



Chevron U.S.A. Inc.

2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

92 JAN 14 2 14:29

Marketing Department

January 10, 1992

Mr. Paul Smith
Alameda County Health Care Services
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

**Re: Chevron Service Station #9-0121
3026 Lakeshore, Oakland**

Dear Mr. Smith:

Enclosed we are forwarding the Status Report for Routine Ground Water Monitoring dated November 25, 1991, prepared by our consultant Groundwater Technology, Inc. (GTI) for the above referenced site. This report documents the monthly sampling and monitoring of the newly installed wells as agreed to for the first three months.

Ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. The subsequent monthly sampling events did not include the analysis of total petroleum hydrocarbons as diesel. GTI had inadvertently omitted this analysis. GTI has been instructed to analyze for this constituent all subsequent sampling events effective immediately.

Elevated concentrations of Benzene were detected during these sampling events. Separate-phase hydrocarbons were observed in monitor well MW-1 at a measured thickness up to .03-feet. GTI has been instructed to implement a monthly bailing schedule to purge any monitor wells which exhibit separate-phase hydrocarbons. Depth to ground water was measured at approximately 5 to 8-feet below grade, and the direction of flow is to the southwest.

As reported in the GTI Well Installation Report dated October 18, 1991, MW-3 was questioned as an anomalous water level data point. However, consistency of the subsequent water level data collected from this well over the last three (3) months indicates that MW-3 is not an anomalous point. GTI was instructed to investigate the surrounding area for assessment of the variable ground water flow direction at the site. The findings of GTI's investigation is documented in the enclosed report.

As ground water flow direction has been established, Chevron has instructed GTI to prepare a work plan proposing additional ground water monitor wells to delineate the extent of the hydrocarbon contamination in the subsurface and ground water. This work plan will be forwarded to you for your review and approval prior to implementation.

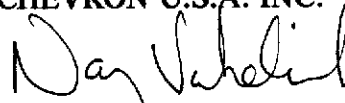
Page 2
January 10, 1992
#9-0121 - Oakland

Chevron will implement a quarterly ground water monitoring program at the referenced site. Chevron will examine all monitor wells for the presence of separate phase hydrocarbons on a monthly basis until a dedicated recovery system can be installed.

A technical assessment report of the 3/4-inch wells is currently being prepared and will be forwarded to you upon completion. This report will outline the advantages and disadvantages of the 3/4-inch wells and will provide options for improving the technology.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

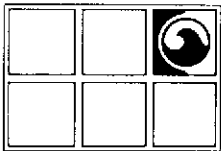
Very truly yours,
CHEVRON U.S.A. INC.



Nancy Vukelich
Environmental Engineer

Enclosures

cc: Mr. Eddy So, RWQCB-Bay Area
Ms. Sandra Lindsey, GTI-Concord
Mr. W.T. Scudder
File (9-0121Q1)



GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387

FAX: (415) 685-9148

November 25, 1991

Project No. 020301500

Ms. Nancy Vukelich
Chevron U.S.A. Inc.
P.O. Box 5004
San Ramon, CA 94583-0804

Subject: Status Report for Routine Groundwater Monitoring Conducted at Chevron Service Station No. 9-0121 located at 3206 Lakeshore Avenue, Oakland, California, August, September, and October 1991.

Dear Ms. Vukelich:

This report has been prepared for Chevron U.S.A., Inc. (Chevron) and summarizes the results of routine groundwater monitoring and sampling performed by Groundwater Technology, Inc. at Chevron Service Station No. 9-0121.

The four monitoring wells at the Chevron facility were monitored on August 20, 1991, September 30, 1991, and October 28, 1991, to determine depth-to-groundwater and hydraulic gradient, and to check for the presence of separate-phase hydrocarbons. Table 1 presents the current and historical groundwater monitoring data. Figures 1, 2, and 3 present potentiometric surface contour lines constructed using data collected on August 20, 1991, September 30, 1991, and October 28, 1991, respectively. The calculated hydraulic gradient varies from 0.01 to 0.09 ft/ft and slopes to the southeast.

In Groundwater Technology's Well Installation Report dated October 18, 1991, the water level in MW-3 was questioned as an anomalous data point. Due to the consistency of the monitoring data collected during the past three monitoring events, the water level at MW-3 does not appear to be anomalous. In an effort to define the cause of the variable groundwater flow direction at the site, a Groundwater Technology representative visited the site to evaluate the existence of any near by pumping wells and to identify local topography. Additionally, historical data was reviewed.

No pumping wells were visually identified in the vicinity of the site. Groundwater flow direction calculated from the groundwater data collected on October 28, 1991 and local topography are plotted on Figure 4. There is a rise in the topography to the west of the site prior to reaching Lake Merrit Park. A steeply sloped hill is located to the south of the site. The rise located to the west of the site and Lake Merrit Park could be acting as an infiltration area accounting for the west to east flow direction. Additionally, the land surface slopes down to the southwest, west, and northwest toward MW-3. Based on the local topography the groundwater flow direction should flow toward the southwest. Review of historical data from internal memorandums (dated 1981) indicate the presence of a plastic barrier that was emplaced from surface grade 14 to 16 feet deep on the west portion of the property adjacent to the Chancery Office. This data is unconfirmed. Gravels encountered and logged during the drilling of MW-1 could possibly be trench backfill associated with the plastic barrier. Also noted in the historical data was the presence of a 7-foot wide storm sewer located on the southern boundary of the property (Figure 4). Historical groundwater monitoring data (collected from groundwater monitoring wells abandoned in July, 1991, located on the southeast portion of the property) suggest that the 7-foot storm sewer apparently acts a groundwater sink and/or discharge zone.

Because MW-3 is located near the storm sewer and the current groundwater data confirms this as a sink area and/or discharge zone, it is likely that the storm sewer is influencing the current groundwater flow conditions in the area of MW-3. The plastic barrier and trench in addition to local topography may be influencing the groundwater flow direction on the west side of the site.

On August 20, 1991, the four monitoring wells were purged and sampled. On September 30, 1991, and October 28, 1991, three of the four monitoring wells were purged and sampled. Due to the presence of separate-phase hydrocarbons, monitoring well MW-1 was not sampled on September 30 and October 28, 1991. All of the groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH)-as-gasoline. Table 1 presents analytical results for the latest groundwater samples and previously collected samples. Copies of the analytical reports are attached. Approximately one gallon of purge water was disposed of in October 1991.

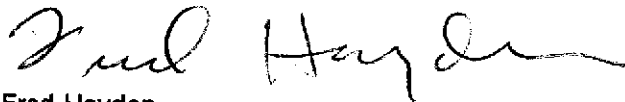
Ms. Nancy Vukelich
December 16, 1991
Page 3

A copy of this report should be submitted to:

- Mr. Paul Smith
Alameda County Health Care Services
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, California 94621

If you have any questions or need additional information, please contact our Concord office at (510) 671-2387.

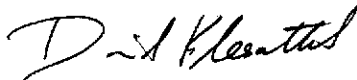
Sincerely,
GROUNDWATER TECHNOLOGY, INC.



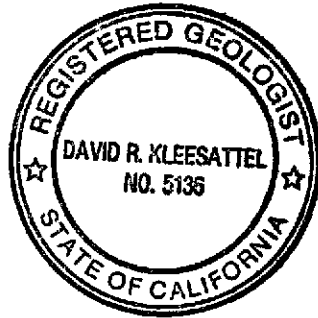
Fred Hayden
Project Geologist



Sandra L. Lindsey
Project Manager



David Kleesattel
Registered Geologist
No. 5136

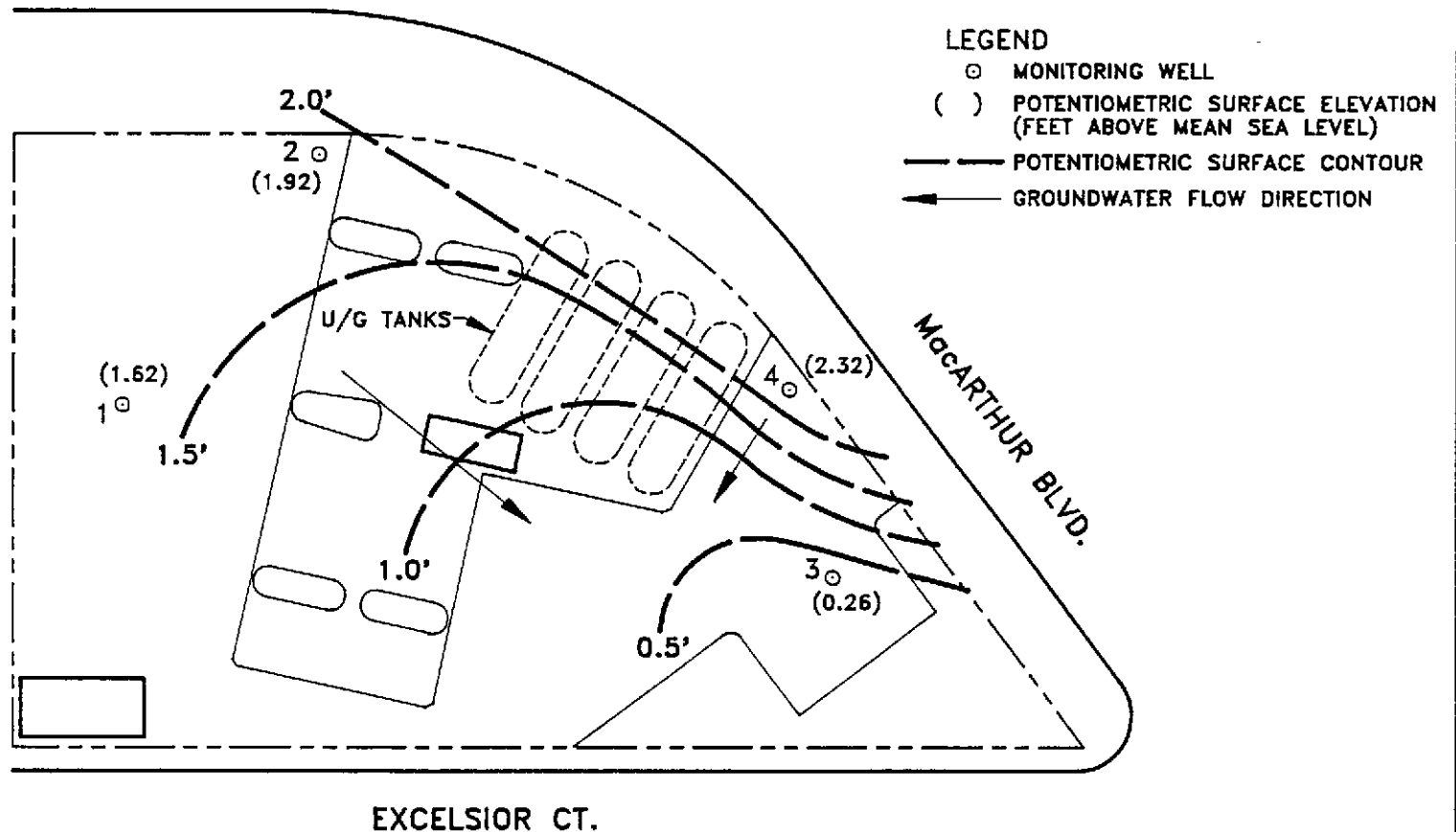


FH:SLL:DK:ac

Attachments: Table 1
Figure 1
Figure 2
Figure 3

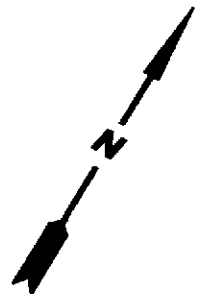
LR1500A1.FH
(020522)


LAKESHORE AVE.



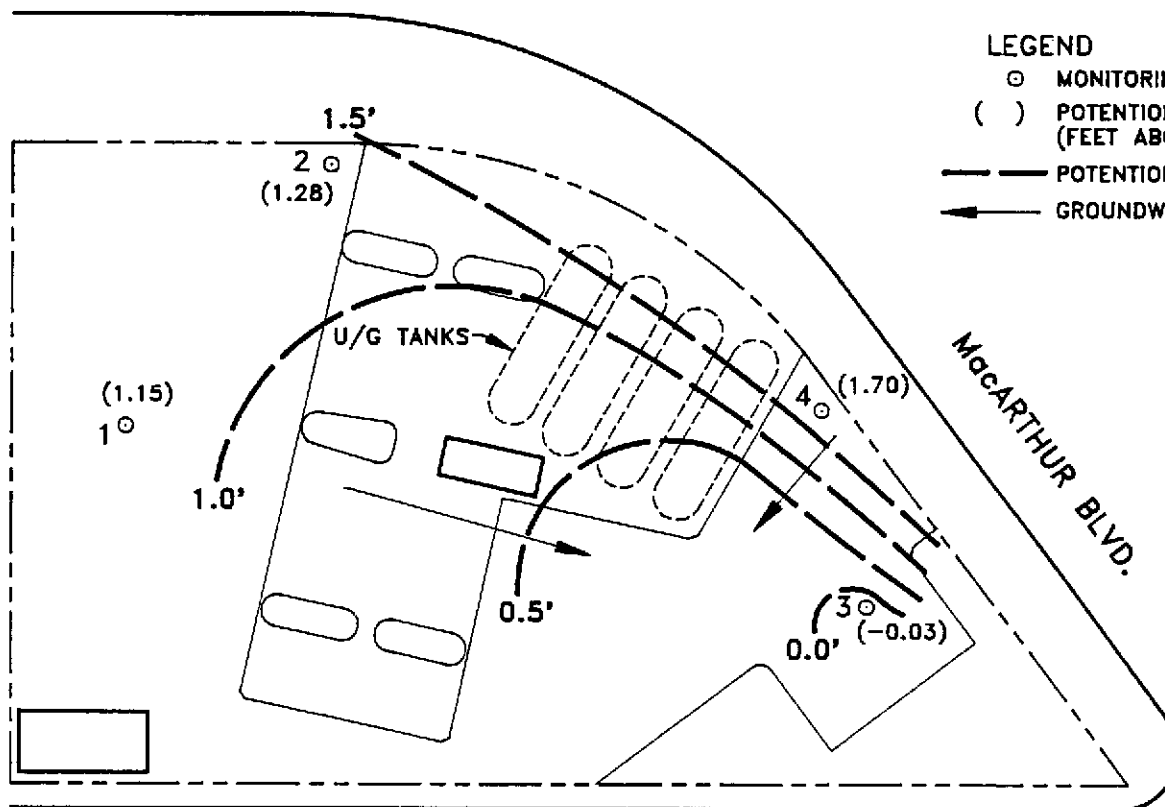
LEGEND

- MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION



 GROUNDWATER TECHNOLOGY		4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387		POTENTIOMETRIC SURFACE MAP (8/20/91)			
CLIENT: CHEVRON U.S.A. INC. SERVICE STATION #9-0121			LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA		REV. NO.: 0	DATE: 11/14/91	
PM <i>SJF</i>	PE/RG <i>DRK</i>	DESIGNED FH	DETAILED ML	ACAD FILE: PSM82091/SP1191	PROJECT NO.: 020301500	FIGURE: 1	

LAKESHORE AVE.

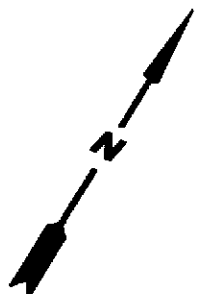



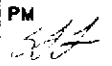
LEGEND

- ⊙ MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

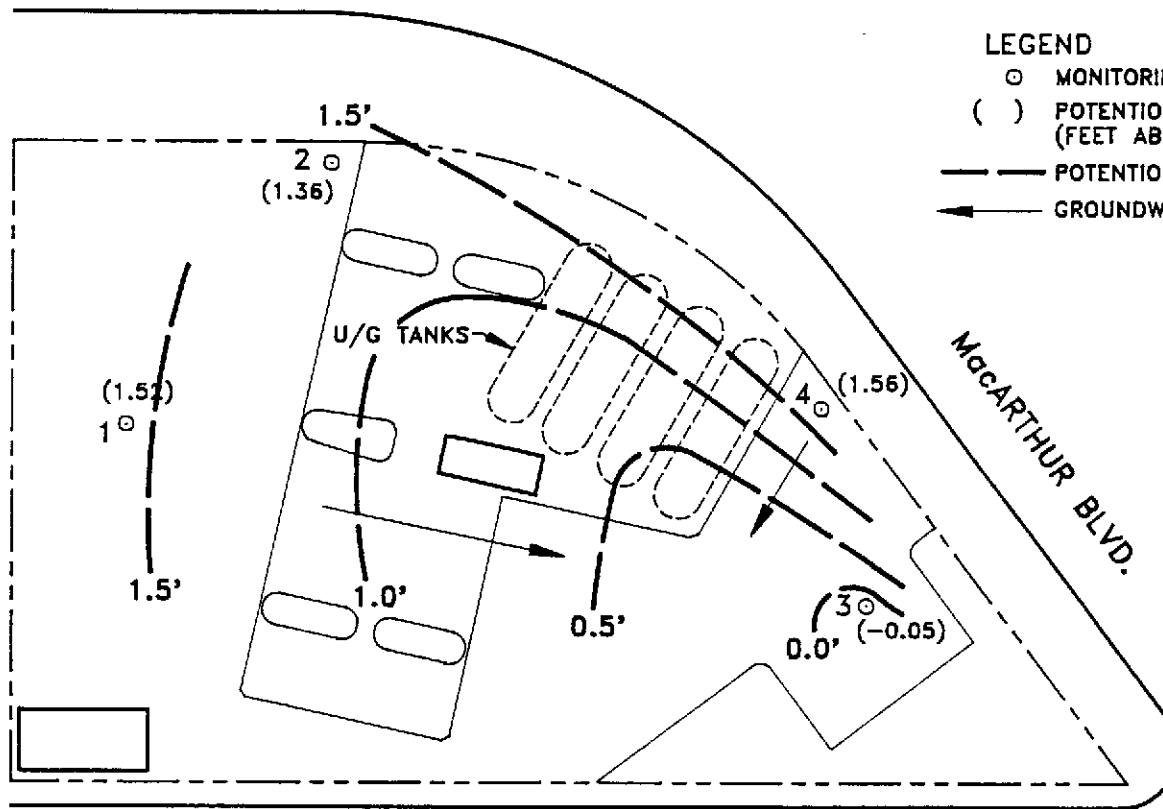
EXCELSIOR CT.

McARTHUR BLVD.



		GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387		POTENTIOMETRIC SURFACE MAP (9/30/91)			
CLIENT: CHEVRON U.S.A. INC. SERVICE STATION #9-0121			LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA		REV. NO.: 0	DATE: 11/14/91	
PM 	PE/RG DRK	DESIGNED FH	DETAILED ML	ACAD FILE: PSM93091/SP1191	PROJECT NO.: 020301500	FIGURE: 2	

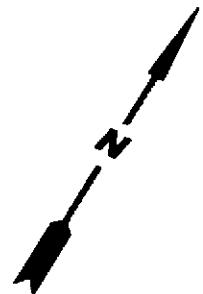
LAKESHORE AVE.




LEGEND

- MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- POTENTIOMETRIC SURFACE CONTOUR
- ← GROUNDWATER FLOW DIRECTION

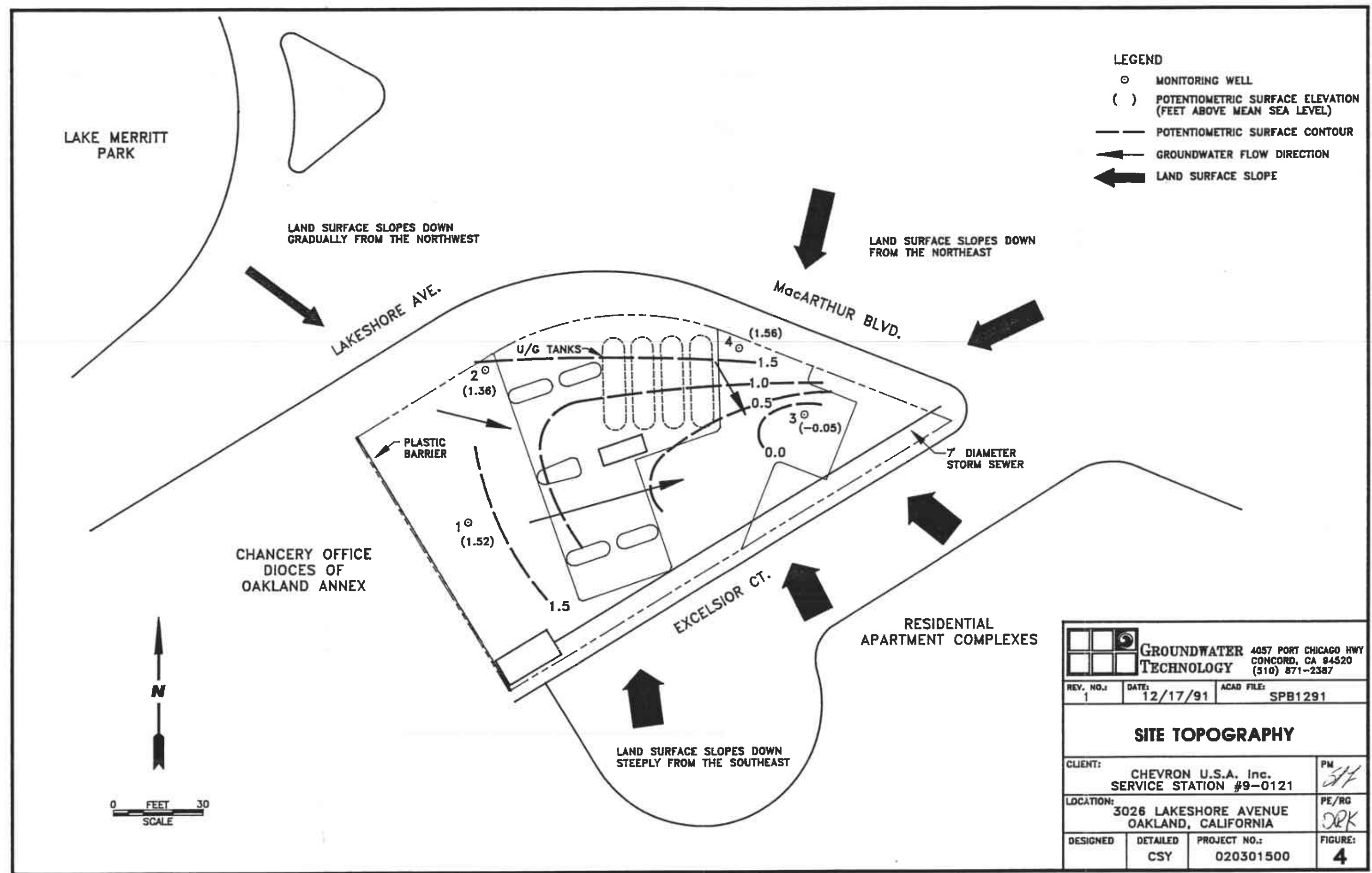
EXCELSIOR CT.



		GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387		POTENTIOMETRIC SURFACE MAP (10/28/91)		
CLIENT: CHEVRON U.S.A. INC. SERVICE STATION #9-0121			LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA		REV. NO.: 0	DATE: 11/14/91
PM <i>SJA</i>	PE/RG <i>DRK</i>	DESIGNED FH	DETAILED ML	ACAD FILE: PSM02891/SP1191	PROJECT NO.: 020301500	FIGURE: 3

LEGEND

- ⊙ MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION
- ← LAND SURFACE SLOPE



		4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 871-2387	
REV. NO.:	DATE:	ACAD FILE:	
1	12/17/91	SPB1291	
SITE TOPOGRAPHY			
CLIENT:		PM:	
CHEVRON U.S.A. Inc.		S/H	
SERVICE STATION #9-0121			
LOCATION:		PE/RG:	
3026 LAKESHORE AVENUE		D/RK	
OAKLAND, CALIFORNIA			
DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
	CSY	020301500	4

TABLE 1
GROUNDWATER WATER AND ANALYTICAL RESULTS
 (Results in parts per billion)

WELL NO.	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	TPH-AS-GASOLINE	TPH-AS-DIESEL	DTW	SPT	GWE
M-1	08/20/91	1,700	21	220	34	5,100	260	5.20	0.00	1.62
	09/30/91	Separate-phase hydrocarbons present						5.67	SHEEN	1.15
	10/28/91							5.30	0.03	1.52
M-2	08/20/91	3,700	55	530	75	9,300	600	4.35	0.00	1.92
	09/30/91	2,600	47	440	68	3,500	-	4.99	0.00	1.28
	10/28/91	1,800	29	290	53	4,600	-	4.91	0.00	1.36
M-3	08/20/91	200	13	15	12	3,100	200	8.45	0.00	0.26
	09/30/91	150	8.3	13	6.7	1,000	-	8.74	0.00	- 0.03
	10/28/91	120	6.7	11	7.5	1,200	-	8.76	0.00	- 0.05
M-4	08/20/91	870	4	3	9	1,800	160	5.05	0.00	2.32
	09/30/91	830	5.5	2.7	12	670	-	5.67	0.00	1.70
	10/28/91	990	5.8	4.8	19	2,800	-	5.81	0.00	1.56

DTW = Depth to groundwater
 GWE = Groundwater elevation in feet above mean sea level
 SPT = Separate-phase hydrocarbon thickness

LABORATORY REPORTS
AUGUST 20, 1991

Superior Precision Analytical, Inc.

825 Arnold Drive, Ste. 114 • Martinez, California 94553 • (415) 229-1512 / fax (415) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 83734
 CLIENT: GROUNDWATER TECHNOLOGIES INC.
 CLIENT JOB NO.: 020301500

DATE RECEIVED: 08/20/91
 DATE REPORTED: 08/28/91

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
83734- 1	Trip Blank	08/20/91	/ /
83734- 2	RB MW-3	08/20/91	/ /
83734- 3	MW-3	08/20/91	08/28/91
83734- 4	RB MW-4	08/20/91	/ /
83734- 5	MW-4	08/20/91	08/28/91
83734- 6	RB MW-1	08/20/91	08/29/91
83734- 7	MW-1	08/20/91	08/28/91
83734- 8	RB MW-2	08/20/91	/ /
83734- 9	MW-2	08/20/91	08/28/91

Laboratory Number:	83734	83734	83734	83734	83734
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	NA	NA	3100	NA	1800
TPH/DIESEL RANGE:	NA	NA	*200	NA	*160
BENZENE:	NA	NA	200	NA	870
TOLUENE:	NA	NA	13	NA	4
ETHYL BENZENE:	NA	NA	15	NA	3
XYLENES:	NA	NA	12	NA	9

Laboratory Number:	83734	83734	83734	83734
	6	7	8	9

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)			
OIL AND GREASE:	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	5100	NA	9300
TPH/DIESEL RANGE:	NA	*260	NA	*600
BENZENE:	ND<0.5	1700	NA	3700
TOLUENE:	ND<0.5	21	NA	55
ETHYL BENZENE:	ND<0.5	220	NA	530
XYLENES:	ND<0.5	34	NA	75

Superior Precision Analytical, Inc.

825 Arnold Drive, Ste. 114 • Martinez, California 94553 • (415) 229-1512 / fax (415) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 83734

* gasoline pattern present in sample
NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L
Standard Reference: 07/20/91

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L
Standard Reference: 06/26/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L
Standard Reference: 07/08/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	07/20/91	200 ppm	117/101	15	75-125
Gasoline	06/26/91	200 ng	79/75	5	70-130
Benzene	07/08/91	200 ng	111/112	1	70-130
Toluene	07/08/91	200 ng	106/107	1	70-130
Ethyl Benzene	07/08/91	200 ng	105/105	0	70-130
Total Xylene	07/08/91	200 ng	102/102	0	70-130

Richard Srna, Ph.D.


Laboratory Director

**LABORATORY REPORTS
SEPTEMBER 30, 1991**



Superior Precision Analytical, Inc.

P.O. Box 1545 ▪ Martinez, California 94553 ▪ (510) 229-1590 / fax (510) 229-0916

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84032
CLIENT: GROUNDWATER TECHNOLOGIES INC.
CLIENT JOB NO.: 020301500 020503

DATE RECEIVED: 09/30/91
DATE REPORTED: 10/08/91

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84032- 1	TRIP BLANK	09/30/91	10/07/91
84032- 2	RBMW-3	09/30/91	10/07/91
84032- 3	MW-3	09/30/91	10/07/91
84032- 4	RBMW-4	09/30/91	/ /
84032- 5	MW-4	09/30/91	10/08/91
84032- 6	RBMW-2	09/30/91	/ /
84032- 7	MW-2	09/30/91	10/07/91

Laboratory Number:	84032	84032	84032	84032	84032
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	1000	NA	670
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	3.6	150	NA	830
TOLUENE:	ND<0.5	1.6	8.3	NA	5.5
ETHYL BENZENE:	ND<0.5	2.6	13	NA	2.7
XYLENES:	ND<0.5	4.3	6.7	NA	12

Laboratory Number:	84032	84032
	6	7

ANALYTE LIST	Amounts/Quantitation Limits (ug/l)	
OIL AND GREASE:	NA	NA
TPH/GASOLINE RANGE:	NA	3500
TPH/DIESEL RANGE:	NA	NA
BENZENE:	NA	2600
TOLUENE:	NA	47
ETHYL BENZENE:	NA	440
XYLENES:	NA	68



C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 84032

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/l = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/l
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/l
Standard Reference: 06/26/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/l
Standard Reference: 07/08/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	06/26/91	200 ng	78/79	2	70-130
Benzene	07/08/91	200 ng	85/85	1	70-130
Toluene	07/08/91	200 ng	88/88	1	70-130
Ethyl Benzene	07/08/91	200 ng	90/91	1	70-130
Total Xylene	07/08/91	200 ng	96/97	1	70-130

Richard Srna, Ph.D.

Laboratory Director

Fax copy of Lab Report and COC to Chevron Contact: Yes No **84032 Chain-of-Custody-Record**

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-0121</u> Facility Address <u>3026 Lakeshore Ave, Oakland</u> Consultant Project Number <u>020301500 020503</u> Consultant Name <u>GTE</u> Address <u>4057 Port Chicago Highway, Concord</u> Project Contact (Name) <u>Greg Mitchell - Sandra Lindsey</u> (Phone) <u>674-2387</u> (Fax Number) <u>685-9148</u>	Chevron Contact (Name) <u>Ms. Nancy Vukelich</u> (Phone) <u>849-9521</u> Laboratory Name <u>Superior Analytical</u> Laboratory Release Number <u>440-3170</u> Samples Collected by (Name) <u>CHRIS McCORMACK</u> Collection Date <u>9-30-91</u> Signature <u>Chris McCormack</u>
--	--	--

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks				
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (8520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	HOLD						
TRIP Blank	1	1	W	G		HCE	YES	X														
RBMW-3	2	1						X														
MW-3	3	3						X														
RBMW-4	4	1																				
MW-4	5	3						X														
RBMW-2	6	1																				
MW-2	7	3	W	G		HCE	YES	X														

Please Initial:

Samples Stored in Ice: BDD

Appropriate containers: BDD

Samples preserved: BDD

VOA's without headspace: BDD

Comments:

Relinquished By (Signature) <u>Chris McCormack</u>	Organization <u>GTE</u>	Date/Time <u>9/30/91/3:05</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <input checked="" type="radio"/> As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>Greg Mitchell</u>		Date/Time <u>9/30/91/15:05</u>	

COC-3.DWG/03 91/HCH

**LABORATORY REPORTS
OCTOBER 28, 1991**



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84244
CLIENT: GROUNDWATER TECHNOLOGIES INC.
CLIENT JOB NO.: 020301500

DATE RECEIVED: 10/28/91
DATE REPORTED: 11/05/91

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84244- 1	TRIP BLANK	10/28/91	11/05/91
84244- 2	RBMW-3	10/28/91	11/05/91
84244- 3	MW-3	10/28/91	11/05/91
84244- 4	RBMW-4	10/28/91	/ /
84244- 5	MW-4	10/28/91	11/05/91
84244- 6	RBMW-2	10/28/91	/ /
84244- 7	MW-2	10/28/91	11/05/91

Laboratory Number:	84244	84244	84244	84244	84244
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND <50	ND <50	1200	NA	2800
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND <0.5	ND <0.5	120	NA	990
TOLUENE:	ND <0.5	ND <0.5	6.7	NA	5.8
ETHYL BENZENE:	ND <0.5	ND <0.5	11	NA	4.8
XYLENES:	ND <0.5	ND <0.5	7.5	NA	19

Laboratory Number:	84244	84244
	6	7

ANALYTE LIST	Amounts/Quantitation Limits (ug/l)	
OIL AND GREASE:	NA	NA
TPH/GASOLINE RANGE:	NA	4600
TPH/DIESEL RANGE:	NA	NA
BENZENE:	NA	1800
TOLUENE:	NA	29
ETHYL BENZENE:	NA	290
XYLENES:	NA	53



C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 84244

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L
Standard Reference: 10/04/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L
Standard Reference: 10/11/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	10/04/91	200 ng	96/99	4	70-130
Benzene	10/11/91	200 ng	86/82	5	70-130
Toluene	10/11/91	200 ng	96/93	3	70-130
Ethyl Benzene	10/11/91	200 ng	96/93	3	70-130
Total Xylenes	10/11/91	200 ng	101/98	3	70-130

Richard Srna, Ph.D.

Linda Deschambault (for)
Laboratory Director

