Delta
Environmental
Consultants, Inc.

3164 Gold Camp Drive
Suite 200
Rancho Cordova, CA 95670-6021
U.S.A.
916/638-2085
FAX: 916/638-8385

AG ✓ RO464

Alameda County
FEB 06 2003
Environmental Health

January 28, 2003

Mr. Barney Chan
Alameda County Health Care Services,
Department of Environmental Health
1153 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: *Interim Corrective Action Plan and Overpurge Results, Third and Fourth Quarters 2002*
Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California
Delta Project No. DG91-851

Dear Mr. Chan:

Delta Environmental Consultants, Inc. (Delta) has been authorized by Chevron Products Company (Chevron) to conduct periodic groundwater overpurge events at the above referenced site. The overpurge events were conducted as part of Delta's *Interim Corrective Action Plan,* dated August 1, 2000. The location of the site is shown on Figure 1 and the site features are illustrated on Figure 2.

This report presents the results of the groundwater overpurge events conducted on August 8 and October 31, 2002, which included depth-to-water measurements and sample collection for chemical analyses of dissolved petroleum hydrocarbons. Field work was conducted at the site in accordance with field methods and procedures presented in Enclosure A.

Groundwater Elevation Measurements

Groundwater elevations were calculated for monitoring wells MW-1 through MW-7 using depth-to-groundwater measurements. Groundwater elevations and depth-to-water measurements are presented in Table 1. Measurements recorded on October 31, 2002 were used to construct the pre- and post-purge groundwater elevation contour maps shown on Figures 3 and 4, respectively.

Groundwater Sampling and Analytical Results

Groundwater samples were collected from monitoring wells MW-4 and MW-7 before and after each overpurge event. The groundwater samples were submitted to a California-certified laboratory for analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8260B, and total petroleum hydrocarbons as gasoline (TPHg) using the Northern California LUFT Gasoline Method. Cumulative analytical results are compiled in Table 2, and copies of laboratory analytical reports with chain-of-custody documentation for the third and fourth quarter overpurge events are included in Enclosure B.

Volume of Impacted Groundwater Removed

Approximately 1,380 gallons of impacted groundwater were extracted from monitoring wells MW-4 and MW-7 during the third and fourth quarters 2002. Based on average concentrations of TPHg and MTBE reported in groundwater samples collected from MW-4 and MW-7 during each event, it is estimated that approximately 0.000377 gallons of TPHg and 0.00154 gallons of MTBE were removed from groundwater in the vicinity of the underground storage tank basin during the third and fourth quarters 2002. Cumulative volumes of groundwater, TPHg, and MTBE, removed from the site during the overpurge events, are compiled in [redacted]

If you have questions or comments regarding this report, please contact Ben Heningburg at (916) 536-2623.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

William Slowik
Staff Scientist

Benjamin I. Heningburg
Project Manager

Steven W. Meeks, P.E.
California Registered Civil Engineer No. C057461

REGISTERED PROFESSIONAL ENGINEER
STEVEN WHITTEN MEEKS
C 057461
Exp. 12/31/05
CIVIL
STATE OF CALIFORNIA
1/28/03

BIH (Lrp007.9-1851 ICAP & Overpurge)
Enclosures

cc: Ms. Karen Streich – Chevron Products Company
Mr. Jim Brownell – Delta Environmental Consultants, Inc.

TABLE 1

GROUNDWATER ELEVATION DATA
OCTOBER 31, 2002

Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California

Sample ID	Date	Time	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)
Pre Purge					
MW-1	10/31/02	9:20	8.61	4.01	4.60
MW-2	10/31/02	9:08	9.52	4.92	4.60
MW-3	10/31/02	9:25	9.08	4.45	4.63
MW-4	10/31/02	8:46	9.48	5.34	4.14
MW-5	10/31/02	9:02	8.77	4.16	4.61
MW-6	10/31/02	8:58	11.45	6.75	4.70
MW-7	10/31/02	8:29	10.58	6.78	3.80
Post Purge					
MW-1	10/31/02	15:30	8.61	4.01	4.60
MW-2	10/31/02	15:34	9.52	4.91	4.61
MW-3	10/31/02	15:27	9.08	4.45	4.63
MW-4	10/31/02	15:38	9.48	12.70	-3.22
MW-5	10/31/02	15:24	8.77	4.15	4.62
MW-6	10/31/02	15:21	11.45	6.75	4.70
MW-7	10/31/02	15:19	10.58	9.66	0.92

TPHg = Total petroleum hydrocarbons as gasoline.
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California

Sample ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPHg (µg/L)	MTBE (µg/L)
MW-4-853	05/03/01	<2.5	<2.5	<2.5	<2.5	491	2,020[a]/4,270
MW-4-1505	05/03/01	<2.5	<2.5	<2.5	<2.5	370	3,330[a]/4,250
MW-7-830	05/03/01	<0.5	<0.5	<0.5	<0.5	191	1,070[a]/1,190
MW-7-1505	05/03/01	0.619	<0.5	1.65	0.961	201	472[a]/647
MW-4-745	06/11/01	<5.0	<5.0	<5.0	<5.0	520	4,000[a]/3,700
MW-4-1500	06/11/01	<5.0	<5.0	<5.0	<5.0	<500	5,900[a]/3,500
MW-7-730	06/11/01	<5.0	<5.0	<5.0	<5.0	130	730[a]/690
MW-7-1510	06/11/01	<5.0	<5.0	<5.0	<5.0	130	590[a]/560
MW-4-825	08/30/01	<1.0	<1.0	<1.0	<1.0	720	3,000
MW-4-1510	08/30/01	<1.0	<1.0	<1.0	<1.0	590	2,600
MW-7-815	08/30/01	<1.0	<1.0	<1.0	<1.0	140	400
MW-7-1520	08/30/01	<1.0	<1.0	<1.0	<1.0	330	97
MW-4-815	01/15/02	<1.0	<1.0	<1.0	<1.0	640	2,800
MW-4-1450	01/15/02	<0.5	<0.5	<0.5	<0.5	290	1,100
MW-7-820	01/15/02	<0.5	<0.5	<0.5	<0.5	89	290
MW-7-1455	01/15/02	<0.5	<0.5	<0.5	<0.5	210	460
MW-4-825	03/05/02	<1.0	<1.0	<1.0	<1.0	420	2,200
MW-4-1510	03/05/02	<3.0	<3.0	<3.0	<3.0	160	1,200
MW-7-815	03/05/02	<0.5	<0.5	<0.5	<0.5	140	440
MW-7-1520	03/05/02	<0.5	<0.5	<0.5	<0.5	540	440
MW-4-916	06/18/02	<0.5	<0.5	<0.5	<0.5	530	2,900
MW-4-1543	06/18/02	<0.5	<0.5	<0.5	<0.5	180	1,200
MW-7-905	06/18/02	<0.5	<0.5	<0.5	<0.5	120	290
MW-7-1602	06/18/02	<0.5	<0.5	<0.5	<0.5	270	400
MW-4-900	08/08/02	<0.5	<0.5	<0.5	<0.5	370	2,400
MW-4-1550	08/08/02	<0.5	<0.5	<0.5	<0.5	<50	220
MW-7-855	08/08/02	<0.5	<0.5	<0.5	<0.5	74	190
MW-7-1610	08/08/02	<0.5	<0.5	<0.5	<0.5	50	400
[redacted]	10/31/02	<0.5	<0.5	<0.5	<0.5	490	2,200
MW-4-1544	10/31/02	[redacted]	1.0	2.0	13	330	770
MW-7-840	10/31/02	<0.5	<0.5	<0.5	<0.5	89	230
MW-7-1535	10/31/02	<0.5	<0.5	<0.5	<0.5	200	260

TPHg = Total petroleum hydrocarbons as gasoline.

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B.

[a] = analyzed by EPA Method 8020.

TABLE 3

CUMULATIVE VOLUME OF GROUNDWATER AND TPH AS GASOLINE EXTRACTED FROM MW-4 AND MW-7

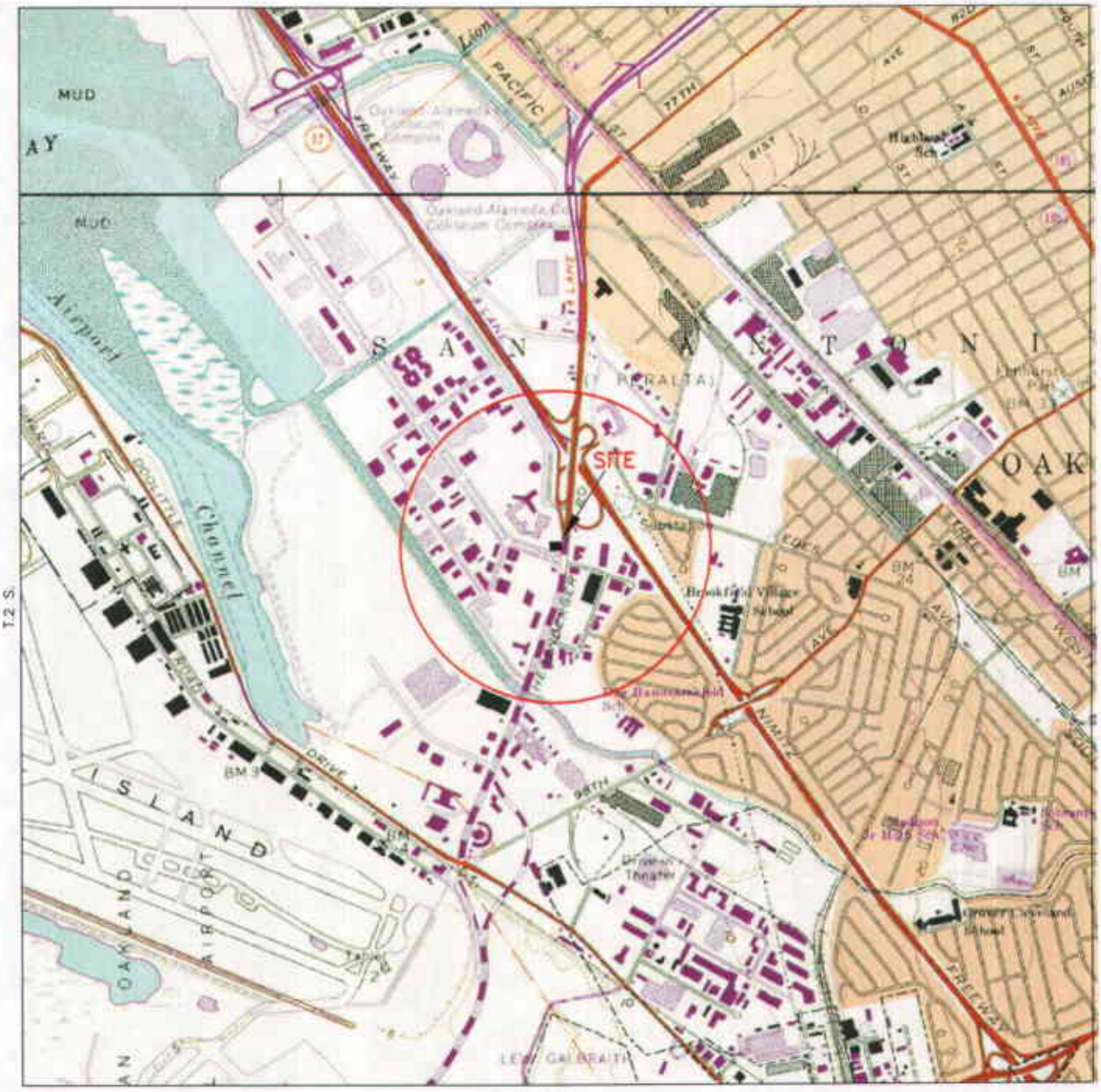
Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California

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)
05/03/01	200	200	0.000086	0.00047	0.000086	0.00047
06/06/01	508	708	0.000222	0.00192	0.000308	0.00239
08/30/01	400	1,108	0.000243	0.00082	0.000551	0.00321
01/15/02	450	1,558	0.000255	0.00071	0.000806	0.00392
03/05/02	700	2,258	0.000301	0.00101	0.001107	0.00403
06/18/02	700	2,958	0.000263	0.00113	0.00137	0.00516
08/08/02	750	3,700	0.000139	0.00081	0.001509	0.00597
10/31/02	630	[redacted]	0.000238	0.00073	0.001747	0.00670

TPHg = Total petroleum hydrocarbons as gasoline.
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B

* 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)
ρgw = density of groundwater = 8.34 lbs/gal.
ρTPH = density of TPH as gasoline = 6.1 lbs/gal.
ρMTBE = density of MTBE = 6.16 lbs/gal.



North

GENERAL NOTES:
BASE MAP FROM U.S.G.S.
SAN LEANDRO, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980

QUADRANGLE LOCATION

0 2000 FT

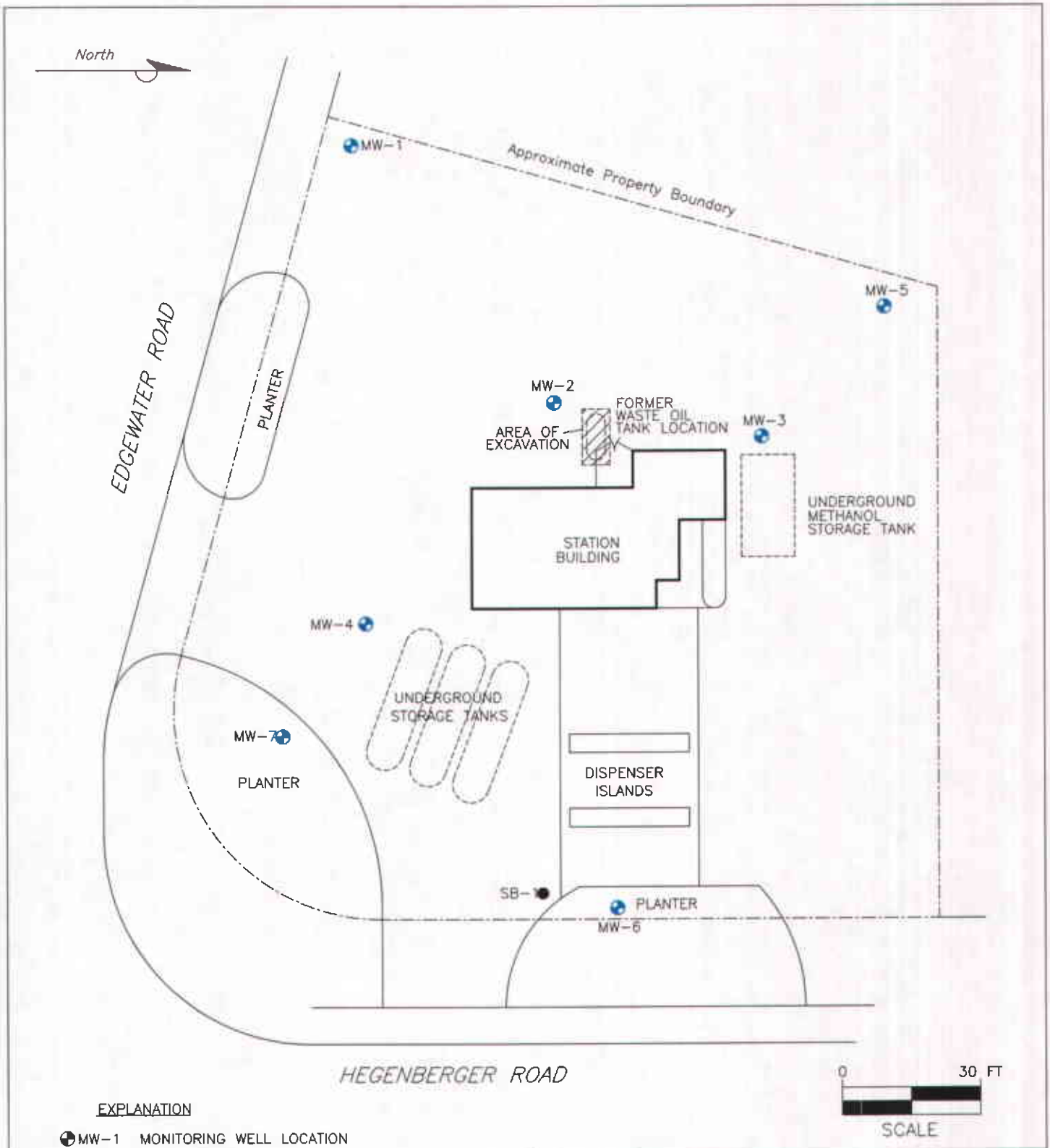
SCALE 1:24,000

FIGURE 1
SITE TOPOGRAPHIC MAP
CHEVRON STATION NO. 9-1851
451 HEGENBERGER ROAD
OAKLAND, CA.

PROJECT NO. –	DRAWN BY TLA 10/24/00
FILE NO. –	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

\\Sacramento\CAD Files\Sacramento\Chevron\9-1851\DG91851-1A.dwg



EXPLANATION

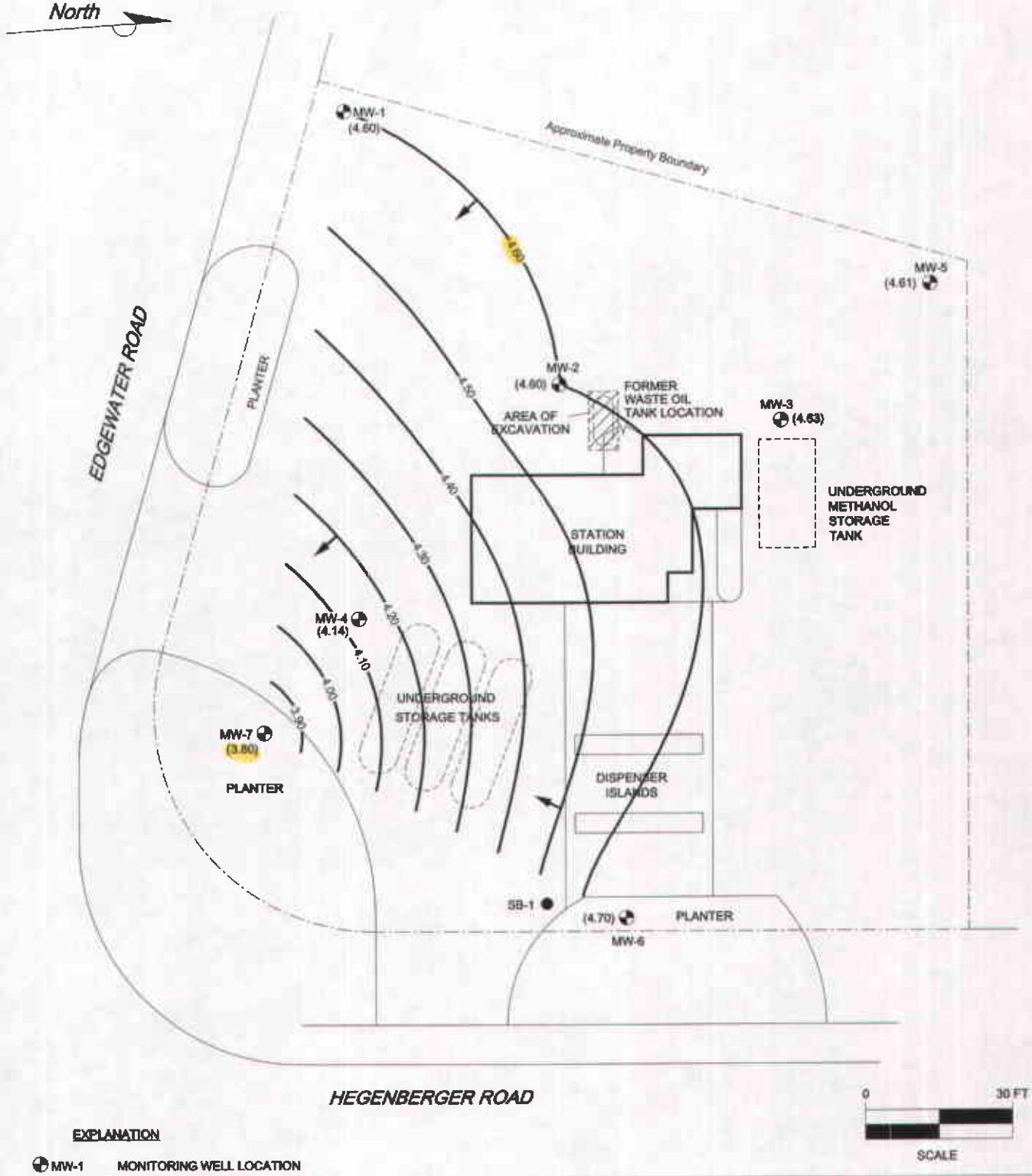
⊕ MW-1 MONITORING WELL LOCATION
● SB-1 SOIL BORING LOCATION

FIGURE 2
SITE MAP

CHEVRON STATION NO. 9-1851
451 HEGENBERGER ROAD
OAKLAND, CA.

PROJECT NO. DG91-851	DRAWN BY TLA 10/24/00
FILE NO. DG91851-1	PREPARED BY BIH
REVISION NO. 2	REVIEWED BY

Delta Environmental Consultants, Inc.



EXPLANATION

MW-1	MONITORING WELL LOCATION
SB-1	SOIL BORING LOCATION
(4.60)	GROUND WATER ELEVATION IN FEET RELATIVE TO AN ASSUMED BENCH MARK
4.10	INFERRED WATER TABLE CONTOUR IN FEET RELATIVE TO AN ASSUMED BENCH MARK
→	INFERRED GROUND WATER FLOW DIRECTION

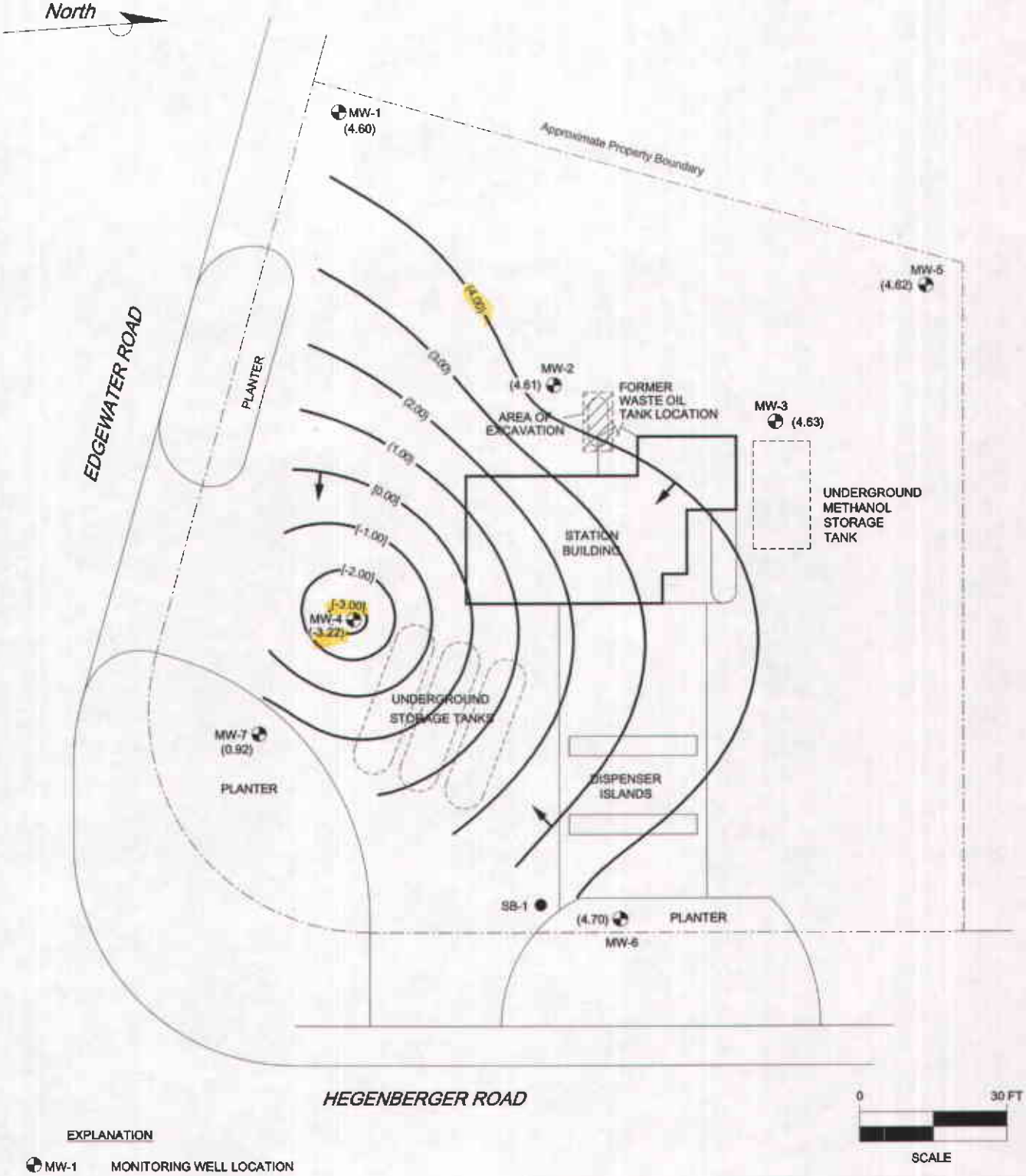
FIGURE 3

GROUNDWATER ELEVATION CONTOUR MAP
PRE PURGE - 10/31/02

CHEVRON STATION NO. 9-1851
451 HEGENBERGER ROAD
OAKLAND, CA.

PROJECT NO. DG91-851	DRAWN BY M.L. 11/14/02
FILE NO. DG918511	PREPARED BY W.S.
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



EXPLANATION

MW-1	MONITORING WELL LOCATION
SB-1	SOIL BORING LOCATION
(4.60)	GROUND WATER ELEVATION IN FEET RELATIVE TO AN ASSUMED BENCH MARK
—4.00—	INFERRED WATER TABLE CONTOUR IN FEET RELATIVE TO AN ASSUMED BENCH MARK
→	INFERRED GROUND WATER FLOW DIRECTION

FIGURE 4

GROUNDWATER ELEVATION CONTOUR MAP
POST PURGE - 10/31/02

CHEVRON STATION NO. 9-1851
451 HEGENBERGER ROAD
OAKLAND, CA.

PROJECT NO. DG91-851	DRAWN BY M.L. 11/14/02
FILE NO. DG918511	PREPARED BY W.S.
REVISION NO. 1	REVIEWED BY

Delta
Environmental
Consultants, Inc.

FIELD METHODS AND PROCEDURES

The following describes field procedures that were completed by Delta personnel in the performance of the tasks involved with this project.

1.0 GROUNDWATER DEPTH ASSESSMENT

Depth to groundwater was measured to the nearest 0.01 foot using an electronic hand held water level indicator. The tip of the probe was examined to assess whether liquid-phase petroleum hydrocarbons or hydrocarbon sheen was present. The depth to groundwater was measured from a marked reference point at the top of each well riser. Each reference point has been surveyed relative to a mean sea level or temporary benchmark for correlation of groundwater levels at the site.

2.0 MONITORING WELL PURGING AND SAMPLING

Groundwater was purged from the wells by connecting a manifold vacuum hose, slip-cap and drop tube assembly to the wellhead. Once the assembly was connected, approximately 15 inches of mercury vacuum was applied to the wellhead for enhanced fluid recovery. After the water levels within the wells were allowed to stabilize, a sample was collected with a dedicated, clean, disposable plastic bailer. Samples were sealed in air tight vials, packed on ice, and transported to a California-certified laboratory to be analyzed within the EPA-specified holding time for requested analyses.

Each sample container submitted for analysis had a label affixed to identify the job number, sample date, time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, were recorded on sampling information sheets.

A chain-of-custody form was used to record possession of the sample from the time of collection to its arrival at the laboratory. When the samples were shipped, the person in custody of them relinquished the samples by signing the chain-of-custody form and noting the time. The sample control officer at the laboratory verified sample integrity and confirmed that it was collected in the proper container, preserved correctly, and that there was an adequate volume for analysis. The laboratory then assigns each sample with a unique identification number that will designate a given sample until it is properly destroyed.

ENCLOSURE B

Copies of Certified Laboratory Analytical Reports
With Chain of Custody Documentation

Lancaster Laboratories
Where quality is a science.

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 829263. Samples arrived at the laboratory on Saturday, November 02, 2002. The PO# for this group is 99011184 and the release number is STREICH.

Client Description			Lancaster Labs Number
MW-7-W-021031	NA	Water	3932965
MW-4-W-021031	NA	Water	3932966
MW-7-W-021031	NA	Water	3932967
MW-4-W-021031	NA	Water	3932968

1 COPY TO Delta Environmental Attn: Mr. Ben Heningburg

Questions? Contact your Client Services Representative
Teresa M Lis at (717) 656-2300.

Respectfully Submitted,

Robert E. Mellinger
Sr Chemist/Coordinator

Analysis Report

Lancaster Laboratories
Where quality is a science.

Lancaster Laboratories Sample No. WW 3932965

Collected:10/31/2002 08:40 by WS

Account Number: 10900

Submitted: 11/02/2002 10:20
Reported: 11/12/2002 at 12:54
Discard: 12/13/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-7-W-021031 NA Water
Facility# 91851 DECR
451 Hegenberger Rd T0600102238 MW-7

851M7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	89.	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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	230.	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

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	11/04/2002 23:15	Melissa D Mann	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	11/06/2002 06:10	Kenneth L Boley Jr	1
01146	GC VOA Water Prep	SW-846 5030B	1	11/04/2002 23:15	Melissa D Mann	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	11/06/2002 06:10	Kenneth L Boley Jr	n.a.

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories
Where quality is a science.

Lancaster Laboratories Sample No. WW 3932966

Collected:10/31/2002 08:50 by WS

Account Number: 10900

Submitted: 11/02/2002 10:20
Reported: 11/12/2002 at 12:54
Discard: 12/13/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-4-W-021031 NA Water
Facility# 91851 DECR
451 Hegenberger Rd T0600102238 MW-4

851M4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	490.	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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	2,200.	10.	ug/l	20
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

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	11/05/2002 00:13	Melissa D Mann	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	11/06/2002 10:32	Kenneth L Boley Jr	20
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	11/06/2002 12:43	Kenneth L Boley Jr	1
01146	GC VOA Water Prep	SW-846 5030B	1	11/05/2002 00:13	Melissa D Mann	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	11/06/2002 10:32	Kenneth L Boley Jr	n.a.

Analysis Report

Lancaster Laboratories
Where quality is a science.

Lancaster Laboratories Sample No. WW 3932967

Collected:10/31/2002 15:35 by WS

Account Number: 10900

Submitted: 11/02/2002 10:20
Reported: 11/12/2002 at 12:54
Discard: 12/13/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-7-W-021031 NA Water
Facility# 91851 DECR
451 Hegenberger Rd T0600102238 MW-7

851-7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	200.	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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	260.	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

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	11/05/2002 05:07	Melissa D Mann	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	11/06/2002 06:36	Kenneth L Boley Jr	1
01146	GC VOA Water Prep	SW-846 5030B	1	11/05/2002 05:07	Melissa D Mann	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	11/06/2002 06:36	Kenneth L Boley Jr	n.a.

Analysis Report

Lancaster Laboratories
Where quality is a science.

Lancaster Laboratories Sample No. WW 3932968

Collected:10/31/2002 15:44 by WS

Account Number: 10900

Submitted: 11/02/2002 10:20
Reported: 11/12/2002 at 12:54
Discard: 12/13/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-4-W-021031 NA Water
Facility# 91851 DECR
451 Hegenberger Rd T0600102238 MW-4

851-4

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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	770.	5.	ug/l	10
05401	Benzene	71-43-2	0.9	0.5	ug/l	1
05407	Toluene	108-88-3	1.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	2.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	13.	0.5	ug/l	1

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	11/05/2002 03:29	Melissa D Mann	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	11/06/2002 10:58	Kenneth L Boley Jr	10
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	11/06/2002 15:58	John B Kiser	1
01146	GC VOA Water Prep	SW-846 5030B	1	11/05/2002 03:29	Melissa D Mann	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	11/06/2002 15:58	John B Kiser	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	2	11/06/2002 10:58	Kenneth L Boley Jr	n.a.

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Quality Control Summary

Client Name: ChevronTexaco Group Number: 829263
Reported: 11/12/02 at 12:55 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 02308A51A	Sample number(s): 3932965-3932966							
TPH-GRO - Waters	N.D.	50.	ug/l	100	99	74-116	1	30
Batch number: 02308A51B	Sample number(s): 3932967-3932968							
TPH-GRO - Waters	N.D.	50.	ug/l	100	99	74-116	1	30
Batch number: N023101AA	Sample number(s): 3932965-3932968							
Methyl t-butyl ether	N.D.	.5	ug/l	96		77-127		
Benzene	N.D.	.5	ug/l	108		85-117		
Toluene	N.D.	.5	ug/l	110		85-115		
Ethylbenzene	N.D.	.5	ug/l	109		82-119		
Xylene (Total)	N.D.	.5	ug/l	110		84-120		
Batch number: N023101AB	Sample number(s): 3932968							
Benzene	N.D.	.5	ug/l	108		85-117		
Toluene	N.D.	.5	ug/l	110		85-115		
Ethylbenzene	N.D.	.5	ug/l	109		82-119		
Xylene (Total)	N.D.	.5	ug/l	110		84-120		

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: 02308A51A	Sample number(s): 3932965-3932966								
TPH-GRO - Waters	95		74-132						
Batch number: 02308A51B	Sample number(s): 3932967-3932968								
TPH-GRO - Waters	95		74-132						
Batch number: N023101AA	Sample number(s): 3932965-3932968								
Methyl t-butyl ether	98	102	69-134	4	30				
Benzene	109	111	78-134	1	30				
Toluene	114	114	83-127	0	30				
Ethylbenzene	(2)	(2)	82-134	1	30				
Xylene (Total)	108	111	82-130	2	30				
Batch number: N023101AB	Sample number(s): 3932968								
Benzene	109	111	78-134	1	30				
Toluene	114	114	83-127	0	30				
Ethylbenzene	(2)	(2)	82-134	1	30				
Xylene (Total)	108	111	82-130	2	30				

Surrogate Quality Control

Analysis Name: TPH-GRO - Waters
Batch number: 02308A51A
Trifluorotoluene-F

*- 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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Quality Control Summary

Client Name: ChevronTexaco
Group Number: 829263
Reported: 11/12/02 at 12:55 PM

Surrogate Quality Control

3932965	92
3932966	95
Blank	93
LCS	107
LCSD	105
MS	96
Limits:	57-146

Analysis Name: TPH-GRO - Waters
Batch number: 02308A51B
Trifluorotoluene-F

3932967	98
3932968	92
Blank	94
LCS	107
LCSD	105
MS	96
Limits:	57-146

Analysis Name: BTEX + Oxygenates by 8260B
Batch number: N023101AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3932965	93	95	100	98
3932966	93	93	101	98
3932967	93	95	102	99
Blank	98	99	100	96
LCS	95	98	105	106
MS	94	99	103	105
MSD	93	96	102	103
Limits:	86-118	80-120	88-110	86-115

Analysis Name: BTEX + Oxygenates by 8260B
Batch number: N023101AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3932968	94	93	101	101
Blank	98	98	100	97
LCS	95	98	105	106
MS	94	99	103	105
MSD	93	96	102	103
Limits:	86-118	80-120	88-110	86-115

*- 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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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
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For Lancaster Laboratories use only
Acct. #: 10900 Sample #: 3932965-8 SCR#: 829263

Facility #: Chevron Service Station ~~Bldg~~ 9-1851
Site Address: 451 Hegenberger Rd., OAKLAND, CA
Chevron PM: Streich Lead Consultant: Delta
Consultant/Office: 3164 Gold Camp Dr. Ste 200, RANCHO CORDOVA, CA
Consultant Prj. Mgr.: Ben Heningburg
Consultant Phone #: (916) 536-2623 Fax #: (916) 638-8385
Sampler: WILL SLOWIK
Service Order #: ☐ Non SAR:

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	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 ☐ 7421 ☐
										H	H				
MW-7	W			02 10 31	08:40				6	X	X				
MW-4	W			02 10 31	08:50				6	X	X				
MW-7	W			02 10 31	15:35				6	X	X				
MW-4	W			02 10 31	15:44				6	X	X				

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

Comments / Remarks

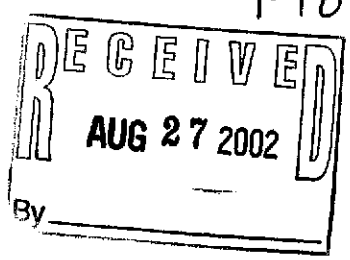
Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

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
[signature]	10/31/02	10:00			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: [signature]	11/01/02	8:30
Temperature Upon Receipt 4.0 C°			Custody Seals Intact? Yes No		

10/28/2002 15:09 FAX 004

9-1851



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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 818610. Samples arrived at the laboratory on Monday, August 12, 2002. The PO# for this group is 99011184 and the release number is STREICH.

Client Description			Lancaster Labs Number
MW-7-W-020808	Grab	Water	3877690
MW-4-W-020808	Grab	Water	3877691
MW-4-W-020808	Grab	Water	3877692
MW-7-W-020808	Grab	Water	3877693

1 COPY TO Delta Environmental Attn: Mr. Ben Heningburg

Questions? Contact your Client Services Representative
Teresa M Lis at (717) 656-2300.

Respectfully Submitted,

Robert E. Mellinger
Sr Chemist/Coordinator

Analysis Report

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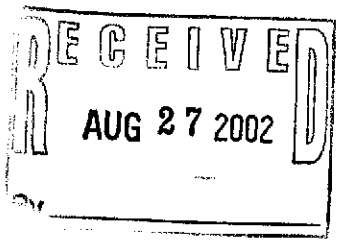

Lancaster Laboratories Sample No. WW 3877690

Collected:08/08/2002 08:55 by WS

Account Number: 10900

Submitted: 08/12/2002 09:40
Reported: 08/23/2002 at 14:50
Discard: 09/23/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-7-W-020808 Grab Water
Facility# 91851 DECR
451 Hegenberger Dr Oaklan T0600102238 MW-7

M7855

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	74.	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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	190.	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

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	08/14/2002 12:16	Matthew E Barton	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	08/15/2002 12:05	Kenneth L Boley Jr	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2002 12:16	Matthew E Barton	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	08/15/2002 12:05	Kenneth L Boley Jr	n.a.

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Analysis Report

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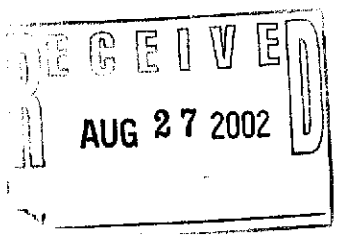

Lancaster Laboratories Sample No. WW 3877693

Collected:08/08/2002 16:10 by WS

Account Number: 10900

Submitted: 08/12/2002 09:40
Reported: 08/23/2002 at 14:50
Discard: 09/23/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-7-W-020808 Grab Water
Facility# 91851 DECR
451 Hegenberger Dr Oaklan T0600102238 MW-7

M7610

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	410.	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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	400.	1.	ug/l	2.5
05401	Benzene	71-43-2	0.5	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	2.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

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	08/14/2002 14:37	Matthew E Barton	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	08/15/2002 12:31	Kenneth L Boley Jr	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	08/15/2002 14:19	Kenneth L Boley Jr	2.5
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2002 14:37	Matthew E Barton	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	08/15/2002 12:31	Kenneth L Boley Jr	n.a.

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Analysis Report

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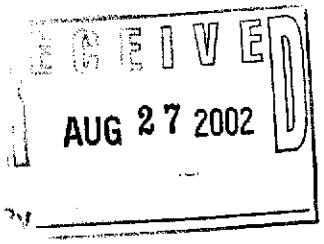

Lancaster Laboratories Sample No. WW 3877691

Collected:08/08/2002 09:00 by WS

Account Number: 10900

Submitted: 08/12/2002 09:40
Reported: 08/23/2002 at 14:50
Discard: 09/23/2002

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MW-4-W-020808 Grab Water
Facility# 91851 DECR
451 Hegenberger Dr Oaklan T0600102238 MW-4

M4900

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	370.	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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	2,400.	10.	ug/l	20
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

State of California Lab Certification No. 2116

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	08/14/2002 12:47	Matthew E Barton	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	08/15/2002 10:47	Kenneth L Boley Jr	20
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	08/15/2002 12:57	Kenneth L Boley Jr	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2002 12:47	Matthew E Barton	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	08/15/2002 10:47	Kenneth L Boley Jr	n.a.

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Analysis Report

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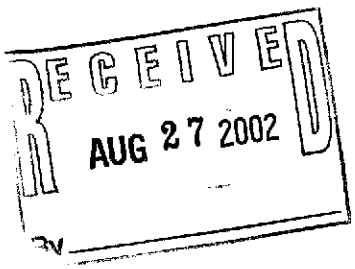

Lancaster Laboratories Sample No. WW 3877692

Collected:08/08/2002 15:50 by WS

Account Number: 10900

Submitted: 08/12/2002 09:40
Reported: 08/23/2002 at 14:50
Discard: 09/23/2002
MW-4-W-020808 Grab Water
Facility# 91851 DECR
451 Hegenberger Dr Oaklan T0600102238 MW-4

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

M4550

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. 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.					
01594	BTEX + Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	220.	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

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	08/14/2002 14:05	Matthew E Barton	1
01594	BTEX + Oxygenates by 8260B	SW-846 8260B	1	08/15/2002 09:55	Kenneth L Boley Jr	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2002 14:05	Matthew E Barton	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	08/15/2002 09:55	Kenneth L Boley Jr	n.a.

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Quality Control Summary

RECEIVED
AUG 27 2002

Client Name: ChevronTexaco
Reported: 08/23/02 at 02:51 PM

Group Number: 816610

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 02225A02A	Sample number(s): 3877690-3877693							
TPH-GRO - Waters	N.D.	50.	ug/l	101	97	74-116	4	30
Batch number: N022262AB	Sample number(s): 3877690-3877693							
Methyl t-butyl ether	N.D.	.5	ug/l	102		77-127		
Benzene	N.D.	.5	ug/l	102		85-117		
Toluene	N.D.	.5	ug/l	102		85-115		
Ethylbenzene	N.D.	.5	ug/l	103		82-119		
Xylene (Total)	N.D.	.5	ug/l	105		84-120		

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: 02225A02A	Sample number(s): 3877690-3877693								
TPH-GRO - Waters	104		74-132						
Batch number: N022262AB	Sample number(s): 3877690-3877693								
Methyl t-butyl ether	100	100	69-134	0	30				
Benzene	104	104	78-134	0	30				
Toluene	106	105	83-127	1	30				
Ethylbenzene	105	104	82-134	2	30				
Xylene (Total)	107	105	82-130	2	30				

Surrogate Quality Control

Analysis Name: TPH-GRO - Waters
Batch number: 02225A02A

	Trifluorotoluene-F
3877690	83
3877691	83
3877692	81
3877693	92
Blank	81
LCS	95
LCSD	90
MS	92
Limits:	57-146

*- 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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RECEIVED
AUG 27 2002

Quality Control Summary

Client Name: ChevronTexaco
Group Number: 818610
Reported: 08/23/02 at 02:51 PM

Surrogate Quality Control

Analysis Name: BTEX + Oxygenates by 8260B
Batch number: N022262AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3877690	99	93	97	93
3877691	97	90	98	95
3877692	104	92	96	93
3877693	99	94	98	95
Blank	107	98	97	94
LCS	102	98	100	103
MS	101	95	99	104
MSD	102	98	100	103
Limits:	86-118	80-120	88-110	86-115

*- 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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Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 10900 Sample #: 387690-93 SCR#: 818610

Facility #: Chevron #9-1851 (Former)
Site Address: 451 Hegenberger Drive, Oakland
Chevron PM: Streich Lead Consultant: Delta Environmental
Consultant/Office: 3164 Gold Camp Drive, Ste. 200 Rancho Cordova, CA
Consultant Prj. Mgr.: Ben Heningburg
Consultant Phone #: (916)536-2623 Fax #: (916)638-8385
Sampler: Will Slowik
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	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 ☐ 7421 ☐	BTEX/MTBE by 8260B	Comments / Remarks
MW-7	H_2O			02 08 08	08:55				5		X					X	
MW-4	H_2O			02 08 08	09:00				5		X					X	
~~DUP~~ MW-4	H_2O			02 08 08	15:50				5		X					X	
MW-7	H_2O			02 08 08	16:10				5		X					X	

RECEIVED AUG 27 2002

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: William S Lovik	Date 8/9/02	Time 11:00	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Fedex	Date 8/12/02	Time 0990
Temperature Upon Receipt 15.0 C°			Custody Seals Intact? Yes No		