



**Chevron**

August 2, 1994

**Chevron U.S.A. Products Company**

2410 Camino Ramon  
San Ramon, CA 94583  
P.O. Box 5004  
San Ramon, CA 94583-0804

**Marketing Department**

Phone 510 842 9500

Ms. Juliet Shin  
Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94501

**Re: Former Chevron Service Station #9-2384  
15526 Hesperian Boulevard, San Lorenzo, CA**

Dear Ms. Shin:

Enclosed is the quarterly Groundwater Monitoring and Sampling Activities report dated July 15, 1994, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX. Dissolved concentrations of these constituents observed during the past quarter are consistent with historical results. Depth to ground water was measured at approximately 12.5 to 13.2 feet below grade and the direction of flow is to the west.

We have received your Notice of Violation letter dated July 21, 1994, requesting a timeline for the destruction and installation of monitoring wells and quarterly monitoring reports documenting the past two sampling events. Several attempts to contact you by telephone over the last two weeks to discuss your requests have been unsuccessful.

Your office had previously requested, in a letter dated March 7, 1994, that a timeline be submitted in conjunction with the next quarterly monitoring report within 30 days. The next quarterly monitoring report was not provided to our office until May 31, 1994, nearly 3 weeks past your requested date. This report was recently forwarded to your office under separate cover. The most recent quarterly report is enclosed.

Several attempts have been made during the past three months to obtain a construction schedule from the new property owner. The schedule will allow us to determine the most appropriate time to abandon and/or install ground water monitor wells at the site as discussed in my letters of March 1 and March 7, 1994. To date, the property owner has not been able to provide us with such a schedule. I will continue to pursue this information. Until we receive such a schedule, Chevron will continue to monitor and sample this site on a quarterly basis.

I apologize for the tardiness of the ground water monitoring reports. I will attempt to forward all subsequent reports generated for this site to your office within 30 days of receipt by Chevron. In the future, please feel free to contact me at (510) 842-8134 if you should require the most current information sooner.

Page 2  
August 2, 1994  
Former SS#9-2384

Sincerely,  
CHEVRON U.S.A. PRODUCTS COMPANY



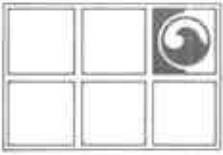
Mark A. Miller  
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Kevin Graves, RWQCB - Bay Area  
Ms. B.C. Owen

Mr. Gil Jensen  
Alameda County District Attorney Office  
7677 Oakport Street, Suite 400  
Oakland, CA 94621

Mr. Alan Gordon  
Gordon Real Estate  
524 30th Avenue  
San Francisco, CA 94121



# GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

July 15, 1994

Project No. 020104094

Mr. Mark Miller  
Chevron U.S.A. Products Company  
2410 Camino Ramon  
San Ramon, CA 94583-0804

**SUBJECT:** *Groundwater Monitoring and Sampling Activities*  
Chevron Service Station No. 9-2384  
15526 Hesperian Boulevard, San Lorenzo, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the groundwater monitoring and sampling data collected on June 17, 1994. Six groundwater monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not detected in the monitoring wells. A potentiometric surface map and a summary of groundwater monitoring data are presented in Attachments 1 and 2, respectively. After the DTW was measured, the monitoring wells were purged and sampled. Groundwater monitoring and sample collection protocol and field data sheets are presented in Attachment 3. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes and for total petroleum hydrocarbons-as-gasoline. Results of the chemical analyses are summarized in Attachment 2. The laboratory report and chain-of-custody record are included in Attachment 4. Well caps were replaced on MW-1, MW-2 and MW-3. Monitoring-well purge water was removed by Groundwater Technology and transported to the Chevron Terminal in Richmond, California, for recycling.

Groundwater Technology is pleased to assist Chevron on this project. If you have any questions or comments, please call our Concord office at (510) 671-2387.

Sincerely,  
**Groundwater Technology, Inc.**  
Written/Submitted by

  
Kenneth P. Johnson  
Project Manager

PR 

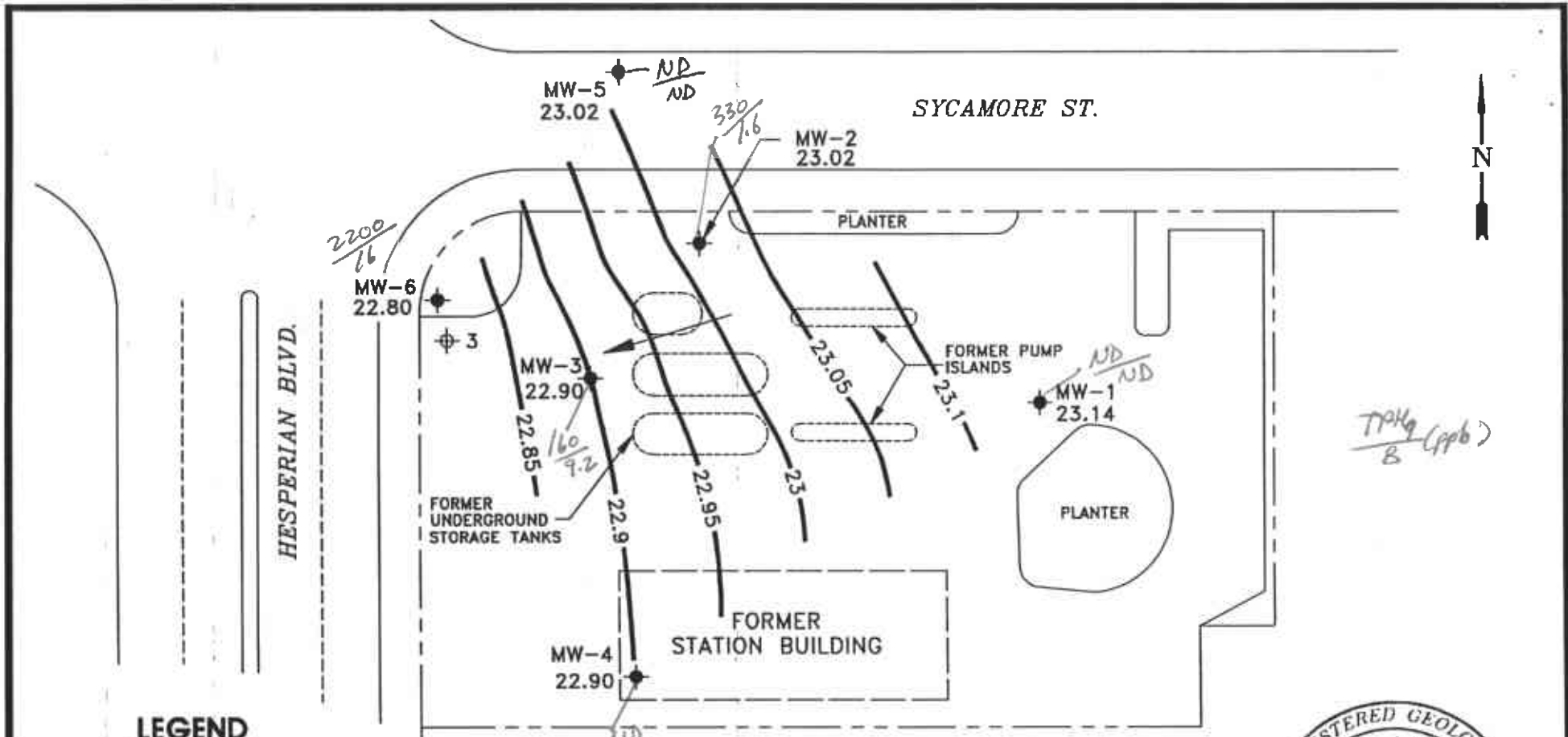
Attachment 1 Figure  
Attachment 2 Table  
Attachment 3 Protocol and Field Data Sheets  
Attachment 4 Laboratory Report

For:  
Wendell W. Lattz  
Vice President, General Manager  
West Region

4094qmsr.294







**ATTACHMENT 1**

**Figure**

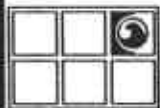


*TPH<sub>g</sub> (ppb)  
B*

**LEGEND**

-  PROPERTY LINE
-  MONITORING WELL
-  ABANDONED MONITORING WELL (FORMER LOCATION OF MW-3)
-  X.XX POTENTIOMETRIC SURFACE ELEVATION (FT)
-  POTENTIOMETRIC SURFACE CONTOUR
-  GROUNDWATER FLOW DIRECTION

NOTE:  
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL.



**GROUNDWATER TECHNOLOGY**



CLIENT:  
CHEVRON U.S.A. PRODUCTS CO.  
SERVICE STATION NO. 9-2384

**POTENTIOMETRIC SURFACE MAP (6/17/94)**

LOCATION:  
15526 HESPERIAN BLVD.  
SAN LORENZO, CALIFORNIA

FILE:  
4094PSM, (1:30)

PROJECT NO.:  
02010-4094

PM:  
*KJ*

PE/RG:  
*ZW*

FIGURE:  
1

REV.:

DES.: SS    DET.: SS    DATE: 6/24/94

**ATTACHMENT 2**

**Table**

**TABLE 1**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**  
**Chevron Service Station No. 9-2384**  
**15526 Hesperian Boulevard, San Lorenzo, California**

Well ID/ Elevation	Date	TPH-as- Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	GWE (ft)	
MW-1  35.64    35.65	06/04/92	<50	<0.5	<0.5	<0.5	<0.5	13.12	0.00	22.52	
	07/30/92	---	---	---	---	---	13.82	0.00	21.82	
	08/25/92	---	---	---	---	---	14.20	0.00	21.44	
	09/23/92	<50	<0.5	<0.5	<0.5	<0.5	14.59	0.00	21.05	
	12/29/92	<50	<0.5	<0.5	<0.5	<0.5	14.28	0.00	21.36	
	03/19/93	<50	<0.5	<0.5	<0.5	<1.5	10.90	0.00	24.74	
	07/02/93	<50	<0.5	<0.5	<0.5	<1.5	11.41	0.00	24.24	
	09/22/93	<50	0.9	0.9	<0.5	<1.5	12.77	0.00	22.88	
	10/01/93	---	---	---	---	---	12.93	0.00	22.72	
	03/10/94	<50	<0.5	<0.5	<0.5	<0.5	12.13	0.00	23.52	
	04/12/94	---	---	---	---	---	12.31	0.00	23.34	
	06/17/94	<50	<0.5	<0.5	<0.5	<0.5	12.51	0.00	23.14	
	MW-2  35.85    35.86	06/04/92	6,700	910	17	210	30	13.48	0.00	22.73
		07/30/92	---	---	---	---	---	14.17	0.00	21.68
08/25/92		---	---	---	---	---	14.56	0.00	21.29	
09/23/92		1,500	110	1.2	81	<0.5	14.95	0.00	20.90	
12/29/92		1,200	51	1.1	27	<0.5	14.61	0.00	21.24	
03/19/93		750	37	1.0	34	1.6	11.24	0.00	24.61	
07/02/93		2,100	45	1.4	87	4.8	11.76	0.00	24.10	
09/22/93		880	23	2.8	38	<1.5	13.12	0.00	22.74	
10/01/93		---	---	---	---	---	13.30	0.00	22.56	
03/10/94		230	6.9	1.9	12	0.6	12.43	0.00	23.43	
04/12/94		---	---	---	---	---	12.62	0.00	23.24	
06/17/94		330	1.6	<0.5	3.9	2.5	12.84	0.00	23.02	

**TABLE 1**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**  
**Chevron Service Station No. 9-2384**  
**15526 Hesperian Boulevard, San Lorenzo, California**

Well ID/ Elevation	Date	TPH-as- Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	GWE (ft)
MW-3 35.42	06/04/92	460	12	0.8	5.8	14	13.12	0.00	22.30
	07/30/92	---	---	---	---	---	13.81	0.00	21.61
35.43	08/25/92	---	---	---	---	---	14.20	0.00	21.22
	09/23/92	1,100	62	1.5	110	4.0	14.58	0.00	20.84
	12/29/92	450	21	0.7	12	3.0	14.22	0.00	21.20
	03/19/93	1,200	67	1.3	96	5.5	10.87	0.00	24.55
	07/02/93	610	73	0.5	42	<1.5	11.37	0.00	24.06
	09/22/93	400	<0.5	0.6	2.7	<1.5	12.71	0.00	22.72
	10/04/93	---	---	---	---	---	12.88	0.00	22.55
	03/10/94	65	1.6	1.3	1.3	1.1	12.08	0.00	23.35
04/12/94	---	---	---	---	---	---	12.25	0.00	23.18
	06/17/94	160	9.2	<0.5	2.9	2.7	12.53	0.00	22.90
MW-4 35.73	07/02/93	80	<0.5	0.6	<0.5	<1.5	11.77	0.00	23.96
	09/22/93	---	---	---	---	---	---	---	---
03/10/94	10/01/93	<50	<0.5	<0.5	<0.5	<0.5	13.12	0.00	22.61
	---	---	---	---	---	---	---	---	---
	04/12/94	<50	<0.5	<0.5	<0.5	<0.5	12.62	0.00	23.11
	06/17/94	<50	<0.5	<0.5	<0.5	<0.5	12.83	0.00	22.90
**MW-5 35.50	07/02/93	<50	<0.5	<0.5	<0.5	<1.5	11.42	0.00	24.08
	09/22/93	---	---	---	---	---	---	---	---
03/10/94	10/01/93	---	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---	---
	04/12/94	<50	<0.5	<0.5	<0.5	<0.5	12.25	0.00	23.25
	06/17/94	<50	<0.5	<0.5	<0.5	<0.5	12.48	0.00	23.02
MW-6 36.01	07/02/93	14,000	330	28	980	580	12.07	0.00	23.94
	09/22/93	---	---	---	---	---	---	---	---
03/10/94	10/01/93	<50	<0.5	<0.5	<0.5	<0.5	12.71	0.00	23.30
	---	---	---	---	---	---	---	---	---
	04/12/94	3400	32	<0.5	0.7	67	12.90	0.00	23.11
	06/17/94	2,200	16	<0.5	30	17	13.21	0.00	22.80



**TABLE 1**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**  
**Chevron Service Station No. 9-2384**  
**15526 Hesperian Boulevard, San Lorenzo, California**

Well ID/ Elevation	Date	TPH-as- Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	GWE (ft)
TBLB	06/04/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	09/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/19/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---
	07/02/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---
	09/22/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---
	10/01/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/10/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/12/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	06/17/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---

All elevations are given as feet above mean sea level.  
Concentrations shown in parts per billion.

- TPH = Total petroleum hydrocarbons
- DTW = Depth to water
- SPT = Separate-phase hydrocarbon thickness
- GWE = Groundwater elevation in feet above mean sea level
- = Not applicable, not sampled, not measured
- \*\* = Well Paved Over

**ATTACHMENT 3**

**Groundwater monitoring and Sample Collection Protocol  
and  
Field Data Sheets**

# GROUNDWATER TECHNOLOGY GROUNDWATER MONITORING AND SAMPLE COLLECTION PROTOCOL

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## Groundwater Monitoring

Groundwater monitoring is accomplished using a INTERFACE PROBE™ Well Monitoring System. The INTERFACE PROBE™ Well Monitoring System is a hand held, battery operated device for measuring the depth to separate-phase hydrocarbons and depth to water. The INTERFACE PROBE™ Well Monitoring System consists of a dual-sensing probe which utilizes an optical liquid sensor and electrical conductivity to distinguish between water and petroleum products.

Monitoring is accomplished by measuring from the surveyed top of well casing or grade to groundwater and separate-phase hydrocarbons if present. The static water elevation is then calculated for each well and a potentiometric surface map is constructed. If separate-phase hydrocarbons are detected the water elevation is adjusted by the following calculation:

$$(\text{Product thickness}) \times (0.8) + (\text{Water elevation}) = \text{Corrected water elevation}$$

Groundwater monitoring wells are monitored in order of wells with lowest concentrations of volatile organic compounds to wells with the highest concentrations, based upon historical concentrations. If separate-phase hydrocarbons are encountered in a well, the product is visually inspected to confirm and note color, amount, and viscosity. Monitoring equipment is washed with laboratory grade detergent and rinsed with distilled or deionized water before monitoring each well.

## Groundwater Sampling

Before groundwater samples are collected, sufficient water is purged from each well to ensure representative formation water is entering the well. Wells are purged and sampled in the same order as monitoring, from wells with the lowest concentrations of volatile organic compounds to wells with the highest concentrations. Wells are purged using either a polyvinyl chloride (PVC) bailer fitted with a check valve or with a stainless steel submersible Grundfos pump. The purge equipment is decontaminated before use in each well by washing with laboratory grade detergent and tripled rinsing with deionized or distilled water. A minimum of 3 well-casing volumes of water are removed from each well while pH, electrical conductivity, and temperature are recorded to verify that "fresh" formation water is being sampled and the parameters have stabilized. If the well is low yielding, it may be purged dry and sampled before 3 casing volumes are purged. The wells are then allowed to recharge to approximately 80 percent of the initial water level before a sample is collected.

Groundwater samples are collected from each well using a new, prepackaged disposable bailer and string. The water sample is decanted from the bailer into laboratory-provided containers (appropriate for the analyses required) so that there is no headspace in the containers. Samples collected for benzene, toluene, ethylbenzene, xylene, and total petroleum hydrocarbons (TPH)-as-gasoline analyses are collected in 40-milliliter vials fitted with Teflon® septum lids. Samples are preserved with hydrochloric acid (HCL) to a pH of less than 2. Dissolved metals samples are filtered through a 0.45-micron paper filter in the field and preserved as required before submitting to the laboratory for analyses. All samples are labeled immediately upon collection and logged on the chain-of-custody record. Sample label and chain-of-custody recorded information includes the project name and number, sample identification, date and time of collection, analyses requested, and the sampler's name. Sample bottles are placed in plastic bags (to protect the bottles and labels) and on ice (frozen water) in an insulated cooler and are shipped under chain-of-custody protocol to the laboratory.

The chain-of-custody record documents who has possession of the samples until the analyses is performed. Other pertinent information is also noted for the laboratory use on the chain-of-custody record.

Trip blanks (TBLBs) are used for each project as a quality assurance/quality control measure. The TBLBs are prepared by the laboratory and are placed in the insulated cooler and accompany the field samples throughout the sampling event.



Project Name: Chevron - San Leandro

Date: 6/17/94

Site Address: 15556 Hesperian Blvd., San Lorenzo

Page 2 of 6

Project Number: 020104094.0610

Project Manager: Tim Watchers

Well ID: MW-4

DTW Measurements:

Initial: 12.83 Calc Well Volume: \_\_\_\_\_ gal

Well Diameter: 2

Recharge: \_\_\_\_\_ Well Volume: \_\_\_\_\_ gal

Purge Method \_\_\_\_\_ Pump Depth \_\_\_\_\_ ft.  
 Peristaltic \_\_\_\_\_ Hand Bailed Y  
 Gear Drive \_\_\_\_\_ Air Lift \_\_\_\_\_  
 Submersible \_\_\_\_\_ Other \_\_\_\_\_

Instruments Used  
 YSI: Y Other: \_\_\_\_\_  
 Hydac: \_\_\_\_\_  
 Omega: \_\_\_\_\_

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<u>X</u> C F					
10:34	18.1	1.52	7.64	0		murky gray water
10:36	18.6	1.56	7.40	1		
10:40	18.4	1.52	7.26	3		
10:42	18.5	1.50	7.24	5		











**ATTACHMENT 4**

**Laboratory Report**



# Superior Precision Analytical, Inc.

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

GROUNDWATER TECHNOLOGY, INC.  
Attn: TIM WATCHERS

Project 9-2384  
Reported 07/05/94

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
30602- 1	TBLB	06/17/94	06/24/94 Water
30602- 2	MW-5	06/17/94	06/24/94 Water
30602- 3	MW-4	06/17/94	06/24/94 Water
30602- 4	MW-1	06/17/94	06/24/94 Water
30602- 5	MW-3	06/17/94	06/24/94 Water
30602- 6	MW-2	06/17/94	06/24/94 Water
30602- 7	MW-6	06/17/94	06/24/94 Water

## RESULTS OF ANALYSIS

Laboratory Number: 30602- 1 30602- 2 30602- 3 30602- 4 30602- 5

Gasoline:	ND<50	ND<50	ND<50	ND<50	160
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	9.2
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.9
Total Xylenes:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.7
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 30602- 6 30602- 7

Gasoline:	330	2200
Benzene:	1.6	16
Toluene:	ND<0.5	ND<0.5
Ethyl Benzene:	3.9	30
Total Xylenes:	2.5	17
Concentration:	ug/L	ug/L



# 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

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 30602

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


OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:  
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	82/83	1%	70-130
Benzene:	84/86	2%	70-130
Toluene:	106/108	2%	70-130
Ethyl Benzene:	106/110	4%	70-130
Total Xylenes:	113/117	3%	70-130

  
Senior Chemist

Certified Laboratories

