CAMBRIA

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Amir

February 18, 2004

Mr. Barney Chan
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: **Interim Corrective Action Overpurge Results**
Wells MW-3 and MW-4, First Quarter 2004
Former Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California

Dear Mr. Chan:

Cambria Environmental Technology, Inc. (Cambria) has been requested by Chevron Products Company (Chevron) to conduct periodic overpurging of groundwater at the above referenced site. Overpurging events were approved as part of Delta Environmental Consultants, Inc. (Delta) *Interim Corrective Action Plan*, dated August 1, 2000. A site vicinity map is presented as Figure 1 and a site plan is presented as Figure 2.

Presented below are the results of the First Quarter 2004 overpurge event, conducted on January 5, 2004. Fieldwork included oversight of purge activities, measuring depth to water and sample collection for chemical analysis of dissolved petroleum hydrocarbons.

Groundwater elevations were calculated for monitoring wells MW-1 through MW-7 using depth to groundwater measurements. Pre- and post-purge groundwater elevations are presented in Table 1 and illustrated on pre- and post-purge groundwater elevation contour maps presented as Figures 3 and 4, respectively.

SCOPE OF WORK AND RESULTS

The purging of monitoring wells MW-3 and MW-4 occurred over approximately 6 hours. Groundwater samples were collected before and after the overpurge event. Historically, well MW-7 has been purged along with MW-4. However, because analytes in MW-7 have decreased to very low concentrations and analytes within MW-3 have recently increased, MW-3 was substituted for MW-7 during this overpurge event.

Cambria Environmental Technology, Inc.

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

Laboratory Analysis: Groundwater samples were analyzed for:

- Total Petroleum Hydrocarbons as gasoline (TPHg) by modified EPA Method 8015;
- BTEX and MTBE by EPA Method 8260.

Volume of Impacted Groundwater Removed: Approximately 500 gallons of groundwater were extracted from monitoring wells MW-3 and MW-4. Based on average concentrations of TPHg and MTBE reported in groundwater samples collected from MW-3 and MW-4 during each event, it is estimated that approximately 0.000185 gallons of TPHg and 0.00110 gallons of MTBE were extracted from groundwater during this event. Groundwater extraction data are presented on Table 2 and reported pre- and post-purge analytic results are presented on Table 3.

CLOSING

Please contact Robert Foss at (510) 420-3348 or bfoss@cambria-env.com with any questions or comments you may have.

Sincerely,
Cambria Environmental Technology, Inc.

Melissa Terry
Staff Scientist

Robert Foss, R.G.
Senior Project Geologist

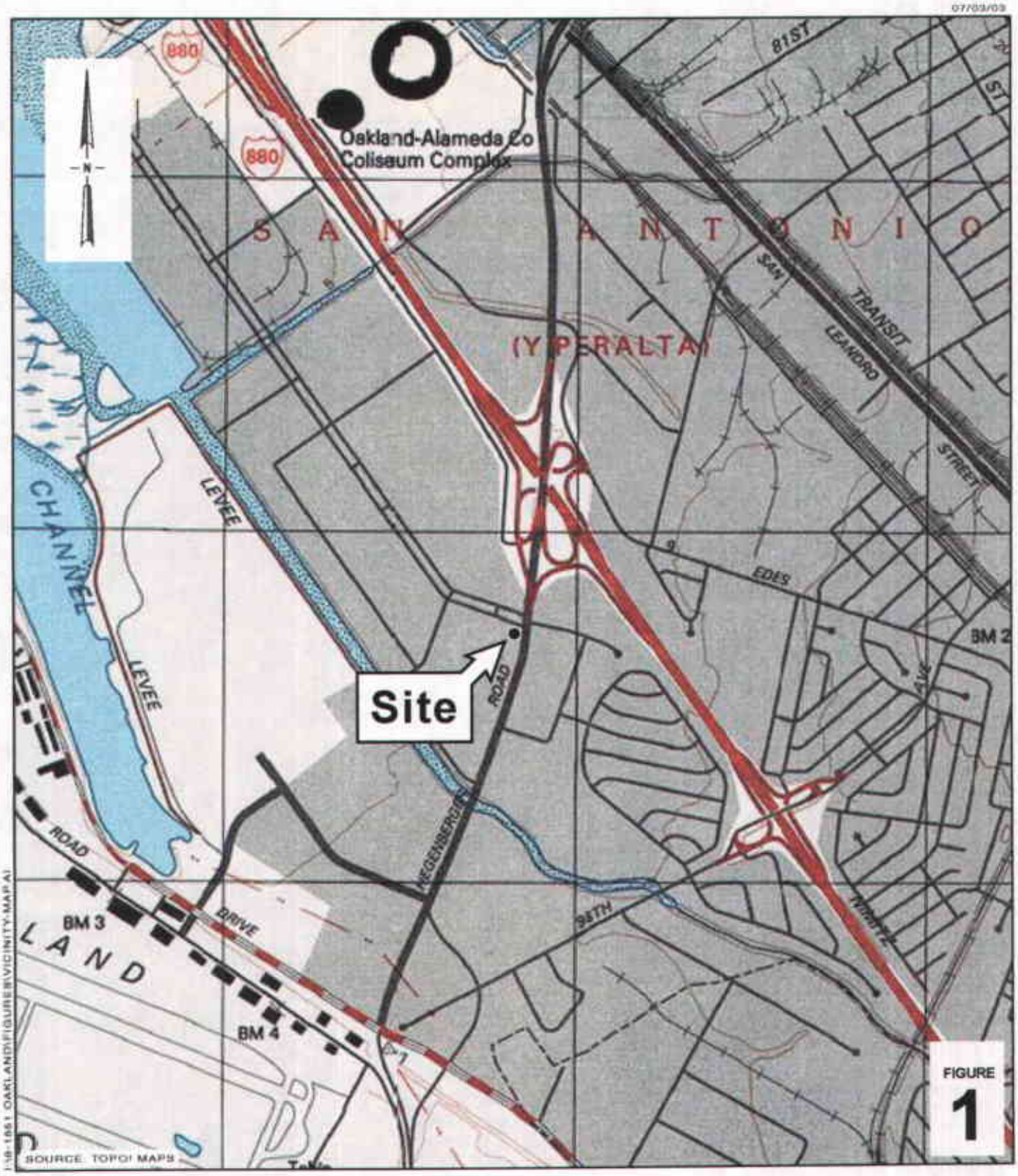
REGISTERED GEOLOGIST
ROBERT C. FOSS
No. 7445
STATE OF CALIFORNIA

Figure:
1 – Vicinity Map
2 – Site Map
3 – Groundwater Elevation Contour Map (pre-purge)
4 – Groundwater Elevation Contour Map (post-purge)

Tables: 1 – Groundwater Elevation Data
2 – Groundwater Extraction Data
3 – Groundwater Analytic Results

Attachments: A – Laboratory Analytic Report

Cc: Ms. Karen Streich, ChevronTexaco, P.O. Box 6012, San Ramon, CA 94583
Mr. Ben Shimek, Petroleum Sales Inc., 31 Industrial Way, Greenbrae, CA 94904



0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

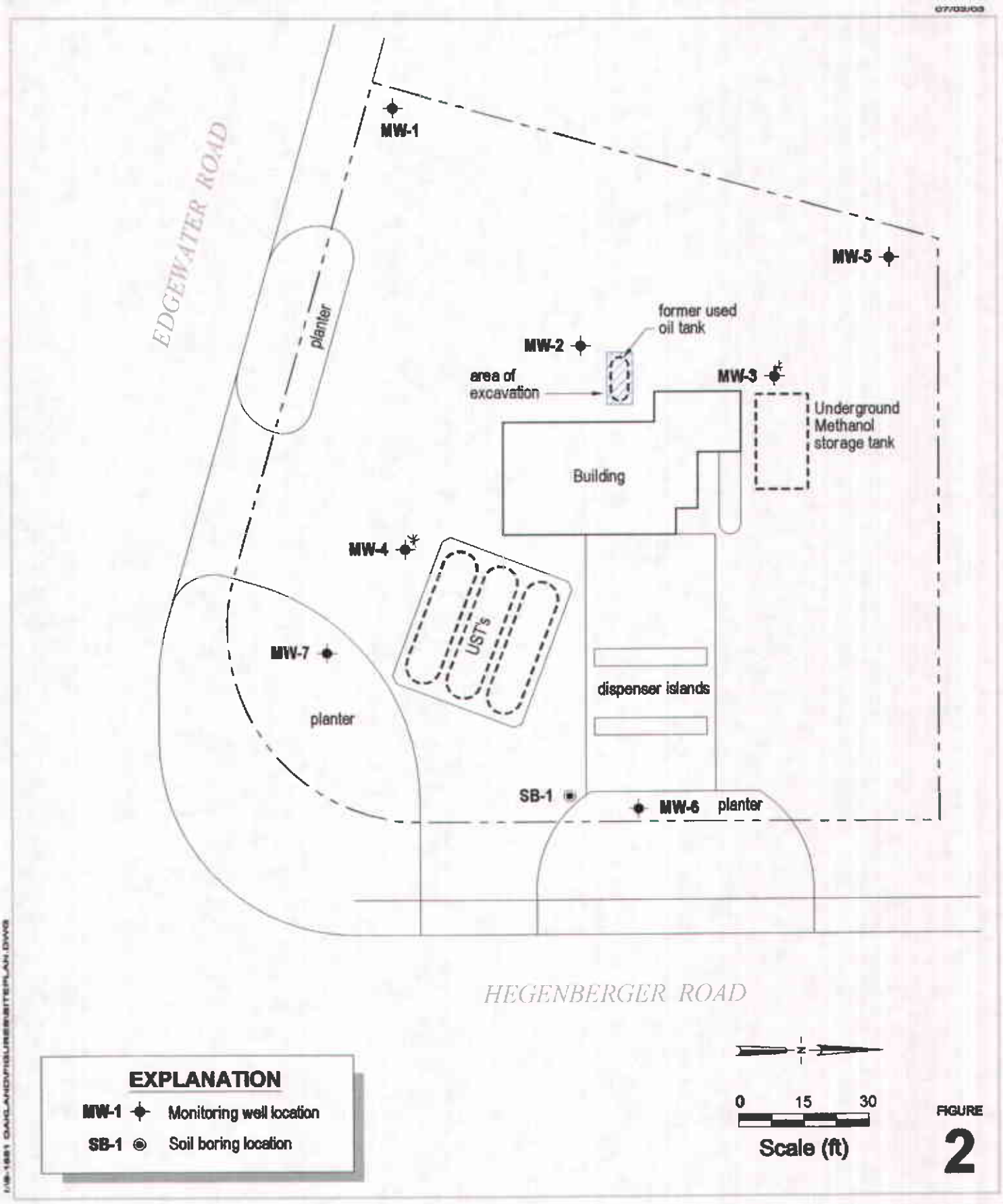
Chevron Service Station 9-1851

451 Hegenberger Road

Oakland, California

CAMBRIA

Vicinity Map



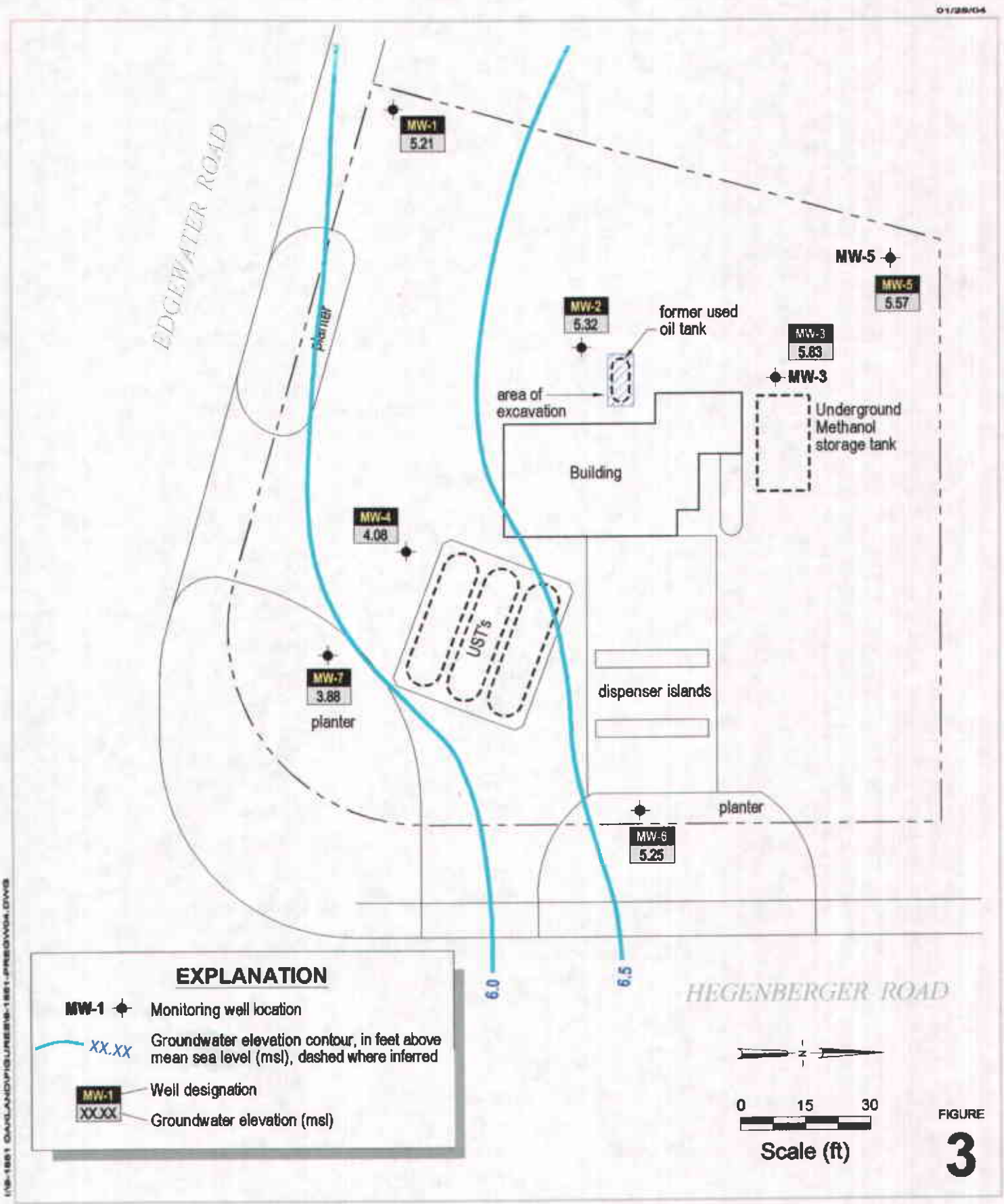
Chevron Service Station 9-1851

451 Hegenberger Road

Oakland, California

CAMBRIA

Site Plan



Chevron Service Station 9-1851

451 Hegenberger Road

Oakland, California

CAMBRIA

Groundwater Elevation Contour Map

Pre-Purge

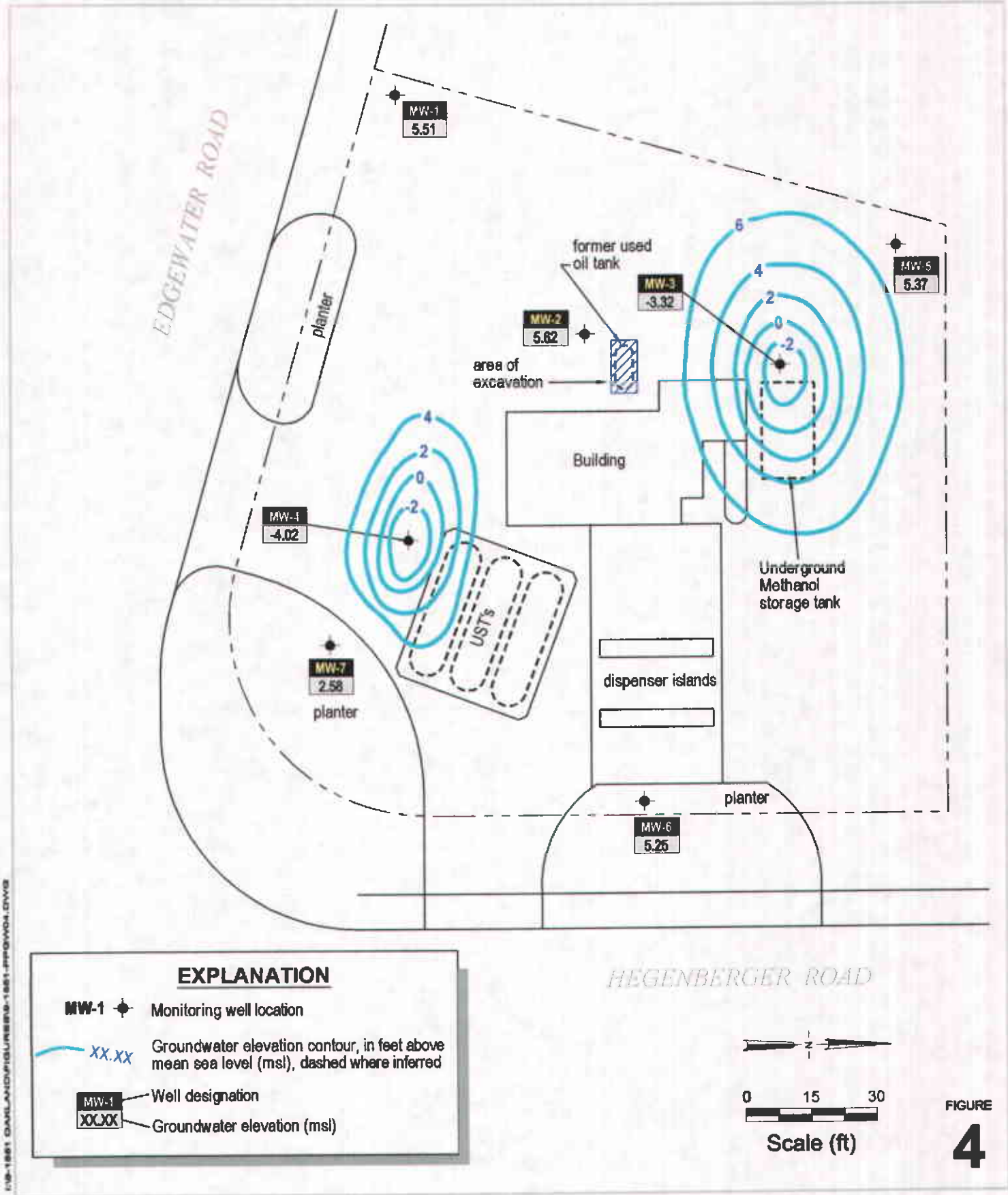


FIGURE 4

Chevron Service Station 9-1851

451 Hegenberger Road

Oakland, California

CAMBRIA

Groundwater Elevation Contour Map

Post-Purge

Table 1. Groundwater Elevation Data - Chevron Station 9-1851, 451 Hegenberger Road, Oakland CA

	Date	Time	Top of Casing Elevation (ft.)	Depth to Groundwater (ft)	Groundwater Elevation (ft)
Pre Purge					
MW-1	1/5/2004	0855	8.61	2.50	6.11
MW-2	1/5/2004	0840	9.52	2.60	6.92
MW-3	1/5/2004	0830	9.08	2.60	6.48
MW-4	1/5/2004	0848	9.48	3.40	6.08
MW-5	1/5/2004	0822	8.77	2.50	6.27
MW-6	1/5/2004	0910	11.45	4.80	6.65
MW-7	1/5/2004	0915	10.58	4.70	5.88
Post Purge					
MW-1	1/5/2004	1348	8.61	2.50	6.11
MW-2	1/5/2004	1340	9.52	2.70	6.82
MW-3	1/5/2004	1320	9.08	12.40	-3.32
MW-4	1/5/2004	1330	9.48	13.50	-4.02
MW-5	1/5/2004	1355	8.77	2.50	6.27
MW-6	1/5/2004	1405	11.45	4.80	6.65
MW-7	1/5/2004	1415	10.58	4.70	5.88

Table 2. Groundwater Extraction Data - Chevron Station 9-1851, 451 Hegenberger Road, Oakland CA

Date	Extracted Groundwater Per Event (Gallons)	Cumulative Extracted Groundwater Volume (Gallons)	Extracted TPHg Volume Per Event* (Gallons)	Extracted MTBE Volume Per Event* (Gallons)	Cumulative Extracted TPHg Volume (Gallons)	Cumulative Extracted MTBE Volume (Gallons)
5/3/2001	200	200	0.000086	0.00047	0.000086	0.000470
6/6/2001	508	708	0.000222	0.00192	0.000308	0.002390
8/30/2001	400	1,108	0.000243	0.00082	0.000551	0.003210
1/15/2002	450	1,558	0.000255	0.00071	0.000806	0.003920
3/5/2002	700	2,258	0.000301	0.00101	0.001107	0.004930
6/18/2002	700	2,958	0.000263	0.00113	0.001370	0.006060
8/8/2002	750	3,700	0.000139	0.00106	0.001509	0.007120
10/31/2002	630	4,338	0.000238	0.00107	0.001747	0.008190
5/20/2003	600	4,938	0.000228	0.00108	0.001975	0.00927
1/5/2004	500	5,438	0.000185	0.00110	0.00216	0.01036

Abbreviations/Notes:

TPHg = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl Tertiary Butyl Ether

* VTPH = VGW [TPH] ρgw/ρTPH
Where:
VTPH = Volume of TPH as gasoline in gallons
Vgw = Volume of Groundwater in million gallons
[TPH] = Average TPH as gasoline concentrations in milligrams per liter (mg/L)
ρTPH = density of TPH as gasoline = 6.1 lbs/gal.
ρgw = density of groundwater = 8.34 lbs/gal.
ρMTBE = density of MTBE = 6.16 lbs/gal.

Table 3. Groundwater Analytical Results - Chevron Station 9-1851, 451 Hegenberger Road, Oakland CA

Sample ID	Sample Date	TPHg	B	T	E	X	MTBE
		Concentrations reported in micrograms per Liter - ug/l = Parts Per Billion					
MW-4-853	5/3/2001	491	<2.5	<2.5	<2.5	<2.5	2,020*/4,270
MW-4-1505	5/3/2001	370	<2.5	<2.5	<2.5	<2.5	3,330*/4,250
MW-7-830	5/3/2001	191	<0.5	<0.5	<0.5	<0.5	1,070*/1,190
MW-7-1505	5/3/2001	201	0.619	<0.5	1.65	0.961	472*/647
MW-4-745	6/11/2001	520	<5.0	<5.0	<5.0	<5.0	4,000*/3,700
MW-4-1500	6/11/2001	<500	<5.0	<5.0	<5.0	<5.0	5,900*/3,500
MW-7-730	6/11/2001	130	<5.0	<5.0	<5.0	<5.0	730*/690
MW-7-1510	6/11/2001	130	<5.0	<5.0	<5.0	<5.0	590*/560
MW-4-825	8/30/2001	720	<1.0	<1.0	<1.0	<1.0	3,000
MW-4-1510	8/30/2001	590	<1.0	<1.0	<1.0	<1.0	2,600
MW-7-815	8/30/2001	140	<1.0	<1.0	<1.0	<1.0	400
MW-7-1520	8/30/2001	330	<1.0	<1.0	<1.0	<1.0	97
MW-4-815	1/15/2002	640	<1.0	<1.0	<1.0	<1.0	2,800
MW-4-1450	1/15/2002	290	<0.5	<0.5	<0.5	<0.5	1,100
MW-7-820	1/15/2002	89	<0.5	<0.5	<0.5	<0.5	290
MW-7-1455	1/15/2002	210	<0.5	<0.5	<0.5	<0.5	460
MW-4-825	3/5/2002	420	<1.0	<1.0	<1.0	<1.0	2,200
MW-4-1510	3/5/2002	160	<3.0	<3.0	<3.0	<3.0	1,200
MW-7-815	3/5/2002	140	<0.5	<0.5	<0.5	<0.5	440
MW-7-1520	3/5/2002	540	<0.5	<0.5	<0.5	<0.5	440
MW-4-916	6/18/2002	530	<0.5	<0.5	<0.5	<0.5	2,900
MW-4-1543	6/18/2002	180	<0.5	<0.5	<0.5	<0.5	1,200
MW-7-905	6/18/2002	120	<0.5	<0.5	<0.5	<0.5	290
MW-7-1602	6/18/2002	270	<0.5	<0.5	<0.5	<0.5	400

Table 3. Groundwater Analytical Results - Chevron Station 9-1851, 451 Hegenberger Road, Oakland CA

Sample ID	Sample Date	TPHg	B	T	E	X	MTBE
		Concentrations reported in micrograms per Liter - ug/l = Parts Per Billion					
MW-4-900	8/8/2002	370	<0.5	<0.5	<0.5	<0.5	2,400
MW-4-1550	8/8/2002	<50	<0.5	<0.5	<0.5	<0.5	220
MW-7-855	8/8/2002	74	<0.5	<0.5	<0.5	<0.5	190
MW-7-1610	8/8/2002	50	<0.5	<0.5	<0.5	<0.5	400
MW-4-850	10/31/2002	490	<0.5	<0.5	<0.5	<0.5	2,200
MW-4-1544	10/31/2002	330	0.9	1	2	13	770
MW-7-840	10/31/2002	89	<0.5	<0.5	<0.5	<0.5	230
MW-7-1535	10/31/2002	200	<0.5	<0.5	<0.5	<0.5	260
MW-4-935	5/20/2003	340	<0.5	0.5	<0.5	<0.5	1,400
MW-4-1500	5/20/2003	140	<0.5	8	2	13	190
MW-7-945	5/20/2003	93	<0.5	<0.5	<0.5	<0.5	170
MW-7-1450	5/20/2003	210	2	22	4	27	210
MW-3-0930	**1/5/2004**	**290**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**1,500**
MW-3-1345	**1/5/2004**	**260**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**1,300**
MW-4-0945	**1/5/2004**	**330**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**1,500**
MW-4-1300	**1/5/2004**	**140**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**600**

Abbreviations/Notes:

Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015M

Benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8260B

Methyl tertiary butyl ether (MTBE) by EPA Method 8260B, * = by EPA method 8021

<x = Not detected above method detection limit

ATTACHMENT A

Laboratory Analytic Report

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 880418. Samples arrived at the laboratory on Wednesday, January 07, 2004. The PO# for this group is 99011184 and the release number is STREICH.

Client Description			Lancaster Labs Number
MW-3-0930-W-040105	Grab	Water	4194876
MW-3-1345-W-040105	Grab	Water	4194877
MW-4-0945-W-040105	Grab	Water	4194878
MW-4-1300-W-040105	Grab	Water	4194879
QA-T-040105	NA	Water	4194880

1 COPY TO Cambria Environmental Attn: Bob Foss

Questions? Contact your Client Services Representative
Alison M O'Connor at (717) 656-2300.

Respectfully Submitted,

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4194876

MW-3-0930-W-040105 Grab Water
Facility# 91851 CETR
451 Hegenberger, Oakland T0600102238 MW-3
Collected:01/05/2004 09:30 by MT

Account Number: 10880

Submitted: 01/07/2004 10:40
Reported: 01/12/2004 at 10:43
Discard: 02/12/2004

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3-930

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	290.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	1,500.	10.	ug/l	20
05401	Benzene	71-43-2	N.D.	1.	ug/l	2
05407	Toluene	108-88-3	N.D.	1.	ug/l	2
05415	Ethylbenzene	100-41-4	N.D.	1.	ug/l	2
06310	Xylene (Total)	1330-20-7	N.D.	1.	ug/l	2

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Due to the level of methyl t-butyl ether, the reporting limits for all GC/MS volatile compounds were raised.

State of California Lab Certification No. 2116

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/07/2004 22:40	Todd T Smythe	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/08/2004 22:21	Scott M Evans	2
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/08/2004 22:46	Scott M Evans	20
01146	GC VOA Water Prep	SW-846 5030B	1	01/07/2004 22:40	Todd T Smythe	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	2	01/08/2004 22:21	Scott M Evans	n.a.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4194877

MW-3-1345-W-040105 Grab Water
Facility# 91851 CETR
451 Hegenberger, Oakland T0600102238 MW-3
Collected:01/05/2004 13:45 by MT

Account Number: 10880

Submitted: 01/07/2004 10:40
Reported: 01/12/2004 at 10:43
Discard: 02/12/2004

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

31345

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	260.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	1,300.	10.	ug/l	20
05401	Benzene	71-43-2	N.D.	1.	ug/l	2
05407	Toluene	108-88-3	N.D.	1.	ug/l	2
05415	Ethylbenzene	100-41-4	N.D.	1.	ug/l	2
06310	Xylene (Total)	1330-20-7	N.D.	1.	ug/l	2

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Due to the level of methyl t-butyl ether, the reporting limits for all GC/MS volatile compounds were raised.

State of California Lab Certification No. 2116

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/07/2004 22:07	Todd T Smythe	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/08/2004 23:11	Scott M Evans	2
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/08/2004 23:36	Scott M Evans	20
01146	GC VOA Water Prep	SW-846 5030B	1	01/07/2004 22:07	Todd T Smythe	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	2	01/08/2004 23:11	Scott M Evans	n.a.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4194878

MW-4-0945-W-040105 Grab Water
Facility# 91851 CETR
451 Hegenberger, Oakland T0600102238 MW-4
Collected:01/05/2004 09:45 by MT

Account Number: 10880

Submitted: 01/07/2004 10:40
Reported: 01/12/2004 at 10:43
Discard: 02/12/2004

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

4-945

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	330.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	1,500.	10.	ug/l	20
05401	Benzene	71-43-2	N.D.	1.	ug/l	2
05407	Toluene	108-88-3	N.D.	1.	ug/l	2
05415	Ethylbenzene	100-41-4	N.D.	1.	ug/l	2
06310	Xylene (Total)	1330-20-7	N.D.	1.	ug/l	2

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Due to the level of methyl t-butyl ether, the reporting limits for all GC/MS volatile compounds were raised.

State of California Lab Certification No. 2116

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/07/2004 21:34	Todd T Smythe	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/09/2004 00:01	Scott M Evans	2
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/09/2004 00:26	Scott M Evans	20
01146	GC VOA Water Prep	SW-846 5030B	1	01/07/2004 21:34	Todd T Smythe	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	2	01/09/2004 00:01	Scott M Evans	n.a.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4194879

MW-4-1300-W-040105 Grab Water
Facility# 91851 CETR
451 Hegenberger, Oakland T0600102238 MW-4
Collected:01/05/2004 13:00 by MT

Account Number: 10880

Submitted: 01/07/2004 10:40
Reported: 01/12/2004 at 10:43
Discard: 02/12/2004

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

41300

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	140.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	600.	3.	ug/l	5
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

State of California Lab Certification No. 2116

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/07/2004 21:02	Todd T Smythe	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/09/2004 00:51	Scott M Evans	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/09/2004 01:16	Scott M Evans	5
01146	GC VOA Water Prep	SW-846 5030B	1	01/07/2004 21:02	Todd T Smythe	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	2	01/09/2004 00:51	Scott M Evans	n.a.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4194880

QA-T-040105 NA Water
Facility# 91851 CETR
451 Hegenberger, Oakland T0600102238 QA
Collected:01/05/2004 00:00

Account Number: 10880

Submitted: 01/07/2004 10:40
Reported: 01/12/2004 at 10:43
Discard: 02/12/2004

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

QA451

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

State of California Lab Certification No. 2116

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/07/2004 20:29	Todd T Smythe	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/08/2004 21:55	Scott M Evans	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/07/2004 20:29	Todd T Smythe	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	2	01/08/2004 21:55	Scott M Evans	n.a.

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: ChevronTexaco Group Number: 880418
Reported: 01/12/04 at 10:43 AM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 04007A07D	Sample number(s): 4194876-4194880							
TPH-GRO - Waters	N.D.	50.	ug/l	101		70-130		
Batch number: N040071AC	Sample number(s): 4194876-4194880							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	97	101	77-127	4	30
Benzene	N.D.	0.5	ug/l	99	103	85-117	4	30
Toluene	N.D.	0.5	ug/l	94	100	85-115	6	30
Ethylbenzene	N.D.	0.5	ug/l	96	99	82-119	3	30
Xylene (Total)	N.D.	0.5	ug/l	95	99	84-120	4	30

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 04007A07D	Sample number(s): 4194876-4194880								
TPH-GRO - Waters	100	100	63-154	0	30				
Batch number: N040071AC	Sample number(s): 4194876-4194880								
Methyl Tertiary Butyl Ether	121		69-134						
Benzene	127		83-128						
Toluene	122		83-127						
Ethylbenzene	122		82-129						
Xylene (Total)	122		82-130						

Surrogate Quality Control

Analysis Name: TPH-GRO - Waters
Batch number: 04007A07D

	Trifluorotoluene-F
4194876	82
4194877	83
4194878	85
4194879	81
4194880	80
Blank	80
LCS	103
MS	106
MSD	106
Limits:	57-146

Analysis Name: BTEX+MTBE by 8260B
Batch number: N040071AC

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4194876	96	95	99	97
4194877	96	94	99	96

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 880418
Reported: 01/12/04 at 10:43 AM

Surrogate Quality Control

4194878	96	97	99	97
4194879	96	93	100	97
4194880	96	94	100	96
Blank	95	95	100	96
LCS	96	96	99	99
LCSD	95	95	100	99
MS	96	97	99	98
Limits:	81-120	82-112	85-112	83-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result falls within the Method Detection Limit (MDL) and Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

01604-001

Acct. #: 10880

For Lancaster Laboratories use only
Sample #: 419876-80

SCR#:

Graph # 880418

Facility #: 9-1851
Site Address: 451 Hegenberger Rd., Oakland, CA
Chevron PM: _____ Lead Consultant: Cambria
Consultant/Office: Cambria / Emeryville
Consultant Prj. Mgr.: Bob Foss
Consultant Phone #: 510.420.3348 Fax #: 510.420.9170
Sampler: M. Terry
Service Order #: _____ ☐ Non SAR: _____

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab	Composite	Total Number of Containers	BTEX + MTBE 8260 ☒ 8021 ☐	TPH 8015 MOD GRO (TPHg)	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 ☐ 7421 ☐
MW3-0930	W			04.01.05	0930		X		6	X	X				
MW3-1345	W			04.01.05	1345		X		6	X	X				
MW4-0945	W			04.01.05	0945		X		6	X	X				
MW4-1300	W			04.01.05	1300		X		6	X	X				
QA				04.01.05					2	X	X				

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

Relinquished by:	Date	Time	Received by:	Date	Time
Melissa Terry	1/6/04	1530	Bernardo Arroyo	1/6/04	1530
Bernardo Arroyo	1/6/04	1600	Airborne	1/6/04	
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS FedEx (Other) Airborne			Received by:	Date	Time
Temperature Upon Receipt 2.0 C°			Custody Seals Intact? Yes No		

3460 Rev. 10/04/01