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May 8, 2000

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

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

Dear Mr. Chan:

In response to the Alameda County Health Care Services Agency's (ACHCSA) November 19, 1999 and April 6, 2000 correspondences, Cambria Environmental Technology, Inc. (Cambria) is submitting this *Subsurface Investigation Work Plan* on behalf of Equilon Enterprises LLC (Equiva). This work plan includes our proposal to increase the scope of work presented in our February 25, 1999 *Subsurface Investigation Work Plan* by adding three soil borings in addition to one initially proposed monitoring well. The site background, summary of previous investigations, and results of sensitive receptor survey and preferential migration pathways are also included herein.

BACKGROUND

Site Description: The site is located at the intersection of Hegenberger Road and Edes Avenue in a commercially zoned area in Oakland, California. Highway 880 runs near the southern boundary of the site. The site is an active Shell-branded service station with three gasoline underground storage tanks (USTs) and one diesel UST.

August 1996 Piping Repair: On August 8, 1996, Cambria collected one soil sample beneath the piping at Dispenser 1, which was being repaired (Figure 1). In this sample, total petroleum hydrocarbons as gasoline (TPHg) were detected at 3,400 milligrams per kilogram (mg/kg), benzene at 17 mg/kg, and methyl tert-butyl ether (MTBE) at 720 mg/kg.

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1998 Station Upgrade: In January and February 1998, Paradiso Mechanical of San Leandro, California added secondary containment beneath the existing dispensers and submersible turbine pumps. Cambria collected soil samples. The highest TPHg and benzene concentrations were detected in soil samples collected from beneath the western dispenser island, at 340 mg/kg and 3.7 mg/kg, respectively. During the line tightness test on February 6, 1998, a leak in the piping between the USTs and the western dispenser island was discovered and repaired on the same day. No separate-phase hydrocarbons were observed during Cambria's February 7, 1998 site visit. Based on Cambria's February 6, 1998 telephone conversation with Barney Chan of the ACHCSA, additional sampling in the area of the repaired piping was not required due to the planned soil and groundwater investigation at the site.

1998 Soil Borings: On March 6, 1998, Cambria drilled five soil borings onsite. Boring depths ranged from 12 to 20 feet below ground surface (bgs). The highest hydrocarbon concentrations were detected in the area of the western dispenser island at 3,400 mg/kg TPHg, 39 mg/kg benzene, and 170 mg/kg MTBE in soil at six feet bgs.

1998 Groundwater Monitoring Wells: On July 14 and 15, 1998, Cambria installed three groundwater monitoring wells at the site (Figure 1). MW-1 was installed to 25 feet bgs, and MW-2 and MW-3 were installed to 20 feet bgs. Groundwater has been monitored since 1998. The highest concentrations of TPHg, benzene, and MTBE were detected in MW-3 at concentrations of 58,000 micrograms per liter (ug/l), 6,600 ug/l, and 653,000 ug/l, respectively. (near western dispensers)

Groundwater Depth and Flow Direction: Depth to groundwater onsite ranges from approximately 6 to 12 feet bgs. Groundwater flow direction has ranged from the north-northeast to east.

Lithology: Material beneath the site consists primarily of silty clay and clayey silt of very low estimated permeability, interbedded with sandy silty clay, silty sand, and silty gravelly sand of low to moderate estimated permeability to 25 feet bgs, the maximum depth explored. Glass and cinder debris found in previous borings indicates that approximately the first 6 feet of soil beneath the site consists primarily of fill material.

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PURPOSE AND SCOPE

In their November 19, 1999 letter to Equiva, the ACHCSA requested further development of a site conceptual model (SCM) for the site. While portions of a SCM exist for this site, the following specific elements of the SCM were requested:

- Evaluate the source(s) of the MTBE release and attempt to provide an iso-concentration profile in soil and groundwater;
- Evaluate whether the source of MTBE is from past or present releases;
- Explain the apparent release of MTBE and relative absence of TPHg and BTEX;
- Report on evaluation of preferential pathways beneath the site and site vicinity;
- Advance additional borings to evaluate the lateral and vertical extent of MTBE;
- Install the previously proposed downgradient well;
- Evaluate remedial options.

To date, three wells and five soil boring have been advanced at the site. We propose to advance three additional soil borings and install one groundwater monitoring well offsite to address the first three bulleted items above. Cambria has completed a sensitive receptor survey and an evaluation of preferential pathways, which are discussed below.

Sensitive Receptors

In October 1999, Cambria performed a sensitive receptor survey within a ½-mile radius of the site. Department of Water Resources records were reviewed to identify water wells. Topographic maps were reviewed to identify surface bodies of water. The wells identified in the survey are summarized in Table 1. Locations of wells are shown in Figure 2. No receptors were identified as domestic water wells within a ½-mile radius of the site.

Barney Chan with the ACHSCA, indicated to Cambria that there are two production well fields near the Oakland Coliseum known as the Fitchburg Well Field and the Damon Group Well Field. Current operations of these well fields are not known. However, both well fields are located upgradient of the subject site and are not within a ½ mile radius of the site, and are therefore not considered a sensitive receptor to contaminants originating from the Shell-branded service station.

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Preferential Migration Pathways

Cambria performed a site reconnaissance and reviewed City of Oakland engineering maps to identify utility conduits downgradient of the site. Storm drain, sanitary sewer and water main locations are shown on Figure 1.

A 12-inch diameter sewer main is located on Edes Avenue, downgradient of the site. The sewer main is buried approximately one foot below mean sea level (msl), or approximately 10 feet bgs. The sewer conduit is graded to flow to the ~~south~~ NORTH.

An 18-inch diameter storm drain conduit was also identified beneath Edes Avenue. This storm drain is graded to flow to the north across Edes Avenue and then to the ~~south~~ WEST across Hegenberger Road. The storm drain ends at an unlined drainage ditch that parallels South Coliseum Way (Figure 1).

Depth to groundwater at the site has ranged from approximately 5 to 12 feet bgs. Thus the groundwater table may have infiltrated the sewer and storm drain trenches and flowed preferentially within porous backfill.

An eight-inch water main also runs beneath Edes Avenus in the site vicinity. Water mains however, are typically buried at shallow depths (less than five feet bgs), and are not likely to serve as potential conduits at the site.

PROPOSED SCOPE OF WORK

Subsurface investigation: Cambria proposes to advance four offsite soil borings and convert one to a groundwater monitoring well (Figure 1). Results of the investigation will aid in defining the lateral and vertical extent of MTBE in soil and groundwater and in evaluating the need for further site characterization. ACHCSA requested that a deeper boring be advanced to define the vertical extent of MTBE. The depth of the deeper boring will be determined in the field based on lithologic information, field screening using a volatile vapor analyzer, and observations such as staining and odors. A soil sample will be collected for chemical and physical property analysis from each boring at a minimum of five foot intervals. A groundwater grab sample will be collected from each of the borings.

File Review: Cambria will review groundwater monitoring and remediation files for adjacent sites, including the Arco Service Station to the northeast of the site (Figure 1). The data collected

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during this task will help define the lithology that exists beneath the site vicinity and will aid in generating geologic cross-sections and iso-concentrations maps for soil and groundwater.

Continued Groundwater Monitoring: In accordance with RWQCB's recommendations, groundwater will be monitored for at least two years to evaluate plume stability. Continued groundwater monitoring will provide data to prepare a model of plume stability. Quarterly monitoring at the site began during the 3rd quarter 1998.

Interim Remediation: Due to the elevated concentrations of MTBE in site wells, Cambria initiated weekly high vacuum groundwater extraction from the four tank backfill wells (A through D) and monitoring wells MW-1 and MW-3. Approximately 34,481 gallons of groundwater have been extracted from site wells since purging began on July 29, 1999. Weekly purge data and hydrocarbon mass removal calculations are presented in Table 1 2.

Site Conceptual Model: After the proposed work is completed, Cambria will continue to develop a site conceptual model. We will then remedial options, if warranted.

SUBSURFACE INVESTIGATION

Upon ACHCSA approval of this work plan, Cambria will complete the following tasks:

Utility Location: Cambria will notify Underground Service Alert (USA) of our drilling activities. USA will have the utilities in the vicinity identified.

Site Health and Safety Plan: We will prepare a comprehensive site safety plan to protect site workers. The plan will be kept onsite during field activities and signed by each site worker.

Permits: We will obtain necessary permits for installation of the proposed monitoring well and soil borings.

Soil Borings and Sampling Activities: Using a hollow-stem auger rig, Cambria will advance four soil borings and complete one boring as groundwater monitoring well. Our standard field procedures for soil boring and monitoring well installation are presented as Attachment A. During field activities, we will collect soil samples at five-foot depth intervals or at lithologic changes. We will select soil samples for chemical analysis based on observations of staining and odor or on the results of field screening with a volatile vapor analyzer.

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Laboratory Analyses: Selected soil samples and groundwater grab samples from the boring will be analyzed for:

- TPHg by EPA Method 8015;
- BTEX and MTBE by EPA Method 8020;
- MTBE detections in soil and groundwater will be confirmed by EPA Method 8260
- Physical properties including TOC, moisture content and dry bulk density.

Subsurface Investigation Report: After the analytical results are received, Cambria will prepare a report that will contain:

- A summary of the site background and history;
- A discussion of hydrocarbon distribution in soil and groundwater beneath the site;
- Evaluation of the source of MTBE in soil and groundwater;
- Descriptions of drilling and sampling activities;
- Boring logs;
- Tabulated analytical results and figure presenting boring and well locations; and
- Analytical reports and chain-of-custody forms.

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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

Diane M. Lundquist, P.E.
Principal Engineer

Figures: 1 - Underground Utility Map
2 - Area Well Survey
Tables: 1 - Well Survey
2 - Mass Removal Data
Attachments: A - Standard Field Procedures for Monitoring Well Installations
B – 1999 Groundwater Elevation Contour Maps

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

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12/20/99

Underground Utility Map

COLISEUM WAY

HEGENBERGER RD

EDES AVE

ARCO Service Station

FL = -2.0'
72" SD
SD
FL = -0.63'
5' x 5' x 8' culvert
FL = -0.45'
18" SD
8" ss
water
15" SD
FL = 6.0'
FL = 0.14'
FL = -1.80'
12" water
8" ss
water
FH
FL = 5.0'
FL = 4.81'
10" ss
12" ss
SB-E
MW-4
FL = -1.0'
Planter
MW-2
SB-F
16" water
8" abandoned water
Underground Storage Tanks
MW-3
SB-D
MW-1
Dispensers
Dispensers
Canwash
Planter
SB-G
Planter
Building
PG&E Vault
FH
water
10" ss
FL = -0.8'
water
10" ss

EXPLANATION

- MW-4 — Proposed monitoring well
- SB-F — Proposed soil boring
- MW-1 — Monitoring well
- SB-D — Soil boring location
- Tank backfill well
- FH — Fire hydrant
- FL = 5.0' — Flowline elevation (msl)
- ss — Sanitary Sewer main
- water — Water line
- SD — Storm Drain

N

0 20 40 80

Scale (ft)

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Shell-branded Service Station
540 Hegenberger Road
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FIGURE
1

G:\OAKLAND\540HGBR\FIGURES\CONSULT3.DWG

07/08/99

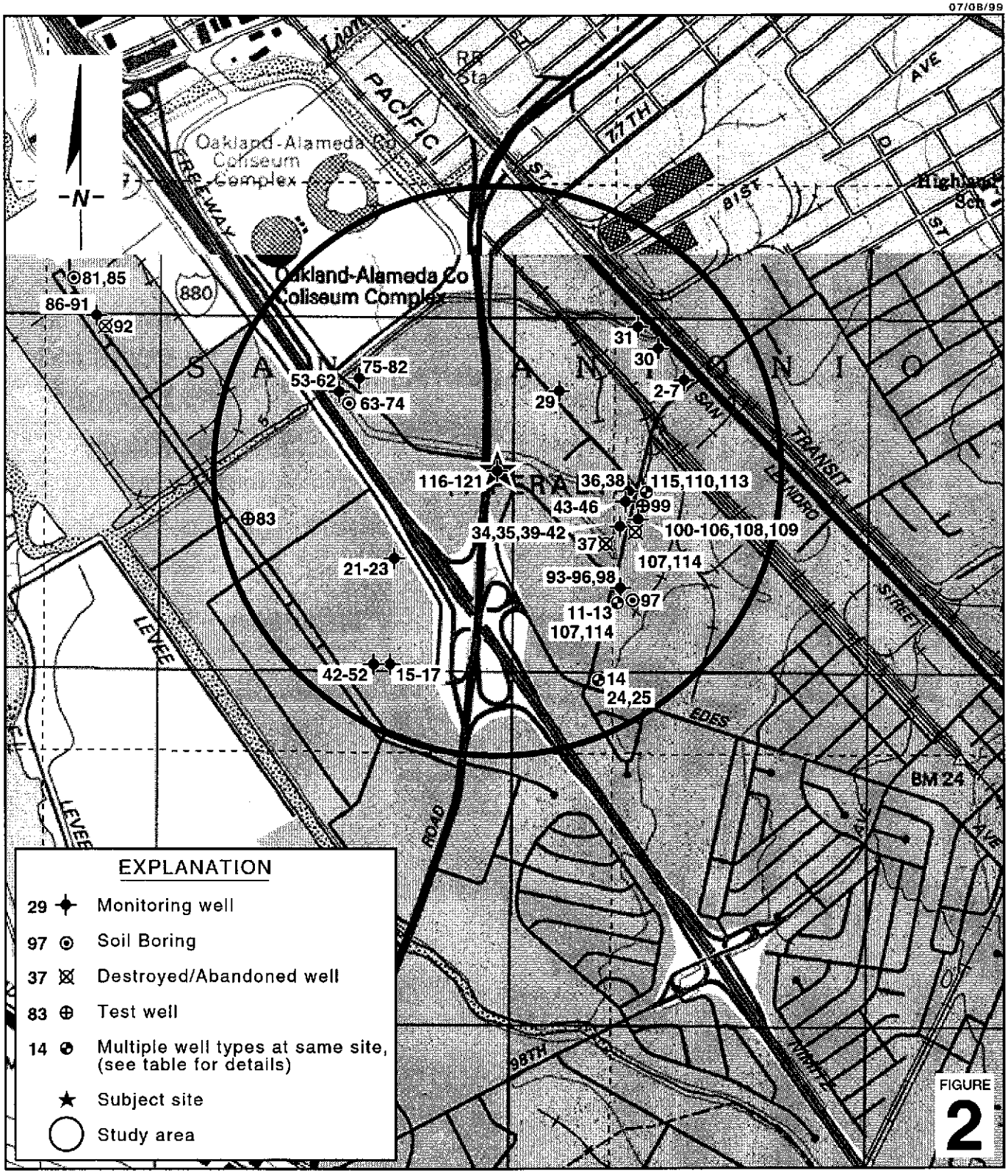

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FIGURE
2

Shell-branded Service Station
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Oakland, California
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Area Well Survey

(1/2-Mile Radius)

Table 1. Well Survey - Shell-branded Service Station - Incident# 98995752, 540 Hegenberger Road, Oakland, California

Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
1	2S/3W 22N	02/06/91	Edes Avenue Senior Housing	UNK	15	N/A	N/A
2	2S/3W 22E7	12/14/89	Carolyn Ratcliff	MONIT	15	5- 14.5	0- 4
3	2S/3W 22E7	12/13/89	Carolyn Ratcliff	MONIT	20	10- 19.5	0- 8
4	2S/3W 22E7	12/15/89	Carolyn Ratcliff	MONIT	18	8- 17.5	0- 6
5	2S/3W 22E7	12/14/89	Carolyn Ratcliff	MONIT	18	8- 17.5	0- 6
6	2S/3W 22E7	12/13/89	Carolyn Ratcliff	MONIT	19.5	10- 19	0- 8
7	2S/3W 22E7	12/14/89	Carolyn Ratcliff	MONIT	19.5	10- 19	0- 8
8	2S/3W 21Q08	09/13/92	Union Bank	MONIT	20	4- 19	0- 4
9	2S/3W 21Q09	09/13/92	Union Bank	MONIT	16.5	4- 14	0- 4
10	2S/3W 21Q10	09/13/92	Union Bank	MONIT	20	5- 20	0- 4
11	2S/3W 21R2	04/25/88	IMO Delaval, Inc.	MONIT	28	12-26.5	0- 10
21	2S/3W 21R16	03/11/89	IMO Delaval, Inc.	MONIT	26.5	15-25	0.5-15
13	2S/3W 21R17	03/12/89	IMO Delaval, Inc.	MONIT	27	15-25	0.5-15
14	2S/3W21	10/29/52	General Metals Corporation	IND	600	200-584	N/A
15	2S/3W21L05	09/10/92	Ryder Truck Rental Inc.	MONIT	13.5	3.5-13.0	0-3.5
16	2S/3W21L06	09/10/92	Ryder Truck Rental Inc.	MONIT	13.5	3.5-13.0	0-3.5
17	2S/3W21L07	09/14/92	Ryder Truck Rental Inc.	MONIT	13.5	3.5-13.0	0-3.5
18	2S/3W21M1	07/06/91	BOC Group	MONIT	21	7-17	0-7
19	2S/3W21K1	04/25/90	Motel 6	MONIT	30	5-30	0-5
20	2S/3W21L1	01/17/91	IMO Delaval, Inc.	N/A	32	2-30	0-20
21	2S/3W21L2	11/09/92	Superior Tile Company	MONIT	19	4-19	0.5-4
22	2S/3W21L3	11/09/92	Superior Tile Company	MONIT	15	4-14	0.5-4
23	2S/3W21L4	11/09/92	Superior Tile Company	MONIT	14	4-14	0.5-4
24	2S/3W21L4	11/09/92	Motel 6	MONIT	11.5	N/A	0-11.5
25	2S/3W21L4	11/09/92	Motel 6	MONIT	21.5	N/A	0-21.5

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Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
26	2S/3W21D1	08/16/90	Port of Oakland	MONIT	16	4-15	0-4
27	2S/3W21E1	08/16/90	Port of Oakland	MONIT	16	4-15	0-4
28	2S/3W21E2	08/16/90	Port of Oakland	MONIT	16	4-15	0-4
29	2S/3W21B1	09/30/93	Morris Properties	MONIT	20	5-20	0-5
30	2S/3W21A1	09/19/89	Monterey Mechanical	MONIT	25	9-25	0-9
31	2S/3W21A2	06/24/93	Mr. Nissan Saidan	MONIT	15	3-15	0-3
32	2S/3W21R	N/A	Stonehurst Nursery	REM	17	7-17	0-7
33	2S/3W21H11	02/19/92	Stephen Block	MONIT	17	7-17	0-7
34	2S/3W21H9	04/25/91	West Coast Wire Rope	MONIT	17.5	3-17.5	0-3
35	2S/3W21H10	04/25/91	West Coast Wire Rope	MONIT	20	3-20	0-3
36	2S/3W21H7	07/07/89	Ran Rob, Inc.	MONIT	16.5	5-16	0-5
37	2S/3W21H5	07/07/89*	Ran Rob, Inc.	DEST	36	N/A	N/A
38	2S/3W21H6	07/17/89	Ran Rob, Inc.	MONIT	36	26-36	0-26
39	2S/3W21G17	07/09/92	ARCO Products Company	MONIT	16.5	8-16.5	0-8
40	2S/3W21G15	07/10/92	ARCO Products Company	MONIT	15	9-15	0-9
41	2S/3W21G1	10/30/89	ARCO Products Company	MONIT	23	13-23	0-13
42	2S/3W21G2	06/07/89	ARCO Products Company	MONIT	21.5	14-18	0-14
43	2S/3W21H1	07/22/88	Lincoln Property co.	MONIT	16	6-16	0-6
44	2S/3W21H2	07/22/88	Lincoln Property co.	MONIT	13	5-10.5	0-4 & 10.5-13
45	2S/3W21H3	07/22/88	Lincoln Property co.	MONIT	16	6-16	0-5
46	2S/3W21H5	07/22/88	Lincoln Property co.	MONIT	18	8-18	0-6
47	2S/3W21D2	03/12/92	Ryder Truck Rental Inc.	MONIT	15	5-15	0-5
48	2S/3W21D3	03/13/92	Ryder Truck Rental Inc.	MONIT	14	4.5-14	0-4.5
49	2S/3W21D4	03/13/92	Ryder Truck Rental Inc.	MONIT	14.5	4.5-14.5	0-4.5
50	2S/3W21D5	04/28/92	Ryder Truck Rental Inc.	MONIT	15	5-15	0-5

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Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
51	2S/3W21D6	04/28/92	Ryder Truck Rental Inc.	MONIT	15	5-15	0-5
52	2S/3W21D7	04/28/92	Ryder Truck Rental Inc.	MONIT	15	5-15	0-5
53	2S/3W21C2	09/21/89	Malibu Fun Center	MONIT	20	4-15	0-4
54	2S/3W21C4	09/20/89	Malibu Fun Center	MONIT	15	4-19	0-4
55	2S/3W21C3	09/20/89	Malibu Fun Center	MONIT	17	5-15	0-5 & 15-17
56	2S/3W21C1	09/20/89	Malibu Fun Center	MONIT	10.5	5-10.5	0-5
57	2S/3W21C5	06/12/90	Malibu Fun Center	MONIT	19.5	5-19.5	0-5
58	2S/3W21C6	06/12/90	Malibu Fun Center	MONIT	19	4-19	0-4
59	2S/3W21C7	06/12/90	Malibu Fun Center	MONIT	19.5	4.5-19.5	0-4.5
60	2S/3W21C8	06/13/90	Malibu Fun Center	MONIT	19.5	4.5-19.5	0-4.5
61	2S/3W21C9	06/13/90	Malibu Fun Center	MONIT	10	4.5-10	0-4.5
62	2S/3W21C10	06/13/90	Malibu Fun Center	MONIT	19	4-19	0-4
63	2S/3W21C (B6)	06/12/90	Malibu Fun Center	SB	10	N/A	0-10
64	2S/3W21C (B7)	06/12/90	Malibu Fun Center	SB	10	N/A	0-10
65	2S/3W21C (B8)	06/12/90	Malibu Fun Center	SB	10	N/A	0-10
66	2S/3W21C (B9)	06/12/90	Malibu Fun Center	SB	10	N/A	0-10
67	2S/3W21C (B10)	06/13/90	Malibu Fun Center	SB	5	N/A	0-7
68	2S/3W21C (B11)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
69	2S/3W21C (B12)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
70	2S/3W21C (B13)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
71	2S/3W21C (B14)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
72	2S/3W21C (B15)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
73	2S/3W21C (B16)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
74	2S/3W21C (B17)	06/13/90	Malibu Fun Center	SB	7	N/A	0-7
75	2S/3W21C11	08/28/91	Malibu Fun Center	MONIT	14	3.5-14	0-3.5

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Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval
76	2S/3W21C12	08/28/91	Malibu Fun Center	MONIT	21.5	4.5-20	0-4.5 & 20-21.5
77	2S/3W21C13	08/28/91	Malibu Fun Center	MONIT	20	5-20	0-5
78	2S/3W21C14	08/27/91	Malibu Fun Center	MONIT	20	4-20	0-4
79	2S/3W21C15	08/29/91	Malibu Fun Center	MONIT	19	4-19	0-4
80	2S/3W21C16	08/29/91	Malibu Fun Center	MONIT	18.5	3.5-18.5	0-3.5
81	2S/3W21C17	08/30/91	Malibu Fun Center	MONIT	18.5	3.5-18.5	0-3.5
82	2S/3W21C18	08/29/91	Malibu Fun Center	MONIT	21	6-21	0-6
83	2S/3W21E3	04/02/91	Travelers Companies	TEST	12.5	4-12.5	0-4
84	2S/3W21E (B1)	N/A	City of Oakland	SB	36.5	N/A	N/A
85	2S/3W21E (B2)	N/A	City of Oakland	SB	32.5	N/A	N/A
86	2S/3W21D9	02/12/92	Grand Auto Distribution Center	MONIT	18.5	4-18	0-4
87	2S/3W21D10	02/12/92	Grand Auto Distribution Center	MONIT	18.5	4-18	0-4
88	2S/3W21D11	02/13/92	Grand Auto Distribution Center	MONIT	19.5	5-19	0-5
89	2S/3W21D12	02/11/92	Grand Auto Distribution Center	MONIT	20	5.5-19.5	0-5.5
90	2S/3W21D13	02/14/92	Grand Auto Distribution Center	MONIT	34.5	20-34	0-20
91	2S/3W21D14	02/11/92	Grand Auto Distribution Center	MONIT	18.5	4-18	0-4
92	2S/3W21D8	02/13/92*	Grand Auto Distribution Center	DEST	N/A	N/A	N/A
93	2S/3W21J3	01/27/88	IMO Delaval	MONIT	23	8-23	0-8
94	2S/3W21J4	01/26/88	IMO Delaval	MONIT	30	15-30	0-15
95	2S/3W21J5	01/25/88	IMO Delaval	MONIT	36	26-36	0-26
96	2S/3W21J6	01/25/88	IMO Delaval	MONIT	30	20-30	0-20
97	2S/3W21J (SB1a)	N/A	IMO Delaval	SB	26.5	N/A	0-26.5
98	2S/3W21J35	11/19/89	IMO Delaval	MONIT	55	45-55	0-45
99	2S/3W21J20	04/21/89	IMO Delaval	TEST	27.5	22.5-27.5	0-22.5
100	2S/3W21J21	04/21/89	IMO Delaval	MONIT	39	14-39	0-14

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101	2S/3W21J22	04/22/89	IMO Delaval	MONIT	23	13-23	0-13
102	2S/3W21J16	04/17/89	IMO Delaval	MONIT	22	12-22	0-12
103	2S/3W21J17	04/17/89	IMO Delaval	MONIT	24	14-24	14-Mar
104	2S/3W21J18	04/18/89	IMO Delaval	MONIT	32	12-32	12-Mar
105	2S/3W21J19	04/18/89	IMO Delaval	MONIT	21.5	12.5-17.5	2.5-12.5 & 17.5-21.5
106	2S/3W21J7	04/20/89	IMO Delaval	MONIT	30.5	15-30.5	0-15
107	2S/3W21J8	04/21/89*	IMO Delaval	DEST	34	N/A	N/A
108	2S/3W21J9	04/21/89	IMO Delaval	MONIT	32	17-32	0-17
109	2S/3W21J10	04/25/89	IMO Delaval	MONIT	34	19-34	0-19
110	2S/3W21N1	11/16/89	IMO Delaval	N/A	30	20-30	0-20
111	2S/3W21P2	11/16/89	IMO Delaval	N/A	29.5	19.5-29.5	19.5
112	2S/3W21Q1	11/20/89	IMO Delaval	N/A	46.5	43.5-46.5	0-43.5
113	2S/3W21H8	04/18/91	IMO Delaval	N/A	20	3-20	0-3
114	2S/3W21J1	08/14/79*	IMO Delaval	DEST	250	N/A	N/A
115	2S/3W21J2	06/16/76	Delaval Tirbine, Inc.	IND	430	130-240	0-130 & 240-430
116	2S/3W21Q2	02/05/91	Unocal Corporation	MONIT	13	2-13	0-2
117	2S/3W21Q3	02/05/91	Unocal Corporation	MONIT	15	3-15	0-3
118	2S/3W21Q4	02/05/91	Unocal Corporation	MONIT	14	2-14	0-2
119	2S/3W21Q5	08/21/92	Unocal Corporation	MONIT	13.5	2.5-13.5	0-2.5
120	2S/3W21Q6	08/21/92	Unocal Corporation	MONIT	13.5	2.5-13.5	0-2.5
121	2S/3W21Q7	08/21/92	Unocal Corporation	MONIT	13.5	2.5-13.5	0-2.5

Table 1. Well Survey - Shell-branded Service Station - Incident# 98995752, 540 Hegenberger Road, Oakland, California

Well #	Well ID (Soil Boring ID)	Installation Date	Owner	Use	Completed Depth (feet)	Screened Interval	Sealed Interval

Abbreviations:

UNK = Unknown
MONIT = Monitoring Well
IND = Industrial well
REM = Remediation
DEST = Destroyed well
SB = Soil Borings
DOM = Domestic well
IRR = Irrigation well
TEST = Test well
MUNI = Municipal supply well
* = Well destruction date
N/A = Not available

Notes:

All well data was supplied by the California Department of Water Resources
Wells 26, 27, and 28 are not located on the half-mile well vicinity map
Wells 1 & 32: addresses unknown

Table 2: Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Sample Date	TPPH* Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene* Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE* Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
07/29/99	BW-A	400	400	06/22/99	318	0.00106	0.00106	< 0.50	< 0.00000	< 0.00000	4,470	0.01492	0.01492
08/04/99	BW-A	2,000	2,400	06/22/99	318	0.00531	0.00637	< 0.50	< 0.00001	< 0.00001	4,470	0.07460	0.08952
08/11/99	BW-A	2,437	4,837	06/22/99	318	0.00647	0.01284	< 0.50	< 0.00001	< 0.00002	4,470	0.09090	0.18042
08/20/99	BW-A	1,213	6,050	06/22/99	318	0.00322	0.01605	< 0.50	< 0.00001	< 0.00003	4,470	0.04524	0.22566
08/30/99	BW-A	2,673	8,723	06/22/99	318	0.00709	0.02315	< 0.50	< 0.00001	< 0.00004	4,470	0.09970	0.32536
09/03/99**	BW-A	325	9,048	06/22/99	318	0.00086	0.02401	< 0.50	< 0.00000	< 0.00004	4,470	0.01212	0.33748
09/10/99**	BW-A	425	9,148	06/22/99	318	0.00113	0.02514	< 0.50	< 0.00000	< 0.00004	4,470	0.01585	0.35334
09/23/99	BW-A	615	9,763	06/22/99	318	0.00163	0.02677	< 0.50	< 0.00000	< 0.00004	4,470	0.02294	0.37628
09/29/99	BW-A	800	10,563	06/22/99	318	0.00212	0.02889	< 0.50	< 0.00000	< 0.00005	4,470	0.02984	0.40611
11/05/99	BW-A	675	11,238	06/22/99	318	0.00179	0.03068	< 0.50	< 0.00000	< 0.00005	4,470	0.02518	0.43129
07/29/99	BW-B	1,000	1,000	06/22/99	< 250	< 0.00209	< 0.00209	< 2.5	< 0.00002	< 0.00002	8,600	0.07176	0.07176
08/04/99	BW-B	800	1,800	06/22/99	< 250	< 0.00167	< 0.00375	< 2.5	< 0.00002	< 0.00210	8,600	0.05741	0.12917
08/11/99	BW-B	2,213	4,013	06/22/99	< 250	< 0.00462	< 0.00837	< 2.5	< 0.00005	< 0.00380	8,600	0.15881	0.28798
08/20/99	BW-B	1,213	5,226	06/22/99	< 250	< 0.00253	< 0.01090	< 2.5	< 0.00003	< 0.00840	8,600	0.08705	0.37503
08/30/99	BW-B	877	6,103	06/22/99	< 250	< 0.00183	< 0.01273	< 2.5	< 0.00002	< 0.01092	8,600	0.06293	0.43796
09/03/99**	BW-B	325	6,428	06/22/99	< 250	< 0.00068	< 0.01341	< 2.5	< 0.00001	< 0.01274	8,600	0.02332	0.46128
09/10/99**	BW-B	425	6,853	06/22/99	< 250	< 0.00089	< 0.01430	< 2.5	< 0.00001	< 0.01342	8,600	0.03050	0.49178
09/23/99	BW-B	750	7,603	06/22/99	< 250	< 0.00156	< 0.01586	< 2.5	< 0.00002	< 0.01431	8,600	0.05382	0.54560
09/29/99	BW-B	600	8,203	06/22/99	< 250	< 0.00125	< 0.01711	< 2.5	< 0.00001	< 0.01587	8,600	0.04306	0.58866
11/05/99	BW-B	650	8,853	06/22/99	< 250	< 0.00136	< 0.01847	< 2.5	< 0.00001	< 0.01713	8,600	0.04664	0.63530
07/29/99	BW-C	300	300	06/22/99	< 50	< 0.00013	< 0.00013	< 0.50	< 0.00000	< 0.00000	11,000	0.02754	0.02754
08/04/99	BW-C	700	1,000	06/22/99	< 50	< 0.00029	< 0.00042	< 0.50	< 0.00000	< 0.00000	11,000	0.06425	0.09179
08/11/99	BW-C	0	1,000	06/22/99	< 50	< 0.00000	< 0.00042	< 0.50	< 0.00000	< 0.00000	11,000	0.00000	0.09179
08/20/99	BW-C	1,013	2,013	06/22/99	< 50	< 0.00042	< 0.00084	< 0.50	< 0.00000	< 0.00001	11,000	0.09298	0.18477
08/30/99	BW-C	375	2,388	06/22/99	< 50	< 0.00016	< 0.00100	< 0.50	< 0.00000	< 0.00001	11,000	0.03442	0.21919
09/03/99**	BW-C	325	2,713	06/22/99	< 50	< 0.00014	< 0.00113	< 0.50	< 0.00000	< 0.00001	11,000	0.02983	0.24902
09/10/99**	BW-C	425	3,138	06/22/99	< 50	< 0.00018	< 0.00131	< 0.50	< 0.00000	< 0.00001	11,000	0.03901	0.28803
09/23/99	BW-C	750	3,888	06/22/99	< 50	< 0.00031	< 0.00162	< 0.50	< 0.00000	< 0.00002	11,000	0.06884	0.35687
09/29/99	BW-C	700	4,588	06/22/99	< 50	< 0.00029	< 0.00191	< 0.50	< 0.00000	< 0.00002	11,000	0.06425	0.42112
11/05/99	BW-C	550	5,138	06/22/99	< 50	< 0.00023	< 0.00214	< 0.50	< 0.00000	< 0.00002	11,000	0.05048	0.47161

Table 2: Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Sample Date	TPPH* Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene* Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE* Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
07/29/99	BW-D	1,500	1,500	06/22/99	< 50	< 0.00063	< 0.00063	< 0.500	< 0.00001	< 0.00001	2,190	0.02741	0.02741
08/04/99	BW-D	250	1,750	06/22/99	< 50	< 0.00010	< 0.00073	< 0.500	< 0.00000	< 0.00001	2,190	0.00457	0.03198
08/11/99	BW-D	0	1,750	06/22/99	< 50	< 0.00000	< 0.00073	< 0.500	< 0.00000	< 0.00001	2,190	0.00000	0.03198
08/20/99	BW-D	1,213	2,963	06/22/99	< 50	< 0.00051	< 0.00124	< 0.500	< 0.00001	< 0.00001	2,190	0.02217	0.05415
08/30/99	BW-D	280	3,243	06/22/99	< 50	< 0.00012	< 0.00135	< 0.500	< 0.00000	< 0.00001	2,190	0.00512	0.05926
09/03/99**	BW-D	325	3,568	06/22/99	< 50	< 0.00014	< 0.00149	< 0.500	< 0.00000	< 0.00001	2,190	0.00594	0.06520
09/10/99**	BW-D	425	3,993	06/22/99	< 50	< 0.00018	< 0.00167	< 0.500	< 0.00000	< 0.00002	2,190	0.00777	0.07297
09/23/99	BW-D	750	4,743	06/22/99	< 50	< 0.00031	< 0.00198	< 0.500	< 0.00000	< 0.00002	2,190	0.01371	0.08667
09/29/99	BW-D	700	5,443	06/22/99	< 50	< 0.00029	< 0.00227	< 0.500	< 0.00000	< 0.00002	2,190	0.01279	0.09947
11/05/99	BW-D	625	6,068	06/22/99	< 50	< 0.00026	< 0.00253	< 0.500	< 0.00000	< 0.00003	2,190	0.01142	0.11089
07/29/99	MW-1	150	150	06/22/99	20,000	0.02503	0.02503	100	0.00013	0.00013	150,000	0.18775	0.18775
08/04/99	MW-1	150	300	06/22/99	20,000	0.02503	0.05007	100	0.00013	0.00025	150,000	0.18775	0.37550
08/11/99	MW-1	15	315	06/22/99	20,000	0.00250	0.05257	100	0.00001	0.00026	150,000	0.01877	0.39427
08/20/99	MW-1	44	359	06/22/99	20,000	0.00734	0.05991	100	0.00004	0.00030	150,000	0.05507	0.44934
08/30/99	MW-1	218	577	06/22/99	20,000	0.03638	0.09629	100	0.00018	0.00048	150,000	0.27286	0.72220
09/03/99**	MW-1	125	702	06/22/99	20,000	0.02086	0.11715	100	0.00010	0.00059	150,000	0.15646	0.87866
09/10/99**	MW-1	75	777	06/22/99	20,000	0.01252	0.12967	100	0.00006	0.00065	150,000	0.09387	0.97253
09/23/99	MW-1	175	952	06/22/99	20,000	0.02921	0.15888	100	0.00015	0.00079	150,000	0.21904	1.19157
09/29/99	MW-1	50	1,002	06/22/99	20,000	0.00834	0.16722	100	0.00004	0.00084	150,000	0.06258	1.25416
11/05/99	MW-1	50	1,052	09/30/99	< 2,500	< 0.00104	< 0.16826	< 25.0	< 0.00001	< 0.00085	30,900	0.01289	1.26705
11/19/99	MW-1	22.5	1,075	09/30/99	< 20,000	< 0.00375	< 0.17202	< 25.0	< 0.00000	< 0.00085	30,900	0.00580	1.27285
11/24/99	MW-1	25	1,100	09/30/99	< 20,000	< 0.00417	< 0.17619	< 25.0	< 0.00001	< 0.00086	30,900	0.00645	1.27930
12/02/99	MW-1	25	1,125	09/30/99	< 20,000	< 0.00417	< 0.18036	< 25.0	< 0.00001	< 0.00086	30,900	0.00645	1.28574
12/17/99	MW-1	25	1,150	12/10/99	< 50.0	< 0.00001	< 0.18037	29.7	0.00001	< 0.00087	76,300	0.01592	1.30166
01/03/00	MW-1	40	1,190	12/10/99	< 50.0	< 0.00002	< 0.18039	29.7	0.00001	< 0.00088	76,300	0.02547	1.32713
01/07/00	MW-1	0	1,190	12/10/99	< 50.0	< 0.00000	< 0.18039	29.7	0.00000	< 0.00088	76,300	0.00000	1.32713
01/13/00	MW-1	45	1,235	12/10/99	< 50.0	< 0.00002	< 0.18041	29.7	0.00001	< 0.00089	76,300	0.02865	1.35578
01/12/00	MW-1	35	1,270	12/10/99	< 50.0	< 0.00001	< 0.18042	29.7	0.00001	< 0.00090	76,300	0.02228	1.37806
01/25/00	MW-1	35	1,305	12/10/99	< 50.0	< 0.00001	< 0.18044	29.7	0.00001	< 0.00091	76,300	0.02228	1.40034
02/01/00	MW-1	22	1,327	12/10/99	< 50.0	< 0.00001	< 0.18045	29.7	0.00001	< 0.00091	76,300	0.01401	1.41435
02/11/00	MW-1	28	1,355	12/10/99	< 50.0	< 0.00001	< 0.18046	29.7	0.00001	< 0.00092	76,300	0.01783	1.43218
02/15/00	MW-1	25	1,380	12/10/99	< 50.0	< 0.00001	< 0.18047	29.7	0.00001	< 0.00092	76,300	0.01592	1.44809

Table 2: Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Sample Date	TPPH* Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene* Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE* Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
02/23/00	MW-1	20	1,400	12/10/99	< 50.0	< 0.00001	< 0.18048	29.7	0.00000	< 0.00093	76,300	0.01273	1.46083
03/02/00	MW-1	7.5	1,407	12/10/99	< 50.0	< 0.00000	< 0.18048	29.7	0.00000	< 0.00093	76,300	0.00478	1.46560
03/10/00	MW-1	40	1,447	12/10/99	< 50.0	< 0.00002	< 0.18050	29.7	0.00001	< 0.00094	76,300	0.02547	1.49107
03/15/00	MW-1	25	1,472	12/10/99	< 50.0	< 0.00001	< 0.18051	29.7	0.00001	< 0.00095	76,300	0.01592	1.50699
03/21/00	MW-1	25	1,497	12/10/99	< 50.0	< 0.00001	< 0.18052	29.7	0.00001	< 0.00095	76,300	0.01592	1.52290
03/27/00	MW-1	30	1,527	12/10/99	< 50.0	< 0.00001	< 0.18053	29.7	0.00001	< 0.00096	76,300	0.01910	1.54200
04/07/00	MW-1	45	1,572	12/10/99	< 50.0	< 0.00002	< 0.18055	29.7	0.00001	< 0.00097	76,300	0.02865	1.57065
04/13/00	MW-1	30	1,602	12/10/99	< 50.0	< 0.00001	< 0.18056	29.7	0.00001	< 0.00098	76,300	0.01910	1.58975
04/20/00	MW-1	25	1,627	12/10/99	< 50.0	< 0.00001	< 0.18057	29.7	0.00001	< 0.00099	76,300	0.01592	1.60567
04/26/00	MW-1	25	1,652	12/10/99	< 50.0	< 0.00001	< 0.18058	29.7	0.00001	< 0.00099	76,300	0.01592	1.62159
07/29/99	MW-3	100	100	06/22/99	58,000	0.04840	0.04840	6,600	0.00551	0.00551	**653,000**	0.54489	0.54489
08/04/99	MW-3	100	200	06/22/99	58,000	0.04840	0.09679	6,600	0.00551	0.01101	**653,000**	0.54489	1.08977
08/11/99	MW-3	45	245	06/22/99	58,000	0.02178	0.11857	6,600	0.00248	0.01349	**653,000**	0.24520	1.33497
08/20/99	MW-3	55	300	06/22/99	58,000	0.02662	0.14519	6,600	0.00303	0.01652	**653,000**	0.29969	1.63466
08/30/99	MW-3	77	377	06/22/99	58,000	0.03727	0.18246	6,600	0.00424	0.02076	**653,000**	0.41956	2.05422
09/03/99**	MW-3	50	427	06/22/99	58,000	0.02420	0.20666	6,600	0.00275	0.02352	**653,000**	0.27244	2.32667
09/10/99**	MW-3	40	467	06/22/99	58,000	0.01936	0.22602	6,600	0.00220	0.02572	**653,000**	0.21795	2.54462
09/23/99	MW-3	10	477	06/22/99	58,000	0.00484	0.23085	6,600	0.00055	0.02627	**653,000**	0.05449	2.59911
09/29/99	MW-3	50	527	06/22/99	58,000	0.02420	0.25505	6,600	0.00275	0.02902	**653,000**	0.27244	2.87155
11/05/99	MW-3	50	577	09/30/99	4,360	0.00182	0.25687	121	0.00005	0.02907	**35,600**	0.01485	2.88640
11/19/99	MW-3	22.5	600	09/30/99	4,360	0.00082	0.25769	121	0.00002	0.02910	**35,600**	0.00668	2.89309
11/24/99	MW-3	28	628	09/30/99	4,360	0.00102	0.25871	121	0.00003	0.02912	**35,600**	0.00832	2.90141
12/02/99	MW-3	25	653	09/30/99	4,360	0.00091	0.25962	121	0.00003	0.02915	**35,600**	0.00743	2.90883
12/17/99	MW-3	35	688	12/10/99	4,220	0.00123	0.26085	973	0.00028	0.02943	**72,400**	0.02114	2.92998
01/03/00	MW-3	40	728	12/10/99	4,220	0.00141	0.26226	973	0.00032	0.02976	**72,400**	0.02417	2.95414
01/07/00	MW-3	0	728	12/10/99	4,220	0.00000	0.26226	973	0.00000	0.02976	**72,400**	0.00000	2.95414
01/13/00	MW-3	45	773	12/10/99	4,220	0.00158	0.26385	973	0.00037	0.03012	**72,400**	0.02719	2.98133
01/21/00	MW-3	35	808	12/10/99	4,220	0.00123	0.26508	973	0.00028	0.03041	**72,400**	0.02114	3.00247
01/25/00	MW-3	38	846	12/10/99	4,220	0.00134	0.26642	973	0.00031	0.03072	**72,400**	0.02296	3.02543
02/01/00	MW-3	23	869	12/10/99	4,220	0.00081	0.26723	973	0.00019	0.03090	**72,400**	0.01390	3.03932
02/11/00	MW-3	22	891	12/10/99	4,220	0.00077	0.26800	973	0.00018	0.03108	**72,400**	0.01329	3.05262
02/15/00	MW-3	22	913	12/10/99	4,220	0.00077	0.26877	973	0.00018	0.03126	**72,400**	0.01329	3.06591

Table 2: Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Sample Date	TPPH* Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene* Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE* Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
02/23/00	MW-3	30	943	12/10/99	4,220	0.00106	0.26983	973	0.00024	0.03150	**72,400**	0.01812	3.08403
03/02/00	MW-3	7	950	12/10/99	4,220	0.00025	0.27008	973	0.00006	0.03156	**72,400**	0.00423	3.08826
03/10/00	MW-3	42	992	12/10/99	4,220	0.00148	0.27156	973	0.00034	0.03190	**72,400**	0.02537	3.11363
03/15/00	MW-3	20	1,012	12/10/99	4,220	0.00070	0.27226	973	0.00016	0.03206	**72,400**	0.01208	3.12572
03/21/00	MW-3	25	1,037	12/10/99	4,220	0.00088	0.27314	973	0.00020	0.03227	**72,400**	0.01510	3.14082
03/27/00	MW-3	40	1,077	12/10/99	4,220	0.00141	0.27455	973	0.00032	0.03259	**72,400**	0.02417	3.16498
04/07/00	MW-3	45	1,122	12/10/99	4,220	0.00158	0.27613	973	0.00037	0.03296	**72,400**	0.02719	3.19217
04/13/00	MW-3	30	1,152	12/10/99	4,220	0.00106	0.27719	973	0.00024	0.03320	**72,400**	0.01812	3.21029
04/20/00	MW-3	25	1,177	12/10/99	4,220	0.00088	0.27807	973	0.00020	0.03340	**72,400**	0.01510	3.22540
04/26/00	MW-3	30	1,207	12/10/99	4,220	0.00106	0.27913	973	0.00024	0.03365	**72,400**	0.01812	3.24352
Total Gallons Extracted:		**34,481**		**Total Pounds Removed:**		**< 0.51354**				**< 0.03492**			**6.51420**
				Total Gallons Removed		**< 0.08419**				**< 0.00478**			**1.05068**

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
MtBE = Methyl tert-butyl ether
µg/L = Micrograms per liter
ppb = Parts per billion, equivalent to µg/L
L = Liter
gal = Gallon
g = Gram
* = Concentration based on most recent groundwater monitoring results
** = Ground water extracted per well estimated; subcontractor did not report individual well volumes
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH, benzene analyzed by EPA Method 8015/8020
MTBE analyzed by EPA Method 8260 in bold font, all other MTBE analyzed by EPA Method 8020
Groundwater extracted by vacuum trucks provided by ACTI. Water disposed of at a Martinez Refinery.

ATTACHMENT A

Standard Field Procedures for Monitoring Well Installations

CAMBRIA

STANDARD FIELD PROCEDURES FOR MONITORING WELLS

This document describes Cambria Environmental Technology's standard field methods for drilling, installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Well Construction and Surveying

Groundwater monitoring wells are installed in soil borings to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two ft above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security. The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and 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. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

ATTACHMENT B

1999 Groundwater Elevation Contour Maps

09/27/99

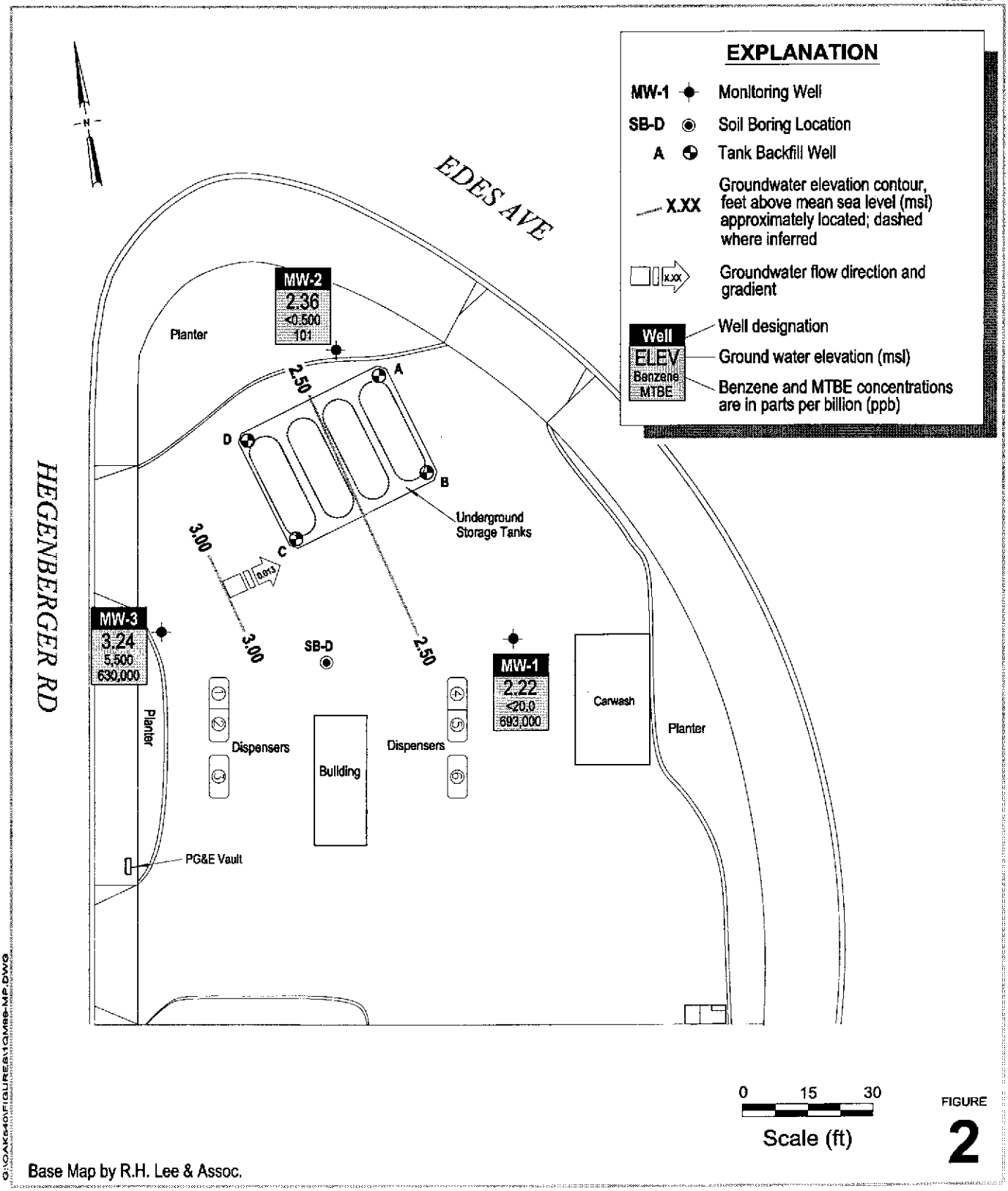


FIGURE
2

Base Map by R.H. Lee & Assoc.

G:\OAKS40\FIGURES\1QM99-MP.DWG

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Ground Water Elevation Contour Map

March 29, 1999

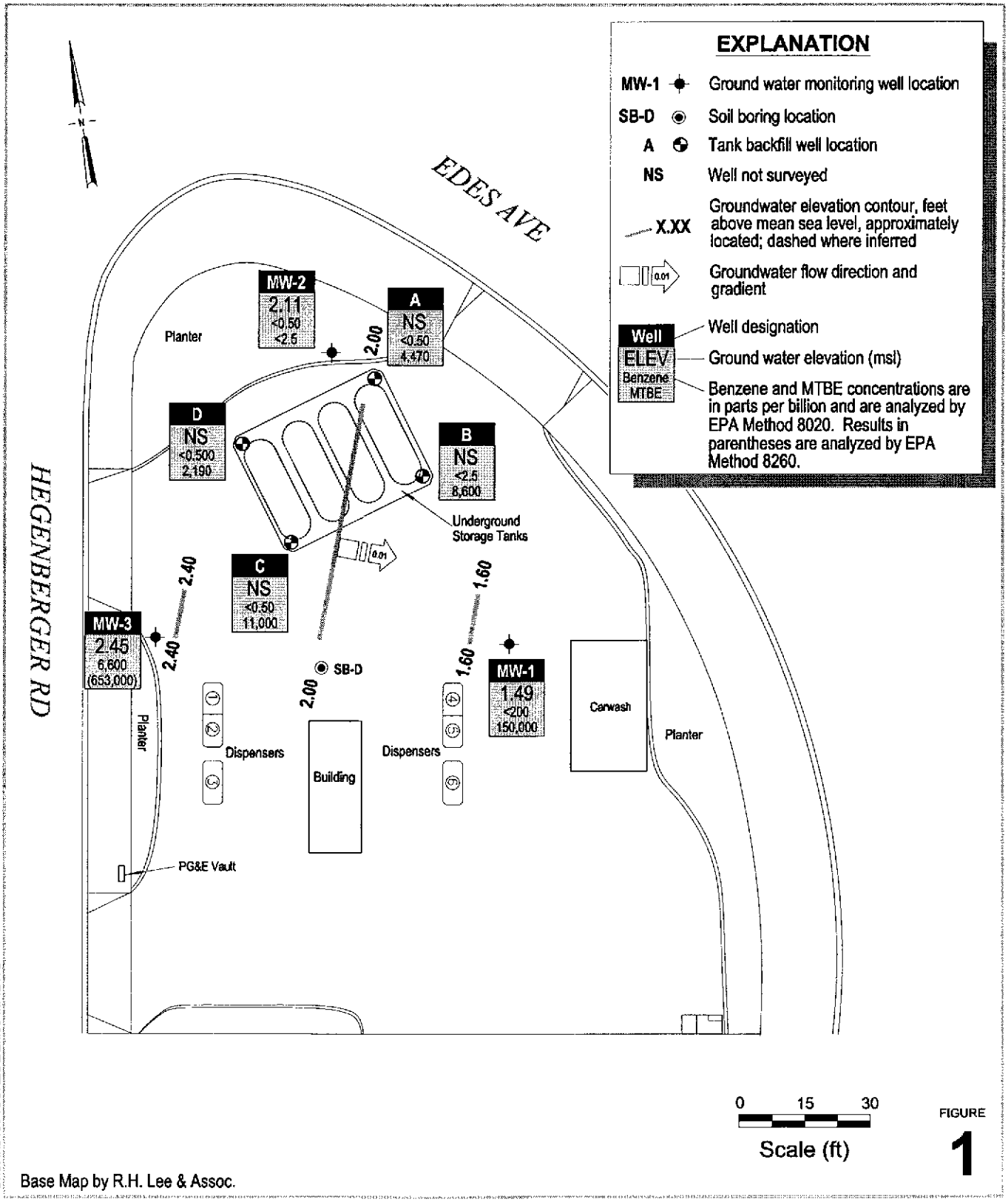


FIGURE 1

Base Map by R.H. Lee & Assoc.

G:\OAK540\FIGURES\2Q99-MP.DWG

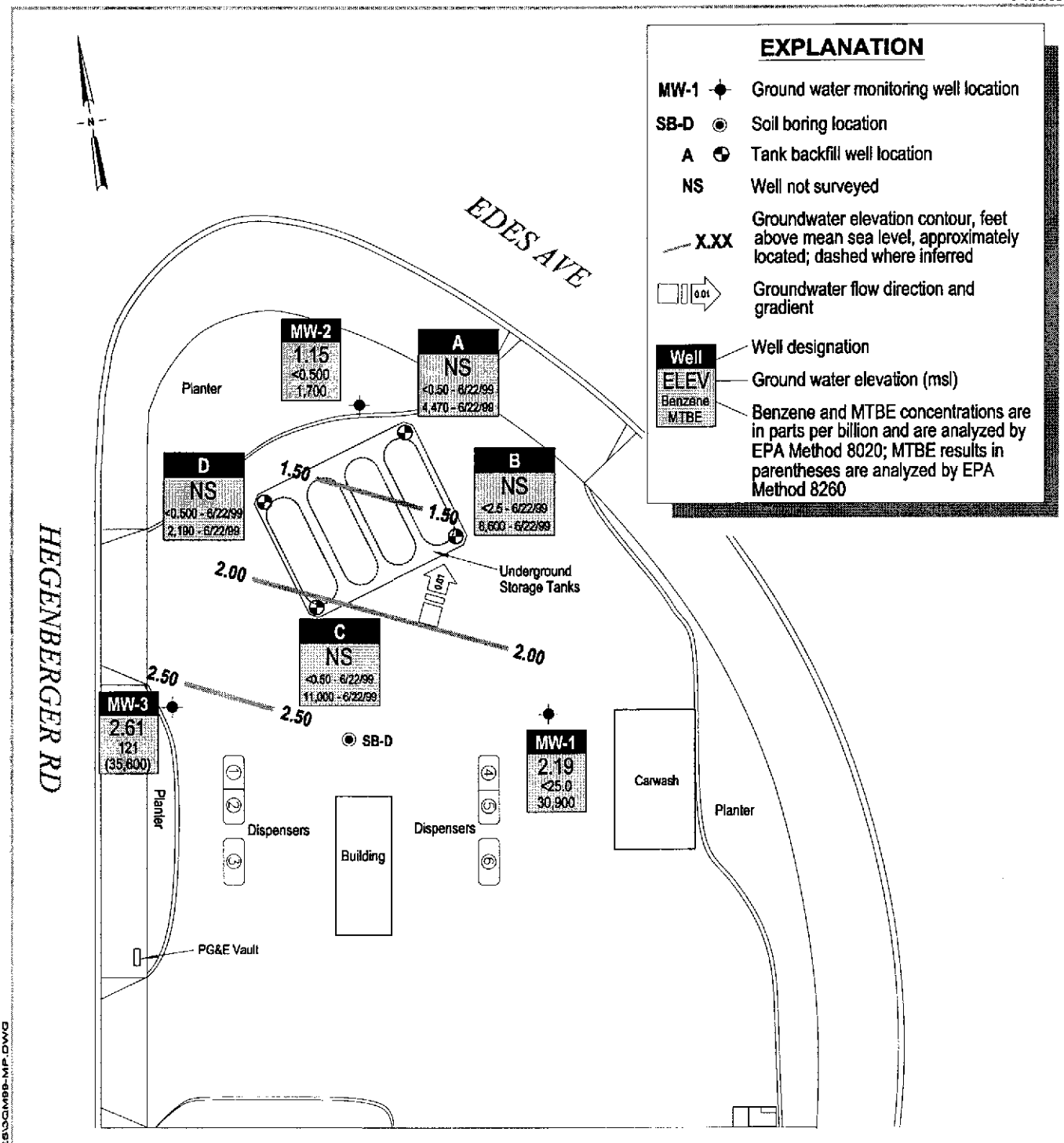
Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Ground Water Elevation Contour Map

June 22, 1999

01/30/00



G:\OAK340\FIGURES\GW99-MP.DWG

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Ground Water Elevation Contour Map

September 30, 1999

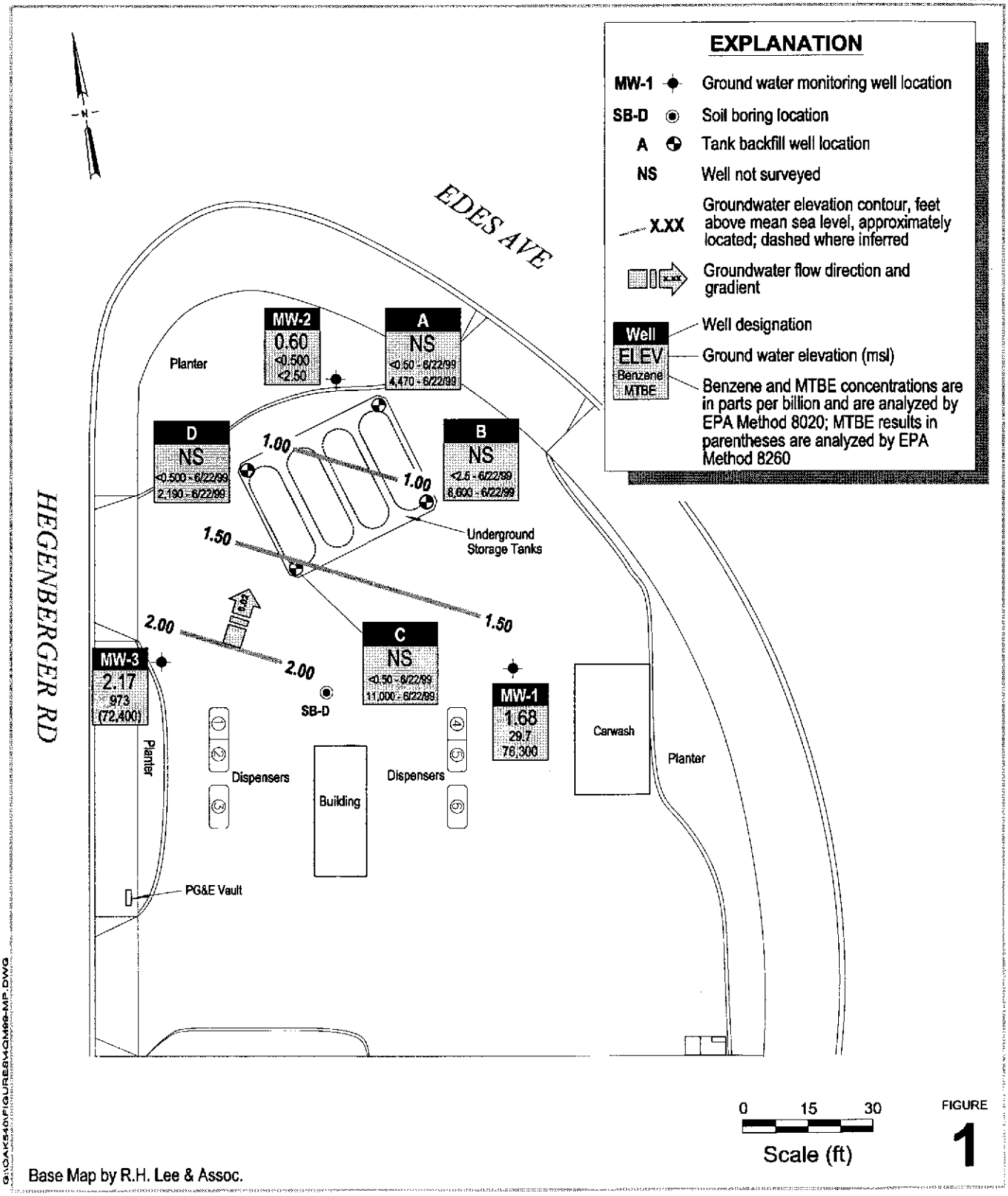


FIGURE 1

Base Map by R.H. Lee & Assoc.

G:\OAK540\FIGURES\0M99-MP.DWG

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Ground Water Elevation Contour Map

December 10, 1999