CAMBRIA

October 3, 1997

Mr. Larry Seto
Senior Hazardous Materials Specialist
Alameda County Health Services Agency
1131 Harbor Bay Parkway, Room #250
Alameda, California 94502-6577

Re: **Tank Removal and Sampling Report**
Former Shell Service Station
2160 Otis Drive
Alameda, California
WIC #204-0072-0502
Cambria Project #24-627-4

Dear Mr. Seto:

This report presents the results of the sampling activities performed by Cambria Environmental Technology, Inc. (Cambria) on behalf of Shell Oil Products Company (Shell) at the site referenced above. The sampling was conducted in conjunction with removal of the underground storage tanks (USTs) and piping. Summarized below are the background, pre-excavation sampling activities, excavation and sampling activities, the analytic results, and our conclusions and recommendations. Based on our findings, Cambria believes that no further action is warranted.

BACKGROUND

This former Shell Service Station is located on Otis Drive, between Willow and Park Streets, in Alameda, California. The site is located approximately 3,000 feet east of San Francisco Bay. No further action status was granted by the Alameda County Department of Environmental Health (ACDEH) on November 14, 1995 based on the results of five years of ground water monitoring. Shell has discontinued operation of this service station with demolition of the station and removal of the USTs. Shell leased the property and is returning the site to the property owners.

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
SUITE B
OAKLAND,
CA 94608
PH: (510) 420-0700
FAX: (510) 420-9170

PRE-EXCAVATION SAMPLING ACTIVITIES

On August 1, 1997, nine Geoprobe® borings were driven in order to pre-characterize the soil in the vicinity of the gasoline and waste oil tanks. *Alameda County Flood Control and Water Conservation District Zone 7 Drilling Permit #97WR043* is included as Attachment A, and Cambria's *Standard Operating Procedures for Geoprobe Sampling* are included as Attachment B. Eight borings were driven in the vicinity of the gasoline storage tanks to a depth of 16 feet and one boring was driven in the vicinity of the waste oil storage tank to a depth of 20 feet. Cambria's September 5, 1997 correspondence, which was submitted via facsimile to the ACDEH, presents the analytic results of this preliminary investigation and is included as Attachment C.

EXCAVATION AND SAMPLING ACTIVITIES

Attendees:

Don Hwang	Hazardous Materials Specialist	Alameda County Department of Environmental Health
Steve McKinley	Fire Captain	Alameda Fire Department
Paul Waite	Project Engineer	Cambria Environmental Technology, Inc.
Joshua Bergstrom	Staff Geologist	Cambria Environmental Technology, Inc.
Mark Freitas	Site Supervisor	Paradiso Mechanical

Removal and Sampling Date: September 4, 1997.

Tanks Removed: Paradiso Mechanical of San Leandro, California (Paradiso) removed three 10,000-gallon fiberglass gasoline tanks and one 550-gallon fiberglass waste oil tank, as well as associated gasoline product piping, vent piping, and dispensers, using a backhoe. Before removal, the tanks and piping were triple rinsed by Crosby and Overton of Oakland, California, and the rinsate was hauled to the Shell refinery in Martinez, California for disposal.

Tank Removal Observations: No cracks, holes or other signs of structural failure were observed in any of the tanks.

Gasoline Tank Excavation Sampling: Cambria collected six soil samples from near the ends of the former gasoline tanks by driving a brass tube into soil collected by the backhoe. One water sample was collected from the tank excavation using a disposable bailer. The water sample was not filtered in the field. Soil

sample locations are shown on Figure 1 and analytic results are summarized on Tables 1 and 4. Standard sampling procedures are presented in Attachment D and analytic reports are included as Attachment E.

Waste Oil Tank Excavation Sampling: Cambria collected one soil sample from near the former waste oil tank by driving a brass tube into soil collected by the backhoe. One water sample was collected from the waste oil tank excavation using a disposable bailer. The water sample was not filtered in the field. Sample locations are shown on Figure 1 and analytic results are summarized on Tables 1-6.

Dispenser Sampling: Cambria collected six soil samples from beneath the former dispensers and product piping. Sample locations are shown on Figure 1 and analytic results are summarized on Table 1.

Hoist Sampling: Cambria collected one soil sample from beneath each of two former hoists. Sample locations are shown on Figure 1 and analytic results are summarized on Tables 1-3.

Oil/Water Separator: Cambria collected one soil sample from beneath the former oil/water separator. Sample location is shown on Figure 1 and analytic results are summarized on Tables 1-3.

Sample Analyses: Sequoia Analytical of Walnut Creek, California analyzed selected samples for the following compounds in accordance with the *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites,* and as requested by Mr. Hwang of ACDEH:

- Total petroleum hydrocarbons as gasoline (TPPH) by modified EPA Method 8015;
- Total petroleum hydrocarbons as diesel (TEPH) by modified EPA Method 8015;
- Total oil and grease (TRPH) by SMMW 5520;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl-tert-butyl-ether (MTBE) by EPA Method 8020;
- Volatile organic compounds (VOCs) by EPA Method 8010;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270, and/or;
- Total lead/total metals by EPA Method 6010 for solids or EPA Method 239.2 for liquids.

Soil Lithology: The site is underlain by sandy silt and silty sand of moderate to high estimated permeability to the total depth explored of 20 feet. A 6-inch clayey silt interval of low to moderate estimated permeability was typically encountered at approximately 11 feet below ground surface.

Ground Water: Approximately 1 ft of ground water entered the gasoline tank excavation, which was approximately 13 ft deep, and the waste oil tank excavation, which was approximately 6 ft deep. During the ground water monitoring between 1987 and 1995, the depth to ground water at this site varied between 3 and 5 ft. Ground water samples previously collected from former wells MW-1 and MW-2 contained over 6,500 milligrams per liter (mg/L) of total dissolved solids. Ground water is not known to be used as a drinking water source.

Waste Disposal: No soil was removed from the site (see below). The USTs were transported to Erickson, Inc. of Richmond, California for disposal. The *Uniform Hazardous Waste Manifests* for the tanks are included as Attachment F.

Backfilling: During the tank removal, Mr. Hwang of ACDEH and Paul Waite of Cambria reviewed the pre-excavation soil boring data on site. Based on this data, Mr. Hwang approved the use of the excavated soil as backfill. This agreement was confirmed by Cambria via facsimile on September 5, 1997 (Attachment C). Paradiso backfilled the excavation with a combination of native soil and clean, imported fill.

ANALYTIC RESULTS

Gasoline Tank Excavation: TPPH and lead were not detected in the soil samples collected from beneath the former USTs. Benzene was detected in sample B-North at a concentration of 0.11 milligrams per kilogram (mg/kg). This is consistent with the pre-excavation samples for which the maximum benzene detected was 0.15 mg/kg in boring SB-A, located adjacent to sample B-North. An unfiltered water sample was collected from the former tank excavation. TPPH was detected in the gasoline tank pit water sample (TPW-1) at a concentration of 8,300 micrograms per liter (μg/L). No benzene was detected in this water sample.

Waste Oil Tank Excavation: Petroleum hydrocarbons, VOCs, and SVOCs were not detected in the soil sample collected from beneath the former waste oil tank. Chromium at 19 mg/kg, nickel at 14 mg/kg, and zinc at 13 mg/kg were detected in the soil sample. An unfiltered water sample was collected from the waste oil tank excavation. TPPH and benzene were not detected in the water sample from the waste oil tank pit. TEPH at 12,000 μg/L and TRPH at 150 μg/L were detected in the water sample. Trace amounts of chromium, nickel, and zinc were detected in the water sample. No cadmium nor lead was detected in either the soil or the water samples.

Dispensers: TPPH and BTEX were not detected in samples D-1, D-2, and D-3, collected from beneath the former southwest pump island. Trace amounts of TPPH and/or BTEX were detected in samples D-4, D-5, and D-6, collected from beneath the former northeast pump island, with maximum concentrations of 270 mg/kg TPPH and 1.7 mg/kg benzene detected in sample D-4.

Hoists: TPPH, TRPH, and BTEX were not detected in the soil samples taken from beneath two the former hoists.

Oil/Water Separator: Petroleum hydrocarbons, VOCs, and SVOCs were not detected in the soil sample collected from beneath the former oil/water separator. Chromium at 20 mg/kg, nickel at 16 mg/kg, and zinc at 15 mg/kg were detected in the soil sample. No cadmium nor lead were detected.

CONCLUSIONS AND RECOMMENDATIONS

Concentrations of petroleum hydrocarbons and MTBE were detected in soil and ground water samples collected beneath the site. Cambria believes that no further action is warranted at this site for the following reasons:

1. The ACDEH previously granted this site no further action status based on 5 years of ground water monitoring data that showed that hydrocarbons in ground water were of limited extent.
2. The trace concentrations detected in the soil indicate a limited mass of petroleum hydrocarbons remains beneath the site.
3. The tanks, dispensers, and piping have been removed and the station has been demolished, thus the sources of petroleum hydrocarbons have been removed.
4. Ground water contains over 3,000 mg/L of total dissolved solids and is not a drinking water source.

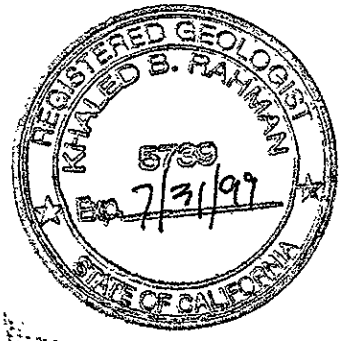
CLOSING

Due to the transition of the property to the owner, your timely confirmation of no further action status is greatly appreciated. Please call me at (510) 420-3320 if you have any questions or comments. Thank you for your assistance.

Sincerely,
Cambria Environmental Technology, Inc.

Paul Waite
Project Engineer

Khaled B. Rahman, R.G., C.H.G.
Senior Geologist



Attachments: A - Alameda County Flood Control and Water Conservation District Zone 7 Drilling Permit
B - Standard Field Procedures for Geoprobe Sampling
C - September 5, 1997 Facsimile Submittal
D - Analytic Reports for Soil Samples
E - Standard Tank Removal Sampling Procedures
F - Uniform Hazardous Waste Manifests

cc: Ms. Lisa Maglines, Shell Oil Products Company, P.O. Box 8080, Martinez, CA 94553
Mr. A.E. (Alex) Perez, Shell Oil Products Company, P.O. Box 8080, Martinez, CA 94553
Mr. Andreas Godfrey, Alameda County Public Works Agency, Water Resources Section, 951 Turner Court, Suite 300, Hayward, CA 94545-2651

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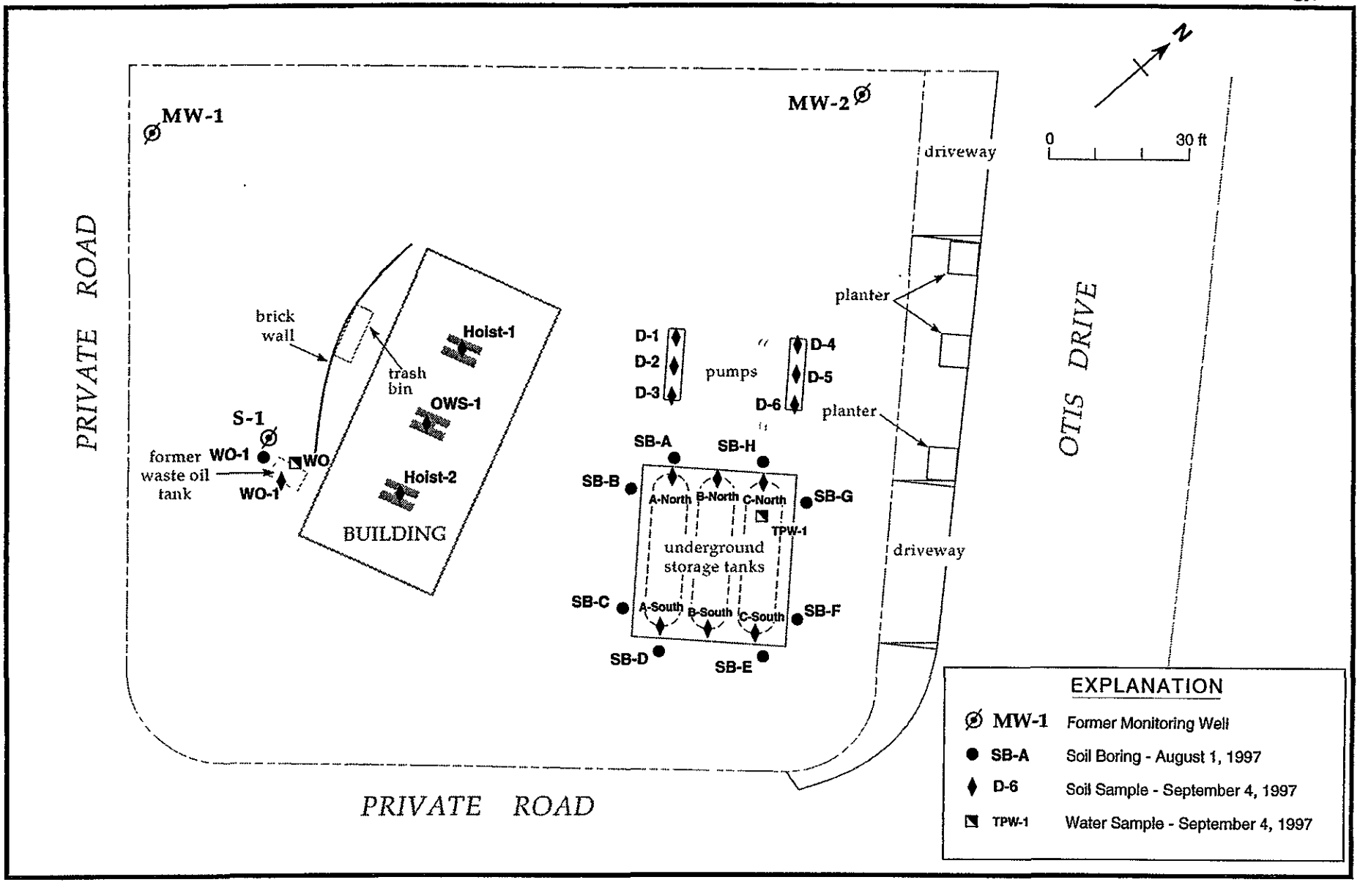

Figure 1. Monitoring Well Locations and Sample Locations - September 4, 1997 - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Table 1. Soil Analytic Data - Gasoline Components - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California

Sample ID	Sample Location	Date Sampled	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)
D-1	Dispensers	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
D-2	Dispensers	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
D-3	Dispensers	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
D-4	Dispensers	9/4/97	270	1.7	9.3	2.4	22	<1.2
D-5	Dispensers	9/4/97	5.5	0.011	<0.010	0.010	0.035	0.32
D-6	Dispensers	9/4/97	1.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
A-North	Gasoline Tank Pit	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
B-North	Gasoline Tank Pit	9/4/97	<1.0	0.11	<0.0050	0.0081	0.0089	<0.025
C-North	Gasoline Tank Pit	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.49
A-South	Gasoline Tank Pit	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
B-South	Gasoline Tank Pit	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
C-South	Gasoline Tank Pit	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.056
Hoist-1	Hoist	9/4/97	—	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
Hoist-2	Hoist	9/4/97	—	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
OWS-1	Oil/Water Separator	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
WO-1	Waste Oil Tank Pit	9/4/97	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025

mg/kg = milligrams per kilogram
TPPH = Total purgable petroleum hydrocarbons (gasoline) by modified EPA Method 8015
MTBE = Methyl tert-butyl Ether by EPA Method 8020
Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020
<n = Below detection limit of n mg/kg

Table 2. Soil Analytic Data - Other Components - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California

Sample ID	Sample Location	Date Sampled	TEPH (mg/kg)	TRPH (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)
Hoist-1	Hoist	9/4/97	<1.0	—	—	—
Hoist-2	Hoist	9/4/97	<1.0	—	—	—
OWS-1	Oil/Water Separator	9/4/97	<1.0	<50	ND	ND
WO-1	Waste Oil Tank Pit	9/4/97	<1.0	<50	ND	ND

mg/kg = milligrams per kilogram

TEPH = Total extractable petroleum hydrocarbons (diesel) by modified EPA Method 8015

TRPH = Total recoverable petroleum hydrocarbons (oil and grease) by Standard Method 5520 E&F

VOCs = Volatile Organic Compounds by EPA Method 8010

SVOCs = Semi-Volatile Organic Compounds by EPA Method 8270

ND = Not detected. Detection limits vary by compound, see laboratory report for specifics.

<n = Below detection limit of n mg/kg

--- = Not Analyzed

Table 3. Soil Analytic Data - Total Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California

Sample ID	Sample Location	Date Sampled	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
D-1	Dispensers	9/4/97	—	—	<5.0	—	—
D-2	Dispensers	9/4/97	—	—	<5.0	—	—
D-3	Dispensers	9/4/97	—	—	<5.0	—	—
D-4	Dispensers	9/4/97	—	—	<5.0	—	—
D-5	Dispensers	9/4/97	—	—	<5.0	—	—
D-6	Dispensers	9/4/97	—	—	<5.0	—	—
A-North	Gasoline Tank Pit	9/4/97	—	—	<5.0	—	—
B-North	Gasoline Tank Pit	9/4/97	—	—	<5.0	—	—
C-North	Gasoline Tank Pit	9/4/97	—	—	<5.0	—	—
A-South	Gasoline Tank Pit	9/4/97	—	—	<5.0	—	—
B-South	Gasoline Tank Pit	9/4/97	—	—	<5.0	—	—
C-South	Gasoline Tank Pit	9/4/97	—	—	<5.0	—	—
OWS-1	Oil/Water Separator	9/4/97	<0.50	20	<5.0	16	15
WO-1	Waste Oil Tank Pit	9/4/97	<0.50	19	<5.0	14	13

mg/kg = milligrams per kilogram
ND = Not detected. Detection limits vary by compound, see laboratory report for specifics.
<n = Below detection limit of n mg/kg
— = Not Analyzed

Table 4. Ground Water Analytic Data - Gasoline Components - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California

Sample ID	Sample Location	Date Sampled	TPPH (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
TPW-1	Gasoline Tank Pit	9/4/97	8,300	<20	45	<20	1,300	8,300
WO	Waste Oil Tank Pit	9/4/97	<50	<0.50	<0.50	<0.50	0.81	8.5

µg/L = Micrograms per liter

TPPH = Total purgable petroleum hydrocarbons (gasoline) by modified EPA Method 8015

MTBE = Methyl tert-butyl ether by EPA Method 8020

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

<n = Below detection limit of n µg/L

ND = Not detected. Detection limits vary by compound, see laboratory report for specifics.

Table 5. Ground Water Analytic Data - Other Components - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California

Sample ID	Sample Location	Date Sampled	TEPH (µg/L)	TRPH (µg/L)	VOCs (µg/L)	SVOCs (µg/L)
WO	Waste Oil Tank Pit	9/4/97	12,000	150	a	ND

TEPH = Total extractable petroleum hydrocarbons (diesel) by modified EPA Method 8015

TRPH = Total recoverable petroleum hydrocarbons (oil and grease) by Standard Method 5520 E&F

VOCs = Volatile Organic Compounds by EPA Method 8010

SVOCs = Semi-Volatile Organic Compounds by EPA Method 8270

µg/L = Micrograms per liter

<n = Below detection limit of n µg/L

ND = Not detected. Detection limits vary by compound, see laboratory report for specifics.

a = 3.7 µg/L chloroform and 77 µg/L methylene chloride detected

Table 6. Ground Water Analytic Data - Total Metals - Shell Service Station WIC# 204-0072-0502, 2160 Otis Street, Alameda, California

Sample ID	Sample Location	Date Sampled	Cadmium (µg/L)	Chromium (µg/L)	Lead (µg/L)	Nickel (µg/L)	Zinc (µg/L)
TPW-1	Gasoline Tank Pit	9/4/97	—	—	0.018	—	—
WO	Waste Oil Tank Pit	9/4/97	<0.010	0.042	<0.10	0.068	0.15

µg/L = Micrograms per liter
<n = Below detection limit of n µg/L
— = Not Analyzed

ATTACHMENT A

Alameda County Flood Control and Water Conservation District Zone 7
Drilling Permit

To: Andrew Godfrey, Alameda County DPW Fax to: 670-5262

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT 2160 Otis St
Alameda, CA

(2) CLIENT
Name Shell Oil Products Company
Address P.O. Box 4023 Phone 675-6168
City Concord CA Zip 94524

(3) APPLICANT
Name Cambria Environmental Technology Inc. Attn: Paul Waite
Address 1144-65th St. #C Phone 510-420-3305
City Oakland CA Zip 94608

(4) DESCRIPTION OF PROJECT
Water Well Construction ___ Geotechnical Investigation ___
Cathodic Protection ___ General ___
Well Destruction ___ Contamination X

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring ___ Other ___

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Geoprobe

DRILLER'S LICENSE NO. C57-485-165

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

GEOTECHNICAL PROJECTS
Number of Borings 12 Maximum
Hole Diameter 2 in. Depth 25 ft.

(7) ESTIMATED STARTING DATE 8/1/97
ESTIMATED COMPLETION DATE 8/7/97

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

APPLICANT'S SIGNATURE [signature] Date 7/25/97

FOR OFFICE USE

PERMIT NUMBER 97WR043
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

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

B. WATER WELLS, INCLUDING PIEZOMETERS
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, irrigation, and monitoring wells unless a lesser depth is specially approved.

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

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

E. WELL DESTRUCTION. See attached.

Approved [signature] Date 7/25/97

21989

ATTACHMENT B

Standard Field Procedures for Geoprobe Sampling

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.

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.

ATTACHMENT C

September 5, 1997 Facsimile Submittal