R0#303

CAMBRIA

April 26, 2005

Keith L. Matthews
Oakland Fire Department
Office of Emergency Services
1605 Martin Luther King Jr. Way
Oakland, California 94612

Re: **Over-Excavation Work Plan**
Shell-branded Service Station
230 W. MacArthur
Oakland, California
Incident #135676
Cambria Project #207-0902-001

Dear Mr. Matthews:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Over-Excavation Work Plan* pursuant to your request during our April 20, 2005 telephone conversation.

SITE LOCATION AND BACKGROUND

Site Location: This operating Shell-branded service station is located at the northwest corner of West MacArthur Boulevard and Piedmont Avenue in Oakland, California. Three underground storage tanks (USTs), two dispenser islands, and a kiosk are currently on site. The site is surrounded by commercial properties. A former Gulf service station, later a Vogue Tyres store and currently the Oakland Autoworks auto repair shop, is located northwest and adjacent to the site.

This site is an open leaking underground fuel tank case under the oversight of Alameda County Health Care Services Agency (ACHCSA). Prior site investigations have been conducted from 1986 until 2004, and have been previously reported to ACHCSA.

1998 Dispenser/Turbine Sump Upgrades: In February 1998, Paradiso Mechanical of San Leandro, California upgraded fuel-related equipment at the service station. Secondary containment was added to the existing dispensers and to the turbine sumps above the USTs. Cambria inspected the dispenser and tank pit areas. Based on Cambria's February 3, 1998 telephone conversation with Leroy Griffin of the Oakland Fire Department, sampling was not

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required beneath the dispensers during 1998 upgrade projects unless there was evidence of hydrocarbon impact to the soil. No field indications of hydrocarbon impact to the soil, such as staining or odor, were observed beneath the dispensers during the site visit. Therefore, no sampling was required at that time.

Groundwater Monitoring: Blaine Tech Services, Inc. of San Jose, California has performed quarterly groundwater monitoring at the site since July 1988. Depth to water has ranged historically between 11.03 and 19.59 feet below grade (fbg). The groundwater flow direction, as calculated from depth to water measurements in on-site monitoring wells, is variable from west to southwest.

During the fourth quarter of 2003, coordinated groundwater monitoring and sampling began with the adjacent former gas station (currently Oakland Auto Works) at 240 West MacArthur Boulevard.

PROPOSED OVER-EXCAVATION ACTIVITIES

During fuel system upgrade activities, soil was sampled on April 18, 2005 under your oversight. Laboratory analysis of the samples found petroleum hydrocarbons in soil at maximum concentrations of 2,700 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHg), 4.2 ppm benzene, 6.6 ppm toluene, 39 ppm ethylbenzene, 78 ppm total xylenes, 0.30 ppm tert-butyl alcohol, 0.18 ppm methyl tertiary-butyl ether (MTBE), and 140 ppm lead (Table 1).

As discussed in our April 20, 2005 telephone conversation, Shell plans a limited excavation of the impacted soil to the extent feasible based on field indicators of soil impact and Cambia's judgment. For safety reasons, no over-excavation activities will be conducted within 6 feet of the canopy footing, kiosk or the sidewalk to avoid undermining the structural integrity. As directed by Mr. Matthews, Shell's contractor, CE Thomas, will remove the impacted soil to a maximum total depth of 6 fbg, working under the direction of Cambria and with the oversight of the Oakland Fire Department.

Over-Excavation Sampling: After excavation, Cambria will collect soil samples from the excavation sidewalls and/or bottom and will submit the samples for analysis to a State-certified analytic laboratory. Excavated soils will be stockpiled and profiled for appropriate off-site disposal. The soil samples will be collected in brass tubes from the backhoe bucket following the removal of approximately 3 inches of soil scraped from the soil surface in the bucket. The samples will be trimmed flush, capped with Teflon® tape and plastic end caps, labeled, logged, and refrigerated for delivery under chain of custody to the laboratory.

CLOSING

Cambria appreciates your assistance with this project. Please call Martin Wills at (510) 420-3342 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Martin Wills
Project Geologist

Matthew W. Derby, P.E.
Senior Project Engineer

REGISTERED PROFESSIONAL ENGINEER
MATTHEW W. DERBY
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Table: 1 - Soil Analytical Data - Total Petroleum Hydrocarbons, BTEX, MTBE, and Lead

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Table 1. **Soil Analytical Data - Total Petroleum Hydrocarbons, BTEX, MTBE, and Lead** - Shell-branded Service Station, 230 West MacArthur, Oakland, CA, SAP# 135676

Sample	Depth (fbg)	Date Sampled	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TBA	MTBE	DIPE	ETBE	TAME	Lead
			← parts per million →										
D-1-4.0	4.0	4/18/2005	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	6.2
D-2-1.5	1.5	4/18/2005	**1,700**	<0.40	**2.4**	**3.8**	**5.4**	<2.0	<0.40	<0.40	<0.40	<0.40	130
D-2-3.5	3.5	4/18/2005	**940**	**0.060**	**6.6**	**9.5**	**85**	<0.15	<0.025	<0.025	<0.025	<0.025	8.0
D-3-3.0	3.0	4/18/2005	**2.5**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	6.5
D-4-4.0	4.0	4/18/2005	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**0.0050**	<0.0050	<0.0050	<0.0050	8.1
P-1-2.0	2.0	4/18/2005	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	4.2
P-2-4.5	4.5	4/18/2005	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	9.7
P-3-3.5	3.5	4/18/2005	**620**	<0.025	**0.20**	**1.6**	**6.1**	**0.18**	**0.066**	<0.025	<0.025	<0.025	22
P-4-4.0	4.0	4/18/2005	**2,700**	**4.2**	**1.6**	**39**	**78**	<1.5	**0.30**	<0.25	<0.25	<0.25	140
P-5-4.0	4.0	4/18/2005	**1,600**	**0.98**	**0.28**	**7.4**	**13**	<1.5	<0.25	<0.25	<0.25	<0.25	11

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by modified EPA Method 8260B.

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B and 8260B C6-12. Highest concentration reported.

TBA = Tert-butyl alcohol analyzed by EPA Method 8260B.

MTBE = Methyl tertiary-butyl ether, analyzed by EPA Methods 8260B and 8260B C6-C12. Highest concentration reported.

DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B.

ETBE = Ethyl tert butyl ether, analyzed by modified EPA Method 8260B.

TAME = Tert-amyl methyl ether, analyzed by EPA Method 8260B.

fbg = feet below grade.

<n = Below laboratory detection limit of n ppm.