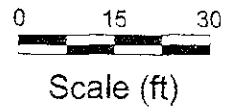
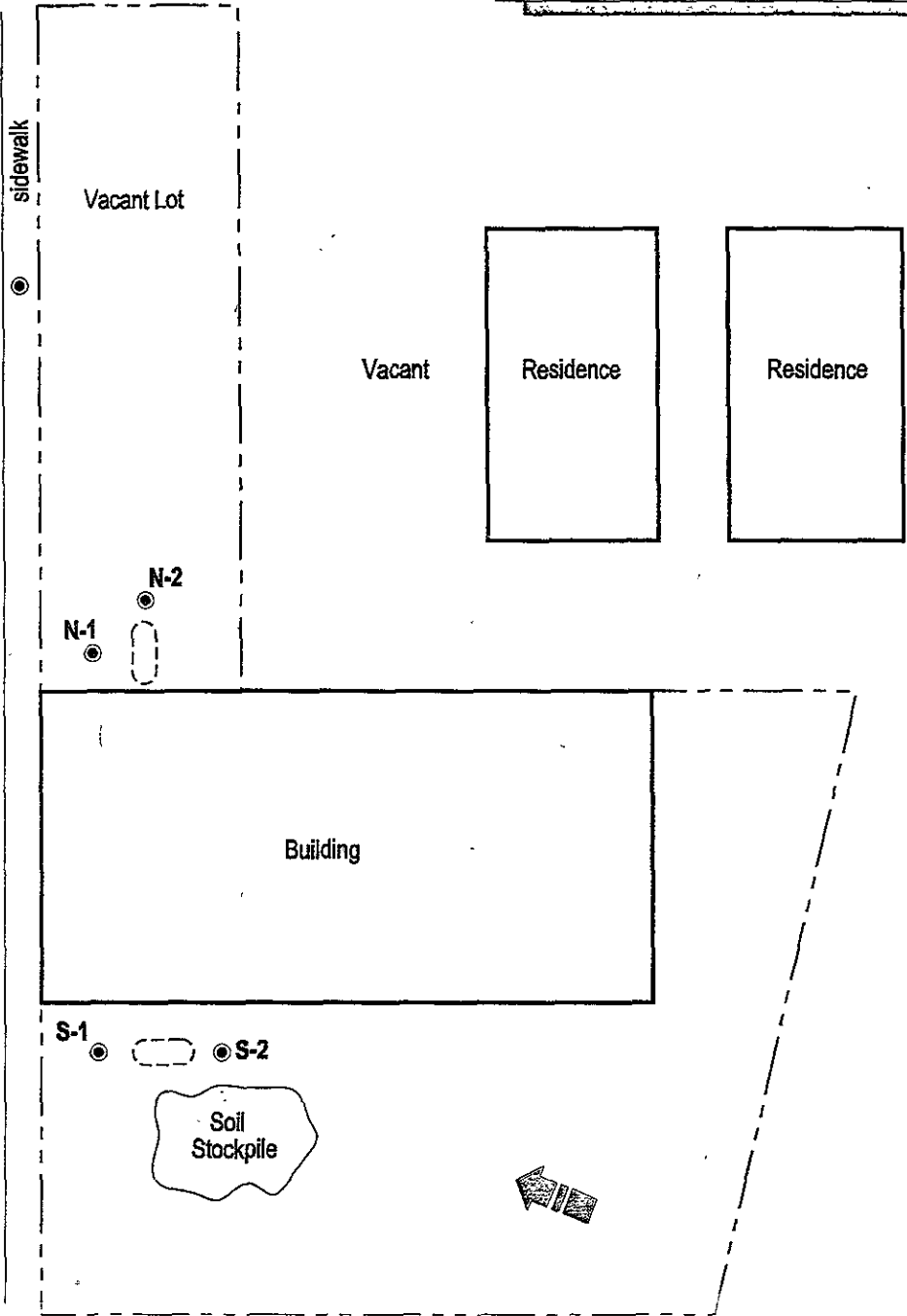


FIGURE 2

J:\MISC\PLAN\CI\FIGURES\BOR-LOC.DWG

W.T. Partch
 2862 Helen Street
 Oakland, California



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Geoprobe Boring Locations

Table 1. Soil Sample Analytical Data - 2856 Helen Street, Oakland California 94608

Date	Sample ID	Sample Depth (ft)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	TTLCLead
(All concentrations reported in milligrams per kilogram)									
<i>Southern former tank location, East end</i>									
8/6/96	#1	8.0	200	---	2.4	12.0	0.2	0.7	4.7
5/21/99	S 2 5 6	5.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	5.2
5/21/99	S 2 7 8	7.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	39
<i>Southern former tank location, West end</i>									
8/6/96	#2	8.0	290	---	6.5	17.0	1.5	7.6	4.8
8/6/96	#6	Stockpile Composite	10	---	0.14	0.88	0.29	0.61	11
5/21/99	S 1 5 6	5.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.5
5/21/99	S 1, 10 11	10.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.0
5/21/99	S 1 19 20	19.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	19
<i>Northern former tank location, North end</i>									
8/6/96	#3	8.0	0.43	---	< 0.1	< 0.1	20	110	32
5/21/99	N 1 5 6	5.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	9.0
5/21/99	N 1 9 10	9.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	5.4
<i>Northern former tank location, South end</i>									
8/6/96	#5	8.0	0.49	---	< 0.1	< 0.1	< 0.1	< 0.1	5.1
8/6/96	#5	Stockpile Composite	6.0	---	< 0.1	0.59	< 0.1	0.3	78
5/21/99	N 2 7 8	7.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.0
<i>Northwest corner of property</i>									
5/21/99	N 3 7 8	7.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	5.6
5/21/99	N 3, 23 24	23.0	< 1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	6.6

Abbreviations and Notes:

- - - Not Analyzed
- TPHg - Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
- MTBE - Methyltert-butyl ether and BTEX by EPA Method 8020
- TTLCLead by EPA Method 6010 or 7120
- < X - Below detection limit of X milligrams per kilogram

Table 2. Groundwater Analytical Data - 2856 Helen Street, Oakland California 94608

Sample ID	Date	Depth to Water (ft)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
All concentrations in µg/L (ppb)									
South Tank Pit	8/13/96	Surface of open pit	< 50	---	< 0.1	< 0.1	< 0.1	< 0.1	< 50 total
S-1	5/21/99	5.9	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	46 dissolved
S-2	5/24/99	7.2	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	430 dissolved
N-1	5/21/99	10.4	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	71 dissolved
N-2	5/24/99	9.2	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	210 dissolved
N-3	5/24/99	9.0	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	120 dissolved

Abbreviations and Notes

- Not Analyzed

TPHg - Total Petroleum Hydrocarbons as gasoline by modified EPA Method 8015

MTBE - Methyl Tertiary Butyl Ether by EPA Method 8020

BTEX by EPA Method 8020

Total Lead by EPA Method 7170

Dissolved Lead by EPA Method 239.2

ppb - parts per billion equivalent to micrograms per liter

<x - Below detection limit of x micrograms per liter

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Attachment A

Standard Field Procedures for Soil Borings

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STANDARD FIELD PROCEDURES FOR GEOPROBE® SAMPLING

This document describes Cambria Environmental Technology's standard field methods for GeoProbe® soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon[®] tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

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Field Screening

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

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Attachment B

Soil Boring Logs

Client: *Partch*
 Address: *2856 Helen St, Oakland*

SB *S-1*

MW-

Project Number: *143-1521-3*
 Geologist: *Eng. PLW*

Boring Location: *South Tank, West End*
 Drilling Method: *Geoprobe: v111111x*

Date: *5/24/99*
 Time: *9:45*

Depth (ft)	Sample Interval	Time/Blow Cnt.	Well Const.	USC Class.	Soil Type and Comments	Color	Pen. Resist.	Moisture	Odor	Percentages				Plasticity	Permeability
										Clay	Silt	Sand	Gravel		
					<i>2" Asphalt Surface</i>										
				<i>GM</i>	<i>Black silty F-11</i>	<i>Blk</i>	<i>soft</i>	<i>damp</i>	<i>ND</i>		<i>20</i>	<i>20</i>		<i>60</i>	<i>None High</i>
				<i>MH</i>	<i>Clayey silt</i>	<i>Blk</i>	<i>firm</i>	<i>damp</i>	<i>slight</i>		<i>20</i>	<i>80</i>			<i>med low</i>
<i>5</i>				<i>MH</i>	<i>cls.</i>	<i>Brown w/ grey green</i>									
<i>10</i>				<i>MH</i>	<i>cls.</i>	<i>L Brn</i>			<i>ND</i>	<i>15</i>	<i>80</i>	<i>5 fine</i>		<i>med med</i>	
<i>15</i>					<i>first water at 16</i>	<i>L Brn / orange</i>	<i>soft</i>	<i>moist</i>							
<i>20</i>						<i>Brown</i>	<i>damp</i>								<i>low</i>
<i>25</i>					<i>First water at 16'</i> <i>Stabilized at 3.9'</i>										
<i>30</i>					<i>H₂O sample collected from open hole, hole grouted w/ cement.</i>										
<i>35</i>															

Client: *Patch*
 Address: *2855 Helen St., Oakland*

SB- N-1 **MW-**

Project Number: *193-1531-3* Boring Location: *North bank, North end* Date: *5/24/99*
 Geologist: *Engineer PLW* Drilling Method: *Geoprobe, Vironex* Time: *1132*

Depth (ft)	Sample Interval	Time/Blow Cnt.	Well Const.	USC Class.	Soil Type and Comments	Color	Pen. Resist.	Moisture	Odor	Percentages				Plasticity	Permeability
										Clay	Silt	Sand	Gravel		
0 - 1				ML	<i>Silt - 1 St</i>	<i>Brn</i>	<i>firm</i>	<i>dry</i>	<i>ND</i>		<i>70</i>	<i>15</i>	<i>15</i>	<i>ND</i>	<i>Med</i>
1 - 5				ML	<i>cls: topsoil</i>	<i>Blk</i>	<i>soft</i>	<i>dry</i>	<i>ND</i>	<i>30</i>	<i>70</i>			<i>Med</i>	<i>Low</i>
5 - 10					<i>cls: Brown w/black mottled</i>	<i>Brn w/blk</i>	<i>firm</i>	<i>damp</i>							
10 - 20					<i>gray w/orange and black mottled cls:</i>			<i>moist</i>		<i>20</i>	<i>80</i>				
20 - 25								<i>damp</i>							
25 - 35					<i>First water at 16.8 ft stabilized at 10.4 ft H₂O sample collected through temp. well screen 14-24 ft screen removed and hole grouted w/cement</i>										

Client: *Karich*

Address:

SB- N-2

MW-

Project Number: *133-1521-3*

Boring Location: *North Fork, West Side*

Date: *5/24/99*

Geologist: *Eng. DW*

Drilling Method: *Geoprobe, Viconex*

Time: *12:30*

Depth (ft)	Sample Interval	Time/Blow Cnt.	Well Const.	USC Class.	Soil Type and Comments	Color	Pen. Resist.	Moisture	Odor	Percentages				Plasticity	Permeability
										Clay	Silt	Sand	Gravel		
0				ML	Silt - clay	Brn	firm	dry	ND		70	15	15	ND	Med
1				MH	clay soil	Blk	soft	moist			30	70		med	Low
2				ML	clay w/ sand	gray/Brn					30	70	10	med	med
5															
10				MH	clay Brown w/ black mottle	Brn/blk	firm				30	70			
15															
20				ML	Silt w/ sand	gray/blk	firm	wet			15	70	15	low/ND	med/High
21											5	70	25		
22				MH	clay	gray/Brn	firm	damp			30	70		med	Low
25															
30															
35															

First water at 19 ft
 Stabilized at 9.2 ft
 No sample from open hole
 (coated w/ cement)

Client: *Parich*
 Address: *2853 Helen St, Oakland*

SB N-3

MW-

Project Number: *193-1521-3* Boring Location: *NW corner of S. 12* Date: *5/24/99*
 Geologist: *Engineer PW* Drilling Method: *Geoprobe, Viconex* Time: *13D*

Depth (ft)	Sample Interval	Time/Blow Cnt.	Well Const.	USC Class.	Soil Type and Comments	Color	Pen. Resist.	Moisture	Odor	Percentages				Plasticity	Permeability
										Clay	Silt	Sand	Gravel		
0-5				ML	Clay topped with some rocks & brick frags	Dk	soft	dry	ND	15	80		5	med	low
5-10				ML	Clay grey mottled black and brown occasional dry 2" sand + gravel seams	Grey	firm	damp		10	80	5	5	med	low
10-15				ML	Clay	Grey/Orange	soft	moist		20	80			Low	med
15-20				ML	Clay w/ sand Grey/Orange	Orange	soft	moist		10	80	10		MD	med
20-25				ML	Clay	Grey	firm	damp		30	70			med	low
25-35	<p>First water at 14 ft Stabilized at 9 ft No sample from open hole. Grouted w/ cement</p>														

C A M B R I A



Attachment C

Laboratory Analytical Report



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #193-1521-3; Partch 2856	Date Sampled: 05/24/99
		Date Received: 05/26/99
	Client Contact: Paul Waite	Date Extracted: 05/26/99
	Client P.O:	Date Analyzed: 05/26/99

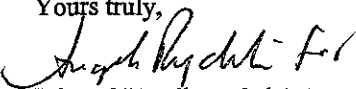
06/04/99

Dear Paul:

Enclosed are:

- 1). the results of 15 samples from your #193-1521-3; Partch 2856 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.

Yours truly,

Edward Hamilton, Lab Director



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
 Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #193-1521-3; Partch 2856	Date Sampled: 05/24/99
	Client Contact: Paul Waite	Date Received: 05/26/99
	Client P.O:	Date Extracted: 05/26/99
		Date Analyzed: 05/28-06/03/99

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
11939	S-1, 5-6	S	ND	ND	ND	ND	ND	ND	107
11941	S-1, 10-11	S	ND	ND	ND	ND	ND	ND	94
11946	S-1, 19-20	S	ND	ND	ND	ND	ND	ND	104
11947	S-1	W	ND,i	ND	ND	ND	ND	ND	107
11949	S-2, 5-6	S	ND	ND	ND	ND	ND	ND	101
11950	S-2, 7-8	S	ND	ND	ND	ND	ND	ND	100
11955	S-2	W	ND	ND	ND	ND	ND	ND	109
11957	N-1, 5-6	S	ND	ND	ND	ND	ND	ND	101
11959	N-1, 9-10	S	ND	ND	ND	ND	ND	ND	102
11967	N-1	W	ND,i	ND	ND	ND	ND	ND	106
11970	N-2, 7-8	S	ND	ND	ND	ND	ND	ND	101
11978	N-2	W	ND,i	ND	ND	ND	ND	ND	105
11981	N-3, 7-8	S	ND	ND	ND	ND	ND	ND	96
11988	N-3, 23-24	S	ND	ND	ND	ND	ND	ND	100
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	5.0	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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 (?), f) one to a few isolated peaks present, g) strongly aged gasoline or diesel range compounds are significant, h) lighter than water immiscible sheen is present, i) liquid sample that contains greater than ~5 vol % sediment, j) no recognizable pattern



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Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #193-1521-3; Partch 2856	Date Sampled: 05/24/99
	Client Contact: Paul Waite	Date Received: 05/26/99
	Client P.O:	Date Extracted: 05/26/99
		Date Analyzed: 05/28-06/03/99

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*
EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
11989	N-3	W	ND,i	ND	ND	ND	ND	ND	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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 (?), f) one to a few isolated peaks present, g) strongly aged gasoline or diesel range compounds are significant, h) lighter than water immiscible sheen is present, i) liquid sample that contains greater than ~5 vol. % sediment, j) no recognizable pattern



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Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #193-1521-3; Partch 2856	Date Sampled: 05/24/99
	Client Contact: Paul Waite	Date Received: 05/26/99
	Client P.O:	Date Extracted: 05/26/99
		Date Analyzed: 06/01-06/04/99

Lead*

EPA analytical methods 6010/200.7, 239.2*

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
11939	S-1, 5-6	S	TTLIC	4.5	101
11941	S-1, 10-11	S	TTLIC	4.0	102
11946	S-1, 19-20	S	TTLIC	19	101
11947	S-1	W	Dissolved	0.046	NA
11949	S-2, 5-6	S	TTLIC	5.2	101
11950	S-2, 7-8	S	TTLIC	39	100
11955	S-2	W	Dissolved	0.43	NA
11957	N-1, 5-6	S	TTLIC	9.0	97
11959	N-1, 9-10	S	TTLIC	5.4	101
11967	N-1	W	Dissolved	0.071	NA
11970	N-2, 7-8	S	TTLIC	4.0	101
11978	N-2	W	Dissolved	0.21	NA
11981	N-3, 7-8	S	TTLIC	5.6	101
11988	N-3, 23-24	S	TTLIC	6.6	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLIC	3.0 mg/kg	
		W	TTLIC	0.005 mg/L	
		—	STLC, TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe and water samples and all STLC / SPLP / TCLP extracts in mg/L
 ° Lead is analysed using EPA method 6010 (ICP) for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extractor methods 1311(TCLP), 3010/3020(water, TTLIC), 3040(organic matrices TTLIC), 3050(solids, TTLIC) STLC - CA Title 22

° surrogate diluted out of range, N A means surrogate not applicable to this analysis

° reporting limit raised due matrix interference

1) liquid sample that contains greater than ~2 vol % sediment, this sediment is extracted with the liquid in accordance with EPA methodologies and can significantly effect reported metal concentrations

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/28/99-05/29/99

Matrix: WATER

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample (#12050)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	106.2	103.5	100.0	106.2	103.5	2.6
Benzene	0.0	9.4	9.2	10.0	94.0	92.0	2.2
Toluene	0.0	9.8	9.5	10.0	98.0	95.0	3.1
Ethyl Benzene	0.0	9.9	9.7	10.0	99.0	97.0	2.0
Xylenes	0.0	29.8	29.1	30.0	99.3	97.0	2.4
TPH (diesel)	0.0	8954	8664	7500	119	116	3.3
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/28/99-05/29/99

Matrix: SOIL

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample (#02399)	MS	MSD		MS	MSD	
TPH (gas)	0.000	2.169	2.130	2.03	107	105	1.8
Benzene	0.000	0.202	0.192	0.2	101	96	5.1
Toluene	0.000	0.208	0.198	0.2	104	99	4.9
Ethylbenzene	0.000	0.208	0.202	0.2	104	101	2.9
Xylenes	0.000	0.624	0.604	0.6	104	101	3.3
TPH (diesel)	0	269	271	300	90	90	0.7
TRPH (oil and grease)	0.0	23.0	22.6	20.8	111	109	1.8

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553

Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR ICP and/or AA METALS

Date: 06/01/99

Matrix: WATER

Extraction:

DISSOLVED

Analyte	Concentration (mg/L)			Amount	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
Total Lead	0.00	4.48	4.57	5.00	90	91	2.1
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Organic Le	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR ICP and/or AA METALS

Date: 06/04/99-06/05/99

Matrix: SOIL

Extraction:

TTLC

Analyte	Concentration (mg/kg, mg/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
Total Lead	0.0	5.17	5.15	5.0	103	103	0.4
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

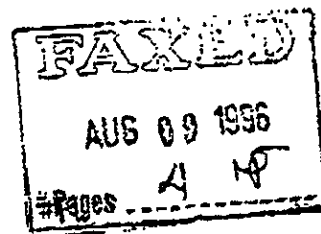
CALCOAST ANALYTICAL

Materials Chemistry

Certified by
 California Department of Health Services
 City of Los Angeles, Dept. of Building & Safety

mailed 8/9/96

August 9, 1996



Bamer Construction
 3137 Castro Valley Blvd.
 Castro Valley, CA 94546

Attn: Mr. John Bamer

Ref: Lab File #0807-6A/F-96

1. SAMPLE(S):

Six (6) soil core samples from 2856 Helen St., Oakland, CA., Project Nº 616 806 'O'

- A. #1: South Tank, East End
- B. #2: South Tank, West End
- C. #3: North Tank, North End
- D. #4: North Tank, South End
- E. #5: North Composite of Piles
- F. #6: South Composite of Piles

Received August 7, 1996

2. ANALYSIS REQUIRED:

- A. Total lead (Pb) concentration by Atomic Absorption Spectroscopy (AAS).
- B. Total Petroleum Hydrocarbons - gasoline (TPH-g) by Gas Chromatography (GC).
- C. Benzene, Toluene, ethylbenzene, and xylenes (BTEX) concentration by Gas Chromatography / Mass Spectrometry (GC/MS).


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 SPECTROSCOPY • CHROMATOGRAPHY • MICROSCOPY

4. RESULTS:(continued)

C. BTEX

p/BIL

SAMPLE	CONCENTRATION ($\mu\text{g}/\text{kg}$)			
	BENZENE	TOLUENE	ETHYLBENZENE	XYLENE
A. #1, S. Tank / E. End	2,400	12,000	200	700
B. #2, S. Tank / W. End	6,500	17,000	1,500	7,600
C. #3, N. Tank / N. End	< 0.1 (ND)	< 0.1 (ND)	20	110
D. #4, N. Tank / S. End	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)
E. #5, N. Composite	< 0.1 (ND)	590	< 0.1 (ND)	300
F. #6, S. Composite	140	880	290	610
Method Blank	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)
Mean Spike Recovery	109%	114%	102%	88%



Ronald Shrewsbury
Analytical Chemist

RS:ag

ALL SAMPLES SUBMITTED FOR TESTING WILL BE HELD 30 DAYS FROM REPORT DATE AT WHICH TIME THEY WILL BE RETURNED TO CLIENT OR DESTROYED. CLIENT WILL BE RESPONSIBLE FOR ALL SHIPPING, HANDLING, AND DISPOSAL CHARGES. SAMPLES WILL BE STORED UPON WRITTEN INSTRUCTIONS AND FEE ARRANGEMENTS.

This report was made at the request of and for the use only of the purchaser of said report. Any use of or dissemination of information contained herein or reference to Calcoast Labs Inc without prior written consent of Calcoast Labs Inc is strictly prohibited.

3. METHODS OF ANALYSIS:

- A. Sample Digestion - EPA Method 3050; SW-846
AAS Analysis - EPA Method 7420; SW-846
- B. GC by EPA Method 8015; SW-846
- C. GC/MS by EPA Method 8240; SW-846

4. RESULTS:

A. Total Lead

SAMPLE	TOTAL LEAD CONCENTRATION (mg/kg)
A. S. Tank / E. End	4.7
B. S. Tank / W. End	4.8
C. N. Tank / N. End	32
D. N. Tank / S. End	5.1
E. N. Composite	78
F. S. Composite	11

Method Blank = < 5.0 mg/kg (none detected)

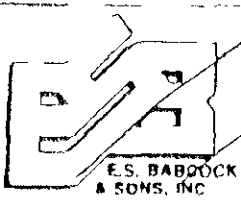
Mean Spike Recovery = 108%

B. TPH-g

SAMPLE	TPH-G CONCENTRATION (mg/kg)
A. #1, S. Tank / E. End	200
B. #2, S. Tank / W. End	290
C. #3, N. Tank / N. End	0.43
D. #4, N. Tank / S. End	0.49
E. #5, North Composite	6.0
F. #6, South Composite	10

Method Blank = < 0.05 mg/kg (none detected)

Mean Spike Recovery = 92%



3215 Chicago Avenue
Riverside, CA 92507
(714) 884-1881

Bamer Constr.
3137 Castro Valley Blvd,
#209
Castro Valley, Ca. 94546

CHAIN OF CUSTODY RECORD

Lab #s: _____ Invoice No. _____

Project No.	Project Name / Location	Determination Requested										Condition of Sample			Remarks		
												Sealed	Unsealed	Preserved			
Samplers: (signature)	Description	Sampled		TPH	G	B	X	T	E	Total	C	C	C	C	C	C	C
		Date	Time														
<i>Jonathan Bamer</i> <i>Jonathan Bamer</i>	1. South Tank East End	8/6/96	3:15 pm	x	x	x								1	x	x	
	2. South Tank W. End	8/6/96	3:15	x	x	x								1	x	x	
	3. North Tank North End	8/6/96	3:09 pm	x	x	x								1	x	x	
	4. North Tank South End	8/6/96	3:08 pm	x	x	x								1	x	x	
	5. North Composit of Piles	8/6/96	3:25	x	x	x								1	x	x	
	6. South Composit of Piles	8/6/96	3:28	x	x	x								1	x	x	

Relinquished By: <i>Jonathan Bamer</i>	Date/Time 8/7 11:55	Received By: <i>Ben Bamer</i>	Relinquished By: <i>Ben Bamer</i>	Date/Time 8/7 12:35	Received By:
Relinquished By:	Date/Time	Received By:	Received For Lab By: <i>Cristina Lopez</i>	Date / Time 8/6/96 12:36	

To: Cal Coast Lab.
4072 Watts St.
Emeryville, Ca.

Jul-10-99 03:44P Bamer Construction Co. 510 886 4131 P.02

CALCOAST ANALYTICAL

Materials Chemistry

Certified by
California Department of Health Services
City of Los Angeles, Dept. of Building & Safety

August 13, 1996

Bamer Construction
3137 Castro Valley Blvd.
Castro Valley, CA 94546

Attn: Mr. John Bamer

Ref: Lab File #0812-2A/C-96

1. SAMPLE(S):

Three (3) vials of water from 2856 Helen St.; Oakland, CA. Project No. 616 806 "O".
The three vials are to be analyzed as one sample.

Received August 12, 1996

2. ANALYSIS REQUIRED:

- A. Total lead (Pb) concentration by Atomic Absorption Spectroscopy (AAS).
- B. Total Petroleum Hydrocarbons - gasoline (TPH-g) concentration by Gas Chromatography (GC).
- C. Benzene, toluene, ethylbenzene and xylenes (BTEX) concentration by Gas Chromatography / Mass Spectrometry (GC/MS).

3. METHODS OF ANALYSIS:

- A. Sample Digestion - EPA Method 3005; SW-846
AAS Analysis - EPA Method 7420; SW-846
- B. GC by EPA Method 8015; SW-846
- C. GC/MS by EPA Method 8240; SW-846

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TELEPHONE (510) 652-2979
FAX (510) 652-3085

P.O. BOX 8702 • EMERYVILLE, CA 94662
4072 WATTS STREET • EMERYVILLE, CA 94608

Page 2 of 2
 Ref: Lab File #0812-2A/C-96

4. RESULTS:

A. Total Lead

The submitted sample contained < 0.05 mg/l lead (none detected).

Method Blank = < 0.05 mg/l (none detected)

Mean Spike Recovery = 108%

B. TPH-g

The submitted sample contained < 0.05 mg/l TPH-g (none detected)

Method Blank = < 0.05 mg/l (none detected)

Mean Spike Recovery = 111%

C. BTEX

Sample	Concentration ($\mu\text{g/l}$)			
	Benzene	Toluene	Ethylbenzene	Xylene
2856 Helen	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)
Method Blank	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)	< 0.1 (ND)
Mean Spike Recovery	113%	104%	104%	109%



Ronald Shrewsbury
 Analytical Chemist

RS:ag

ALL SAMPLES SUBMITTED FOR TESTING WILL BE HELD 30 DAYS FROM REPORT DATE AT WHICH TIME THEY WILL BE RETURNED TO CLIENT OR DESTROYED. CLIENT WILL BE RESPONSIBLE FOR ALL SHIPPING, HANDLING, AND DISPOSAL CHARGES. SAMPLES WILL BE STORED UPON WRITTEN INSTRUCTIONS AND FEE ARRANGEMENTS.

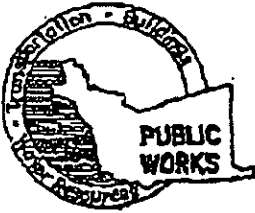
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C A M B R I A



Attachment D

Permit



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
991 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2631
PHONE (510) 670-5675 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2856 Helen Street
Oakland CA 94608

California Coordinator Source R. Accuracy R
CCN R CCE R
ARN R

CLIENT
Name W. Taylor Patch
Address 2051 San Jose Av Phone 510-521-0296
City Alameda CA Zip 94501

APPLICANT
Name Cambria Environmental Technology Inc.
Paul White Fax 510-420-9170
Address 1144 65th St Phone 510-420-0100
City Oakland CA Zip 94608

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

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other

DRILLING METHOD:
Mod Rotary Air Rotary Auger
Cable Other Geoprobe

DRILLER'S LICENSE NO. C57 705 927

WELL PROJECTS
Drill Hole Diameter 2 in. Maximum Depth 20 ft.
Casing Diameter _____ in. Number 10
Surface Seal Depth _____ ft.

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum Depth _____ ft.
Hole Diameter _____ in.

ESTIMATED STARTING DATE 5/24/98
ESTIMATED COMPLETION DATE 5/24/98

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

APPLICANT'S SIGNATURE [Signature] DATE 5/16/20

FOR OFFICE USE

PERMIT NUMBER 99 WR 227
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

- A. GENERAL**
 - 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
 - 2. Submit to ACPWA 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.
- 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, cured 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**

APPROVED [Signature] DATE 5-20-98

Post-it* Fax Note	7671	Date	5-21	# of pages	1
To	PAUL WHITE	From	Paul HALE		
Co/Dept	CAMBRIA ENV.	Co	ALAMEDA COUNTY		
Phone #		Phone #	(510) 670-5563		
Fax #	420-9170	Fax #	670-5262		

C A M B R I A



Attachment E

Case Closure Summary Form

To: AGHOLAMI@co.alameda.ca.us
From: Paul Waite <pdwaite@cambria-env.com>
Subject: Re: CLOSURE SUMMARY FORM
Cc: BCR
Bcc:
Attached: H:\MISC\Partch\CLOSSUMM.doc;

Amir,
Thank you for sending me the electronic version of the Case Closure Summary form. I have input the available information into the form and attached it to this e-mail. Please let me know if the attachment does or does not work properly, or if you have any questions or comments on the information.

We will be submitting the subsurface investigation report soon. If you have any questions, please feel free to call me at (510) 420-3305.

Thank you for your continued assistance with this project.

Paul Waite

At 04:57 PM 6/8/99 -0700, you wrote:

> <<CLOS SUMMARY.doc>>

>Hi Paul:

>

>Here is a blank copy of the closure summary form which I need to fill in to
>close any case in general. If you fill this out, it will expedite the
>procedure as discussed. I also need to discuss this case with my colleagues
>regarding the closure of this site.

>

>Thanks!

>

>Amir!

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tank	2	Disposed	8/6/96
Soil			
Groundwater			
Barrels			

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

<u>Contaminant</u>	<u>Soil (ppm)</u>		<u>Water (ppb)</u>	
	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>
TPH (Gas)	290		< 50	
TPH (Diesel)	---		---	
Benzene	6.5		< 0.5	
Toluene	17		< 0.5	
Ethylbenzene	20		< 0.5	
Xylenes	110		< 0.5	
Oil & Grease	---		---	
Heavy metals	---		---	
Lead	39		430 dissolved	

Comments (Depth of Remediation, etc.):

The two 1,000 gallon gasoline tanks were last used in 1978 and were removed in 1996. No petroleum hydrocarbons were detected in the 1996 grab groundwater sample from the southern UST excavation, and none were detected in the five recent groundwater samples. No TPHg, BTEX, or MTBE were detected in soil and groundwater from five borings in the vicinity of the former tanks. Approximately 5 cubic yards of soil were overexcavated from the southern tank pit and remain stockpiled on site.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

Does corrective action protect public health for current land use?

Site management requirements:

Should corrective action be reviewed if land use changes?

Monitoring wells Decommissioned:

Number Decommissioned: _____ Number Retained: _____

List enforcement actions taken:

List enforcement actions rescinded:

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Amir K. Gholami

Title: Haz Mat Specialist

Signature:

Date:

Reviewed by

Name:

Title: Haz Mat Specialist

Signature:

Date:

Name: Thomas Peacock

Title: Supervisor

Signature:

Date:

VI. RWQCB NOTIFICATION

Date Submitted to RB:

RB Response:

RWQCB Staff Name: Chuck Headlee

Title: EG

Signature:

Date:

VII. ADDITIONAL COMMENTS, DATA, ETC.

In summary, case closure is recommended because:

- o the leak and ongoing sources have been removed;
- o the site has been adequately characterized;
- o the dissolved plume is not migrating;
- o no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- o the site presents no significant risk to human health or the environment.

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