

CAMBRIA



Fax

To:	Ms. Juliet Shin
Company:	ACHCSA
Fax:	(510) 337-9335
Phone:	(510) 567-6700
From:	Darryk Ataide
Phone:	(510) 420-3339
Pages:	8
Date:	April 14, 1999
Re:	1285 Bancroft Ave. San Leandro

Ms. Shin,

Following is Cambria's WORK PLAN ADDENDUM for the referenced site. A hard copy of this report will follow in the mail. Please call me if you have any questions or concerns.

Thank You,

Darryk Ataide

cc: Karen Petryna, Equiva Services LLC

# C A M B R I A

ENVIRONMENTAL  
PROTECTION  
April 14, 1999  
99 APR 16 PM 1:24

Juliet Shin  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: **Work Plan Addendum**  
Shell-branded Service Station  
1285 Bancroft Avenue  
San Leandro, California  
Incident # 98996067  
Cambria Project #24-314-498



Dear Ms. Shin:

Cambria Environmental Technology (Cambria), on behalf of Equiva Services LLC (Equiva), has prepared this work plan addendum in response to the Alameda County Health Care Services Agency (ACHCSA) letter to Equiva dated March 2, 1999. The ACHCSA letter provided comments to Cambria's *Letter Response and Work Plan* dated February 24, 1999. Following is our scope of work amended with respect to the specific issues raised in the March 2, 1999 letter.

**1) The ground water plume must be delineated in the southerly direction:** We concur that further plume definition south of the site is warranted since ground water has flowed both westerly and southerly in at least four previous ground water monitoring events. Therefore, Cambria proposes installing an additional monitoring well (MW-8) at the location shown on Figure 1. MW-8 will be installed to approximately 50 feet below ground surface (ft bgs). The well casing will be screened from approximately 25-50 ft bgs. Cambria will determine the exact screen intervals and well depth based on field observations, however the screen interval will be limited to a maximum of 25 feet. Selected soil and ground water samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015, benzene, toluene, ethyl benzene, xylene (BTEX), and methyl tert-butyl ether (MTBE) by EPA Method 8020. The highest MTBE detected will be confirmed by EPA Method 8260.

**2) An additional well point within or immediately upgradient of the residential area is required for risk assessment purposes:** To assess the potential risk to occupants of the residential area adjacent to the site and further define contaminant distribution down gradient, Cambria will relocate MW-6 to the proposed location shown on Figure 1. This revised location places MW-6 between the contaminant source and the residential area and in close proximity to the nearest residential building.

Oakland, CA  
Sonoma, CA  
Portland, OR  
Seattle, WA

**Cambria  
Environmental  
Technology, Inc.**

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Suite B  
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In addition to relocating proposed well MW-6, Cambria will also relocate proposed well MW-5 to the location designated as MW-7 shown on Figure 1. The proposed location for MW-7 will provide data closer to the contaminant source and the residential area and serve to further define contaminant distribution within the predominant ground water flow direction.

For the proposed monitoring well borings, soil samples will be collected at a five foot minimum intervals, at lithologic changes, and at the ground water interface. Selected soil samples will be analyzed for TPHg by EPA Method 8015, BTEX and MTBE by EPA Method 8020. The highest MTBE detected will be confirmed by EPA Method 8260. In addition, selected soil samples will be analyzed for soil physical properties. Physical analysis will include permeability, porosity, density and organic carbon content. Well depths, screen intervals, and well development and ground water sampling procedures are defined in the following sections.

Additionally, Figure 1 includes previously proposed well locations now designated as MW-9 and MW-10. Proposed well locations for MW-9 and MW-10 are presented should site monitoring of newly installed wells MW-5, MW-6, and MW-7 indicate further lateral delineation is warranted. This work plan addendum serves as a work plan for future down gradient delineation if required by the ACHCSA.

**3) *The proposed screen intervals of 20-60 ft bgs for monitoring wells is thought to be too long and may be conducive to dilution of sample concentrations during times of shallower ground water tables:*** Cambria concurs with the recommendation to limit the screen intervals and will screen the proposed wells from approximately 25-50 ft bgs. This screen interval should be adequate since the historical minimum and maximum ground water depths are 26.15 ft bgs and 44.85 ft bgs respectively. Cambria will determine the exact screen intervals and well depths based on field observations, however the screen interval will be limited to a maximum of 25 feet.

**4) *A minimum of two additional monitoring wells with acceptable screened intervals must be installed to accurately monitor contaminant concentrations on site:*** Cambria proposes installing one additional source area well (MW-5) at the location shown on Figure 1 for the purpose of obtaining representative source area ground water concentrations. As mentioned in Cambria's February 24, 1999, *Letter Response and Work Plan*, wells MW-1 through MW-4 may yield ground water data which is not entirely representative of on site conditions due to well screens being periodically submerged. However, MW-1 through MW-4 are source area wells and not wells which serve to define the extent of down gradient impact to ground water. Proposed off site monitoring wells MW-6, MW-7 and MW-8 will be critical in defining the distribution of petroleum hydrocarbons and MTBE in ground water and in evaluating the health risk to the nearby residents.

We agree that obtaining representative ground water concentration data on site is important for assessing the progress of plume degradation and stability. Properly screened source area well MW-5 will provide the worst case scenario for evaluating risk to on site receptors. Proposed wells MW-6 and MW-7 will provide data necessary for a representative risk evaluation of off-site residential areas. We feel based on the addition of properly screened wells MW-5, MW-6 and MW-7 and MW-8, we will be able evaluate plume degradation and plume stability in the future.

**5) Equiva Services is required to provide additional information to prove that the VOC contamination observed on site is coming from an off-site source:** At this time, Equiva will not pursue identification of off-site VOC contamination. Rather, when pursuing future case closure, Equiva will pursue evidence that VOC's in ground water beneath the site are from an off-site source. However, Equiva does not believe it is obligated to fund ongoing VOC monitoring beneath the subject site since the available soil data suggest that the service station is not a source for VOC contamination. Included in Attachment A is a table summarizing soil analytical data from Weiss Associates *Subsurface Investigation* report dated April 27, 1992.

To Cambria's knowledge, the highest concentration of PCE in unsaturated zone soil samples was 0.002 milligrams per kilogram (mg/kg) from boring BH-A (MW-1) in 1990 at 9.2 ft bgs. This concentration of PCE was equal to the detection limit of 0.002 mg/kg. For the same soil sampling event, PCE was not detected in soil samples from BH-A at depths of 19.7, 29.7 and 39.7 ft bgs, however low levels of PCE were detected in the capillary fringe soil samples from BH-A. The historical concentrations of PCE in ground water samples from MW-1 (BH-A) are greater than concentrations detected in the capillary fringe soil samples from the same borehole indicating the source of PCE in soil beneath the site is more likely a result of PCE in ground water in the vicinity.

**6) Per Regional Water Quality Control Board (RWQCB) guidelines, the first round of ground water sampling performed at the site shall be with both non-purged and purged samples:** Cambria will follow the guidelines of the RWQCB and collect non-purged and purged ground water samples during the initial sampling event for MW-5, MW-6, MW-7 and MW-8. We assume the rationale behind this requirement is so Cambria may pursue implementing non-purge protocol on selected wells in the future.

**7) The newly installed wells shall be developed after a minimum of 72 hours after installation and ground water sampling of the wells shall take place after a minimum of 48 hours after the well development:** Cambria will follow this protocol when developing and sampling proposed wells MW-5, MW-6, MW-7 and MW-8.


8) *Copy Mike Bakaldin with the City of San Leandro on all future correspondences:* Cambria will copy Mr. Bakaldin on all future correspondences and documents related to this site.


**CLOSING**

We appreciate your continued assistance with this project. Please call Darryk Ataide at (510) 420-3339 if you have any questions or comments.



Sincerely,  
**Cambria Environmental Technology, Inc.**

  
Darryk Ataide, REA I  
Project Manager

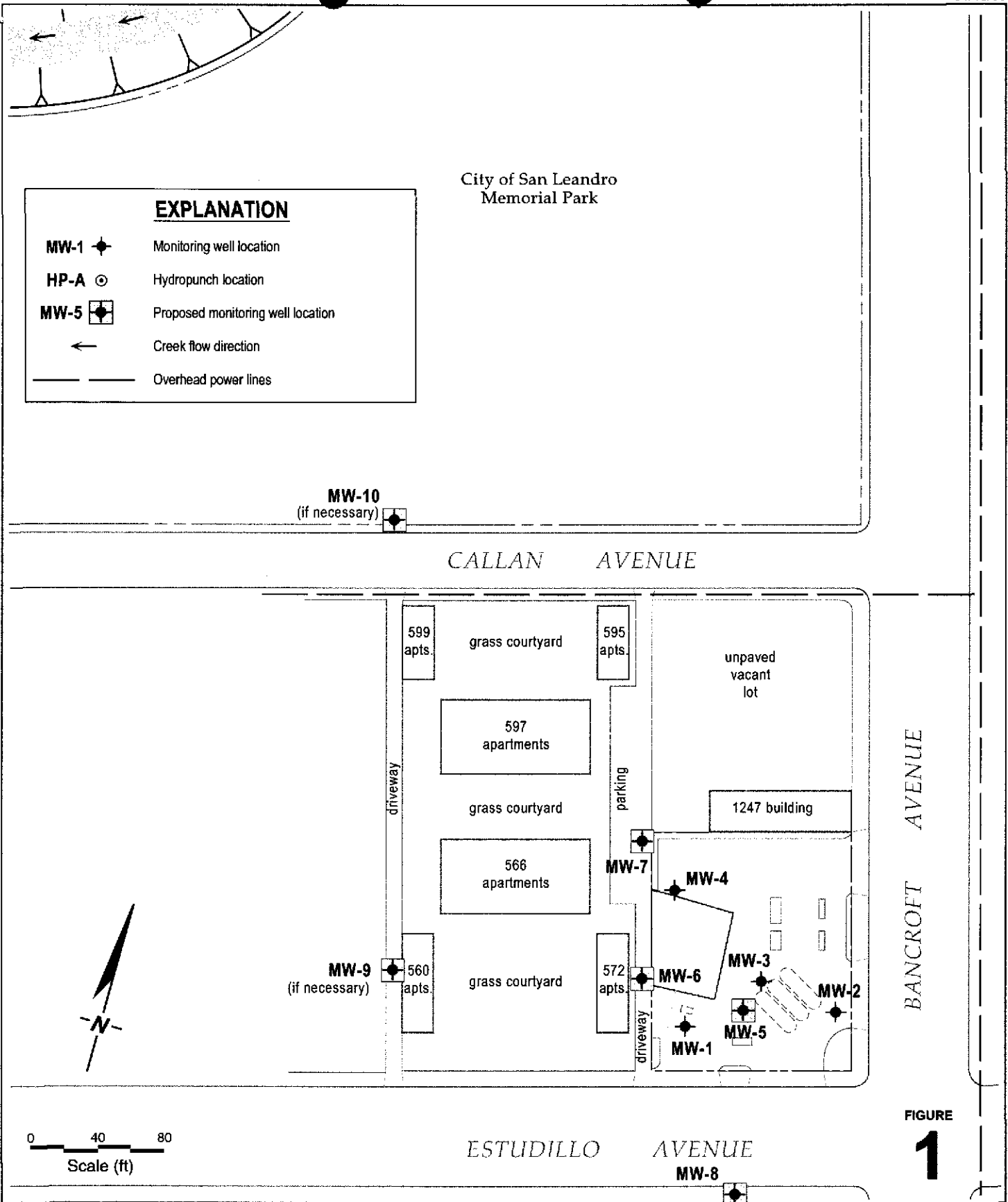
  
Diane M. Lundquist, P.E.  
Principal Engineer



Attachments: A - Analytical Results for Soil

cc: Karen Petryna, Equiva Services LLC, P.O. Box 6249 Carson, California 90749  
Mike Bakaldin, City of San Leandro, 835 East 14<sup>th</sup> St. San Leandro, California 94577

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**Shell-branded Service Station**  
 1285 Bancroft Avenue  
 San Leandro, California  
 Incident # 98996067



**Proposed Monitoring Well Locations**

**Attachment A**  
Analytical Results for Soil

Table 2. Analytic Results for Soil - Shell Service Station WIC #204-6852-0703, 1285 Bancroft Avenue, San Leandro, California

Boring ID (Well ID)	Sample Depth (ft)	Date Sampled	Ground Water Depth (ft)	TPH-G	TPH-D	POG <sup>a</sup>	B	E	T	X	PCE	HVOCs	-----parts per million (mg/kg)-----													
BH-A (MW-1)	9.2	03/06/90	43.0	<1	---	<100	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0020	b													
	19.7			<1	---	<100	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0020	b												
	29.7			<1	---	<100	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0020	b												
	39.7			<1	1.6 <sup>c</sup>	<100	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0057	<0.0020	b												
	51.2			<1	---	<100	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0045	b												
	61.2			<1	---	<100	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0043	b												
BH-B (MW-2)	27.5	02/06/92	44.8	1,500	1,000 <sup>d</sup>	---	<0.25	0.82	<0.25	6.9	<0.002	b														
	31.5			12	---	<0.0025	0.0090	<0.0025	0.058	---	---	---	---													
	36.5			71	---	<0.025	0.056	<0.025	0.21	<0.002	b															
	41.5			3,500	---	<1.25	19	<1.25	46	---	---	---	---													
	44.5			8,800	4,500 <sup>d</sup>	---	<2.5	72	<2.5	170	<0.002	b														
	48.5			19	---	<0.025	<0.025	<0.025	0.092	---	---	---	---													
BH-C (MW-3)	31.5	02/07/92	44.9	<1	---	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---														
	36.5			<1	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.002	b														
	41.5			64	---	<0.025	<0.025	<0.025	0.25	---	---	---														
	44.5			45	29 <sup>d</sup>	---	<0.025	<0.025	<0.025	0.25	<0.002	b														
	48.5			15	---	---	<0.0025	<0.0025	<0.0025	0.60	---	---	---													

**Abbreviations:**

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015  
 TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015  
 POG = Petroleum oil and grease by American Public Health Association (APHA) Standard Method 503E  
 B = Benzene by EPA Method 8020  
 E = Ethylbenzene by EPA Method 8020  
 T = Toluene by EPA Method 8020  
 X = Xylenes by EPA Method 8020  
 PCE = Tetrachloroethene by EPA Method 8010  
 HVOCs = Halogenated volatile organic compounds by EPA Method 8010  
 --- = Not analyzed  
 <n = Not detected above method detection limit of n ppm

**Analytical Laboratory:**

National Environmental Testing (NET) Pacific, Inc., Santa Rosa, California

**Notes:**

a = No total oil and grease detected above APHA Standard Method 503D detection limit of 50 ppm in any soil sample from boring BH-A  
 b = No HVOCs detected  
 c = No total petroleum hydrocarbons as motor oil detected at modified EPA Method 8015 detection limit of 10 ppm  
 d = NET reported that the detected compound is a hydrocarbon lighter than diesel

