

CAMBRIA

3646

ENVIRONMENTAL PROTECTION

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June 19, 2000

Mr. Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

gradient cont

Dist spring in 3/00.

Re: **Investigation Work Plan Addendum**
Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752
SAP #135694
Cambria Project #242-0414

MTBE

MW 3 56,800

1 27,600



Dear Mr. Chan:

- Monthly - mobile treatment

In response to the Alameda County Health Care Services Agency's (ACHCSA) May 15, 2000 correspondence, Cambria Environmental Technology, Inc. (Cambria) is submitting this *Investigation Work Plan Addendum* on behalf of Equiva Services LLC (Equiva). This work plan is an addendum to the scope of work presented in our May 8, 2000, *Subsurface Investigation Work Plan*. Following is a response to specific items addressed in ACHCSA's May 15, 2000 letter.

RESPONSE TO ACHCSA MAY 15, 2000 LETTER

Item #1: Because of the obvious MTBE release from the western dispenser, our office requests at least two additional borings be advanced on the western perimeter of the site. A soil and groundwater investigation was conducted in March of 1998 that included two borings on the western perimeter of the site. Soil boring SB-5, shown on Figure 1, was advanced immediately west of the western dispenser islands. Soil boring SB-2 was advanced west of the existing underground storage tanks (UST's). Analytical results for soil samples are included in Table 1. Analytical results for grab groundwater samples are included in Table 2. Subsequent to the March 1998 investigation, MW-3 was installed in July of 1998 to monitor groundwater concentrations on the western perimeter of the site (Cambria's Well Installation Report dated November 9, 1998). Given that borings have already been drilled in the areas where you suggested and that appropriate soil and groundwater samples were collected from the borings, we believe that additional borings in this area are not warranted.

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

C A M B R I A

Item #2, Install slotted casing in the borings and determine the water elevation in the borings after equilibration to estimate the gradient. Proposed boring locations SB-E, SB-F, and SB-G were selected based on previous groundwater contours for the subject site. Previous groundwater gradients suggest a north to northeast gradient as demonstrated by the rose diagram presented on Figure 1. Given the relatively crude nature of measuring groundwater elevations from temporary well points, the fact that there are three properly constructed monitoring wells already onsite, and the fact that groundwater gradient trends have been calculated from the wells for over a year, we again believe that advancing borings for gradient determination is not warranted.



We believe the intent of your requests is to confirm the prevailing direction of groundwater flow so the planned monitoring well can be placed in the most appropriate location. With this goal in mind, Cambria will supplement the existing groundwater flow data by evaluating grab groundwater sample data from borings SB-E, SB-F, and SB-G prior to selecting a location for the planned monitoring well. Higher hydrocarbon and oxygenate concentrations are expected in the direction of the prevailing groundwater flow direction. This method, along with existing gradient trend data, will ensure proper placement of the new well.

Item #3, ACHCSA office concurs with the interim remediation being done at this and recommends continued extraction of groundwater from the four tank backfill wells and MW-1 and MW-3. Cambria will continue to coordinate interim remediation efforts using periodic high vacuum extraction events. We will present data collected during the extraction events in forthcoming quarterly monitoring reports.

Mr. Barney Chan
June 19, 2000

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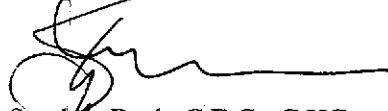
CLOSING

Please call Darryk Ataide at (510) 420-3339 if you have any questions or comments. Thank you for your assistance.

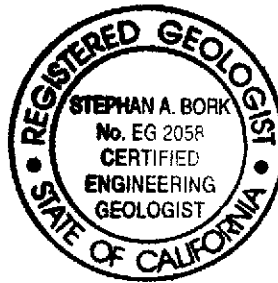
Sincerely,
Cambria Environmental Technology, Inc.



Darryk Ataide, REA I
Project Manager



Stephan Bork, C.E.G., C.HG.
Associate Hydrogeologist



Figures: 1 - Underground Utility

Tables: 1 - Soil Analytical Data (March 1998)
2 - Groundwater Analytical Data (March 1998)

cc: Karen Petryna, Equiva Services LLC, P.O. 7869, Burbank, CA 91510-7869

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Table 1. Soil Analytical Data - Shell Service Station, WIC# 204-5508-5900, 540 Hegenberger Road, Oakland, California

Sample ID	Depth (feet)	Date Sampled	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
			←----- mg/kg -----→					
SB-1	8.0	3/6/98	2.4	0.094	0.12	<0.0050	<0.0050	0.40
SB-2	7.5	3/6/98	160	1.5	12	2.8	17	55
SB-3	5.0	3/6/98	37	0.058	0.24	0.90	5.0	5.8
SB-4	7.5	3/6/98	<1.0	0.0057	0.029	<0.0050	0.014	0.34
SB-5	6.0	3/6/98	3,400	39	200	52	300	170

Notes and Abbreviations:

mg/kg = Milligrams per kilogram

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

MTBE = Methyl tert-butyl ether by EPA Method 8020

<n = Below detection limit of n mg/kg

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

A composite soil sample of SB-1-24.0, SB-2-6.5, SB-2-7.5, and SB-2-8.0 contained 5.4 mg/kg lead by EPA Method 6010.

Table 2. Ground Water Analytical Data - Shell Service Station, WIC# 204-5508-5900, 540 Hegenberger Road, Oakland, California

Sample ID	Date Sampled	TPHg	TPHd	Benzene	Toluene µg/L	Ethylbenzene	Xylenes	MTBE	TDS mg/L
SB-1	3/6/98	<50	<50	<0.50	<0.50	<0.50	<0.50	<2.5	420
SB-2	3/6/98	3,400	---	190	880	81	460	9,400	---
SB-3	3/6/98	410	---	14	48	10	61	210	---
SB-4	3/6/98	<50	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---
SB-5	3/6/98	200,000	---	11,000	36,000	3,200	19,000	1,300,000	---

Notes and Abbreviations:

µg/L = Micrograms per liter

mg/L = Milligrams per liter

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

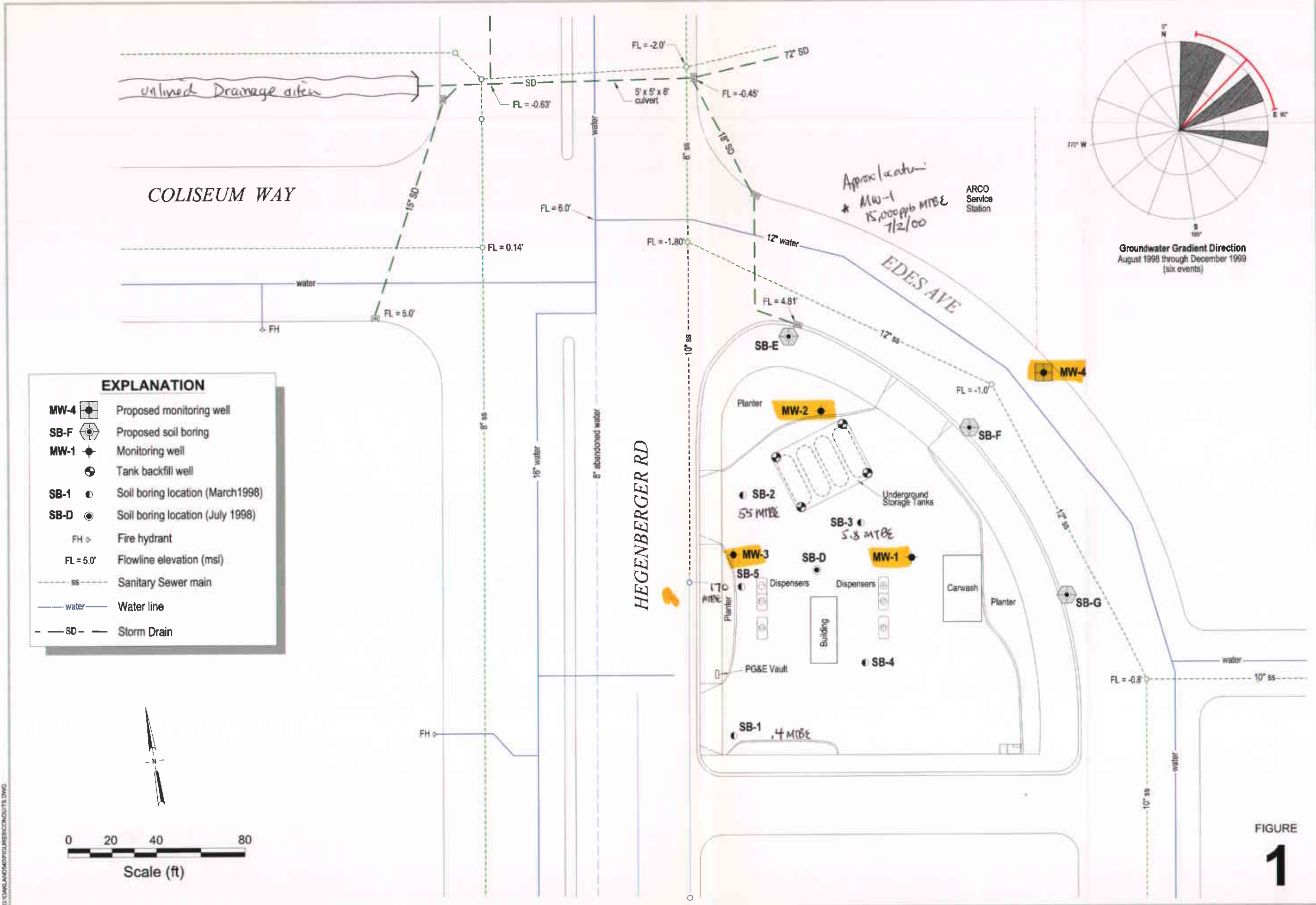
MTBE = Methyl tert-butyl ether by EPA Method 8020.

TDS = Total dissolved solids by EPA Method 160.2

<n = Below detection limit of n µg/L

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

--- = Not analyzed



Underground Utility Map



C A M B R I A

Shell-branded Service Station

540 Hegenerger Road
Oakland, California
Incident #98995752

FIGURE
1