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TO: Ms. Karen Streich

Chevron Products Company

P.O. Box 6004

San Ramon, CA 94583

DATE:

April 23, 2002

PROJ. #:

DG92029G.4C01

SUBJECT: Chevron SS No. 9-2029

890 West MacArthur Blvd

Oakland, California

Monitoring Well Install Report

FROM:

Geoffrey D. Risse Project Geologist Gettler-Ryan Inc. 3140 Gold Camp Drive, Suite 170 Rancho Cordova, California 95670

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COMMENTS:

On your behalf, Delta Environmental Consultants, Inc. network associate Gettler-Ryan Inc. will also be submitting a copy of the above referenced report to:

Mr. James Brownell, Delta Environmental Consultants, Inc., 3164 Gold Camp Dr., Ste. 200, Rancho Cordova, CA

Mr. Don Hwang, Alameda CountyHealth Care Services Agency-Environmental Health Department, 1131 Harbor Bay Parkway, Ste. 250, Alameda, CA 94502

Rancho Cordova at (916) questions please you have any



MAY 0 3 2002

3164 Gold Camp Drive Suite 200 Rancho Cordova, California 95670-6021 916/638-2085 FAX: 916/638-8385

MONITORING WELL INSTALLATION REPORT

At Chevron Service Station No. 9-2029 890 West MacArthur Boulevard Oakland, California

Report No. DG92029G.4C01-1 Delta Project #DG92-029-G

Prepared for:

Ms. Karen Streich Chevron Products Company P.O. Box 6004 San Ramon, California 94583

Prepared by:

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April 30, 2002

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At Chevron Service Station No. 9-2029 890 West MacArthur Boulevard Oakland, California

Report No. DG92029G.4C01-1 Delta Project #DG92-029-G

INTRODUCTION

This report presents the results of a subsurface investigation performed by Delta Environmental Consultants, Inc. (Delta) network associate Gettler-Ryan Inc. (GR) at the above referenced site. The work was performed at the request of Chevron Products Company (Chevron) to further define the lateral extent of petroleum hydrocarbons in the soil and groundwater at this site. The scope of work performed during this investigation was originally proposed in the Delta report entitled Workplan for Additional Site Investigation (Delta report #DG92029G.4C01), dated October 25, 2001. This work was requested by the Alameda County Health Care Services Agency-Environmental Health Department (ACHCSA-EHD) in a letter dated September 4, 2001, and was approved by the ACHCSA-EHD in a letter dated December 7, 2001. The scope of work performed included: updating the site safety plan; obtaining well installation permits from the Alameda County Public Works Agency (ACPWA); installing four groundwater monitoring wells; collecting soil samples from the well borings for description and possible chemical analysis; developing and collecting groundwater samples from the wells; analyzing selected soil and groundwater samples; surveying well head elevations; and preparing a report documenting the work performed.

SITE DESCRIPTION

The site is located on the northeast corner of the intersection of West MacArthur Boulevard and Market Street in Oakland, California (Figure 1). Current station facilities include a station building, a restroom/storage building, three gasoline underground storage tanks (USTs) and associated product lines, and five dispenser islands. Pertinent former and current site features are shown on Figure 2.

The subject site is located on the East Bay Plain, approximately 1 ¼ mile east of San Francisco Bay and approximately 1 ½ mile north of Lake Merritt. The site is relatively flat at an elevation of approximately 50 feet above mean sea level. As mapped by Helley and others (1979), soil in the vicinity of the site consists of Holocene-age fine-grained alluvium of unconsolidated plastic, moderately to poorly sorted carbonaceous silt and clay overlying medium-grained alluvium of unconsolidated moderately sorted permeable fine sand, silt, and clayey silt with a few beds of coarse sand.

Chevron Service Station No. 9-2029 890 West MacArthur Boulevard Oakland, California Page 2

The nearest surface water body is Glen Echo Creek (approximately 1 mile southeast of the site), which drains into Lake Merritt. Based upon site topography, shallow groundwater beneath the site is assumed to flow to the southwest.

PREVIOUS ENVIRONMENTAL ACTIVITIES

- 1981: April Smith and Denison conducted a tank integrity test that included the drilling of two borings. The tank integrity test results indicated that the tanks were corroded, but with no holes. Gasoline hydrocarbons were detected in three of the four soil samples that were collected.
- March Environmental Health Consultants conducted ambient air monitoring and sampling when a strong hydrocarbon odor was noted in the service station building. The results indicated that hydrocarbons were present in air entering the station building from the crawl space beneath the building.
- 1997: February GR collected six soil samples from beneath the product dispensers during product dispenser replacement and UST upgrade (GR report #1205.02, Soil Sampling During Product Dispenser Replacement Report dated April 10, 1997).
- 2000: October GR drilled ten soil borings (B-1 through B-10; Delta report entitled *Environmental Investigation Report*, dated October 31, 2000).

Discussion

Petroleum hydrocarbon impacted native soil beneath the site is limited to the central and southern portion of the site. Vertically, petroleum hydrocarbon impacted soil extends to groundwater. Petroleum hydrocarbon impacted soil has not been delineated to the south or southwest. Historical soil analytical data are presented in Table 1. Petroleum hydrocarbon impacted groundwater has not been delineated to the south or southwest.

Boring logs from the previous environmental investigations indicate that native soil beneath the site consists of clay to approximately 10.5 feet bgs, overlying a 4 to 9 foot thick unit consisting of clayey gravel. Underlying the clayey gravel unit, clay was encountered to the total depths explored in the borings. Groundwater is first encountered at depths ranging from 11 to 14 feet bgs.

FIELD ACTIVITIES

To further define the lateral extent of petroleum hydrocarbons in the soil and groundwater at the site, GR installed four groundwater monitoring wells. Fieldwork was performed in accordance with GR's Site Safety Plan dated February 28, 2002. GR Field Methods and Procedures are included in Appendix A. Underground Service Alert was notified prior to beginning site activities. The wells were installed by Gregg Drilling and Testing Inc. (C57 #485165) under ACPWA permit No. W01-2151 (Appendix B).

Chevron Service Station No. 9-2029 890 West MacArthur Boulevard Oakland, California Page 3

Groundwater monitoring wells MW-1 through MW-4 were installed at the subject site on March 1, 2002. Well borings were drilled to a depth of 25 feet below ground surface (bgs) using a truck-mounted drill rig equipped with 8-inch-diameter hollow-stem augers. A GR geologist observed the drilling activities. Soil samples were collected from the well borings at five-foot intervals for description and preparation of a log, and for possible chemical analysis. Boring logs are included in Appendix C. Locations of newly installed wells are shown on Figure 2. Copies of the Well Completion Reports are included in Appendix C.

Soil cuttings generated during drilling activities were placed on and covered with plastic. Composite disposal confirmation sample SP1(A-D) was collected from the stockpiled soil cuttings. Stockpile sampling procedures are presented in Appendix A.

Well Installation

Groundwater monitoring wells MW-1 through MW-4 were constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 0.010-inch machine-slotted screen material. The wells are screened from 10 to 25 feet bgs. The annular space around the screens in each well is packed with Lonestar #2/12 graded sand. The sandpack is followed by a seal of bentonite chips hydrated with clean water and neat cement to approximately 1-foot bgs. The top of each well is protected by a traffic-rated vault box, locking well cap and lock. The vault box is installed flush with the ground surface, and is set in concrete. Well construction details are included with the boring logs in Appendix C.

Well Monitoring, Development and Sampling

The wells were developed and sampled on March 12, 2002. Depth-to-water was measured in all groundwater monitoring wells at the site. Each well was checked for the presence of separate phase hydrocarbons (SPHs). No SPHs were observed in the wells. None of the newly installed wells dewatered during development. Following development, groundwater samples were collected from each of the wells. Purge water generated during development and sampling procedures was transported by IWM to McKittrick Waste Management located in McKittrick, California, for disposal. Well development procedures are included in Appendix A. Copies of the well development forms are included in Appendix D. Monitoring data are summarized in Table 2.

Wellhead Survey

Following installation of the wells, the elevations were surveyed by Virgil Chavez Land Surveying of Vallejo, CA (license #6323). Top of casing and vault box elevations were measured relative to an USGS benchmark, and the horizontal locations including GPS longitude and latitude of the wells were measured. The surveyor's report is included in Appendix E. Well elevations are summarized in Table 2.

RESULTS OF THE SUBSURFACE INVESTIGATION

Soil encountered during this investigation consisted of clay, silt, poorly graded sand, and well graded sand. Clay was encountered in well borings MW-1 and MW-2 to approximately 22 feet bgs.

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Poorly graded sand was encountered underlying the clay to the total depth explored in well borings MW-1 and MW-2. Clay was encountered in well boring MW-3 to approximately 21 feet bgs. Within the clay, silt was encountered from approximately 6 to 12 feet bgs. A poorly graded sand was encountered underlying the clay to the total depth explored. Clay was encountered in well boring MW-4 to approximately 21 feet bgs. A lens of poorly graded sand was encountered in the clay from 9 to 11 feet bgs. Underlying the clay, a well-graded sand was encountered to the total depth explored. Groundwater was encountered at approximately 10 feet bgs in the well borings. Detailed descriptions of the soil encountered during drilling are presented on the boring logs in Appendix C. Based on the groundwater monitoring data collected on March 12, 2002, shallow groundwater beneath the site appears to flow in a southwestly direction at a gradient of 0.01 (Figure 3).

CHEMICAL ANALYTICAL RESULTS

A total of eleven soil samples from the well borings, one composite soil sample from the stockpiled drill cuttings, and four groundwater samples were submitted under chain-of-custody for chemical analysis. Analyses were performed by Lancaster Laboratories (ELAP #2116). Copies of the laboratory reports and chain-of-custody forms are included in Appendix F. Soil and groundwater chemical analytical data are summarized in Tables 3 and 4, respectively.

Chemical Analytical Procedures

The soil and groundwater samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tert-butyl ether (MtBE) by EPA Method 8021B. In addition, groundwater samples were analyzed for tert-butyl alcohol (TBA), MtBE, disopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromoethane (1,2-DBA or EDB) by EPA Method 8260B. The stockpiled drill cutting sample was analyzed for TPHg, BTEX, and MtBE by EPA Methods 8015M/8221B, and total lead by EPA Method 6010B.

Soil Analytical Results

TPHg, BTEX or MtBE were not detected in any of the soil samples analyzed from well borings MW-1 and MW-2. Soil samples collected from well borings MW-3 and MW-4 contained TPHg at concentrations ranging from 2.1 (MW3-14.5) to 240 (MW3-4.5) parts per million (ppm). Two soil samples MW4-4.0 and MW3-14.5 contained benzene at concentrations of 0.18 ppm and 0.22 ppm, respectively. MtBE was reported in soil sample MW4-4.0 at 0.23 ppm.

Groundwater Analytical Results

TPHg, BTEX, TBA, DIPE, ETBE, TAME, MtBE, 1,2-DCA, or 1,2-DBA were non-detect in the groundwater sample from well MW-1. Only MtBE was reported in the groundwater sample from well MW-2 at a concentration of 3 parts per billion (ppb). TPHg, benzene, MtBE, and TAME were reported in wells MW-3 and MW-4 at concentrations of 12,000 and 9,700 ppb, 500 and 360 ppb, 650 and 170 ppb, and 18 and 13 ppb, respectively.

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WASTE DISPOSAL

Soil cuttings generated during drilling activities were placed on and covered with plastic sheeting at the subject site and disposal confirmation sample SP-1(A-D) was collected. Approximately 1.6 cubic yards of soil cuttings were removed from the site by IWM and taken to Republic Services Vasco Road Landfill in Livermore, California, for disposal on April 9, 2002. A Certificate of Disposal is included in Appendix B.

DISCUSSION

TPHg were reported in soil from well borings MW-3 and MW-4 at 4.5 and 14.5 feet bgs. TPHg, benzene, MtBE, TAME were reported in groundwater samples from wells MW-3 and MW-4. Based on groundwater monitoring data, shallow groundwater beneath the site appears to flow to the southwest. Petroleum hydrocarbon impacted soil and shallow groundwater remains undefined to the south and southwest. The results of this investigation suggest that further assessment work to the south and southwest may be necessary, but GR recommends that at least two additional quarters of groundwater monitoring and sampling data be collected to establish groundwater flow direction and hydrocarbon concentration trends before proposing additional assessment work at this site.

Table 1
Historical Soil Analytical Chemical Data
Chevron Service Station No. 9-2029
890 West MacArthur Boulevard
Oakland, California

	Depth	 -	TPHg	В	T	Е	X	MtBE	Lead
Sample ID	(feet)	Date	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
		·							
S1-3	3.0	2/26/97	<1.0	< 0.0050	< 0.0050	< 0.0050	0.011	0.087	NA
S2-3	3.0	2/26/97	6.0^{1}	< 0.0050	< 0.0050	< 0.0050	0.0079	0.38	NA
\$3-3	3.0	2/26/97	4.1 ²	0.0098	0.0087	0.027	0.026	0.44	NA
S4- 3	3.0	2/26/97	2.0^{2}	0.016	0.0088	< 0.0050	0.015	0.42	NA
S5-3	3.0	2/26/97	38	0.63	0.14	0.90	0.37	0.62	NA
S6-3	3.0	2/26/97	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	NA
B1-6	6.0	10/6/00	68^3	0.25	0.30	1.2	0.64	0.33	4.5
B1-11	11.0	10/6/00	<1.0	< 0.0050	0.0073	< 0.0050	0.0089	< 0.050	4.5
B2-6	6.0	10/6/00	<1.04	<0.0050	<0.0050	< 0.0050	0.012	< 0.050	6.9
B2-11	11.0	10/6/00	<1.0 ⁴	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	3.9
В3-6	6.0	10/9/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	4.4
B3-11	11.0	10/9/00	930^{3}	6.7	1.2	22	100	13	4.7
B4-6	6.0	10/9/00	<1.05	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050 ⁶	107
B4-11	11.0	10/9/00	<1.05	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050 ⁶	3.5 ⁸
B5-6	6.0	10/5/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	6.1
B5-11	11.0	10/5/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	3.7
B6-6	6.0	10/5/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	6.5
B6-11	11.0	10/5/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	5.1
B7-6	6.0	10/9/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	9.2
B7-11	11.0	10/9/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	<0.050	5.4
B8-6	6.0	10/6/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	6.8
B8-11	11.0	10/6/00	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.050	5.1
В9-6	6.0	10/9/00	95^{3}	0.15	0.2	1.9	2.2	< 0.5	5.0
B9-11	11.0	10/9/00	200^{3}	1.3	0.59	6.1	9.7	3.4	6.9
B10-6	6.0	10/6/00	<1.0	< 0.0050	0.0058	0.0052	0.016	< 0.050	7.7
B10-11	11.0	10/6/00	<1.0	< 0.0050	< 0.0050	0.0051	0.015	< 0.050	4.6

Explanation

NA = Not analyzed

ppm = parts per million

TPHg = Total Petroleum Hydrocarbons as gasoline

TPHho = Total Petroleum Hydrocarbons as hydraulic oil

O&G = Oil and Grease

TPHd = Total Petroleum Hydrocarbons as diesel

VO = Volatile Organics

SVO = Semivolatile Organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = total Xylenes

MtBE = Methyl tert-butyl ether

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Table 1

Historical Soil Analytical Chemical Data Chevron Service Station No. 9-2029 890 West MacArthur Boulevard Oakland, California

Notes:

- ¹ Unidentified hydrocarbons > C8
- ²Gasoline and discrete peaks
- ³ Gasoline C6-C12
- ⁴ Sample also analyzed for TPHho (<10 ppm)
- 5 Sample also analyzed for O&G (<50 ppm) and TPHd (<1.0 ppm).
- 6 Sample also analyzed for VO (ND) and SVO (ND)
- ⁷ Sample also analyzed for Cd (0.69 ppm), Cr (42 ppm), Ni (100 ppm), and Zn (63 ppm)
- ⁸ Sample also analyzed for Cd (0.57 ppm), Cr (24 ppm), Ni (29 ppm), and Zn (50 ppm)

Table 2
Summary of Depth to Groundwater
Chevron Service Station No. 9-2029
890 West MacArthur Boulevard
Oakland, California

	TOC	DTW	FPP thickness	Groundwater	
Well ID	(ft)	(ft)	(ft)	Elevation (ft)	_
MW1	50.711	6.50	0.00	44.21	
MW2	52.57 ¹	6.09	0.00	46.48	
IVI VV Z	32.31	0.09	0.00	10.10	
MW3	50.311	6.50	0.00	43.81	
MW4	49.93 ¹	5.34	0.00	44.59	

Explanations

ft = feet

FPP = Free Phase Product

TOC = Top of Casing

DTW = Depth to Water

USGS = United States Geological Survey

¹ TOC surveyed relative to USGS benchmark (elevation 85.41 ft) by Virgil Chavez Land Surveying (PLS 6323) on March 14, 2002

Table 3
Soil Chemical Analytical Results
Chevron Service Station No. 9-2029
890 West MacArthur Boulevard
Oakland, California

	Sample		•	-					
	Depth		TPHg	В	T	E	X	MtBE	Lead
Sample ID	(feet)	Sample Date	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Boring MW-	· <u>1</u>								
MW1-6	6	3/1/02	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.050	NA
MW1-24.5	24.5	3/1/02	<1.0	<0.0050	<0.0050	<0.0050	< 0.015	<0.050	NA
Boring MW	<u>-2</u>								
MW2-4.5	4.5	3/1/02	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.050	NA
MW2-14.5	14.5	3/1/02	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.050	NA
MW2-24.5	24.5	3/1/02	<1.0	< 0.0050	< 0.0050	<0.0050	< 0.015	<0.050	NA
Boring MW	<u>-3</u>								
MW3-4.5	4.5	3/1/02	240	< 0.050	< 0.050	3.7	< 0.300	< 0.20	NA
MW3-14.5	14.5	3/1/02	2.1	0.22	< 0.0050	0.11	< 0.015	< 0.21	NA
MW3-24.5	24.5	3/1/02	<1.0	<0.0050	<0.0050	<0.0050	< 0.015	<0.050	NA
Boring MW	<u>'-4</u>								
MW4-4.0	4.0	3/1/02	150	0.18	< 0.020	2.1	1.9	0.23	NA
MW4-14.5	14.5	3/1/02	3.1	< 0.0050	< 0.0050	0.019	< 0.015	< 0.050	NA
MW4-24.5	24.5	3/1/02	<1.0	< 0.0050	< 0.0050	<0.0050	< 0.015	<0.050	NA
<u>Drill Cuttin</u>	gs Stockr	<u>pile</u>							
SP1(A-D)		3/1/02	71	< 0.020	<0.020	0.38	0.38	0.058	1.4

Explanations:

-- = not applicable

NA = Not Analyzed

ppm = parts per million

B = Benzene

T = Toluene

1 - Toluche

E = Ethylbenzene

X =Total Xylenes

MtBE = Methyl-tert Butyl Ether

TPHg = Total Petroleum Hydrocarbons as gasoline

Analytical Laboratory:

Lancaster Laboratories (ELAP# 2116)

Analytical Methods:

TPHg by EPA Method 8015M

BTEX and MtBE by EPA Method 8021B

Lead by EPA Method 6010B

Table 4
Groundwater Chemical Analytical Results
Chevron Service Station No. 9-2029
890 West MacArthur Boulevard
Oakland, California

Sample ID	Sample Date	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MtBE ^a (ppb)	MtBE ^b (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)
MW-1	3/12/02	<50	<0.50	<0.50	<0.50	<1.5	<2.5	<2.0	<2.0	<2.0	<2.0	<100
MW-2	3/12/02	<50	<0.50	<0.50	<0.50	<1.5	<2.5	3.0	<2.0	<2.0	<2.0	<100
MW-3	3/12/02	12,000	600	8.5	1,100	370	700	650	<2.0	<2.0	18	<100
MW-4	3/12/01	9,700	360	5.3	1,100	150	170	170	<2.0	<2.0	13	<100

Explanations

ppb = parts per billion

TPHg = Total Petroleum Hydrocarbons as gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total Xylenes

MtBE = Methyl tert-Butyl Ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl Tert-Butyl Ether

TAME = Tert-Amyl Methyl Ether

TBA = Tert-Butyl Alcohol

1,2-DCA = 1,2-Dichloroethane

1,2-DBA = 1,2-Dibromoethane (EDB)

Analytical Laboratory:

Lancaster Laboratories (ELAP #2116)

Analytical Methods:

TPHg by EPA Method 8015M

BTEX by EPA Method 8021B

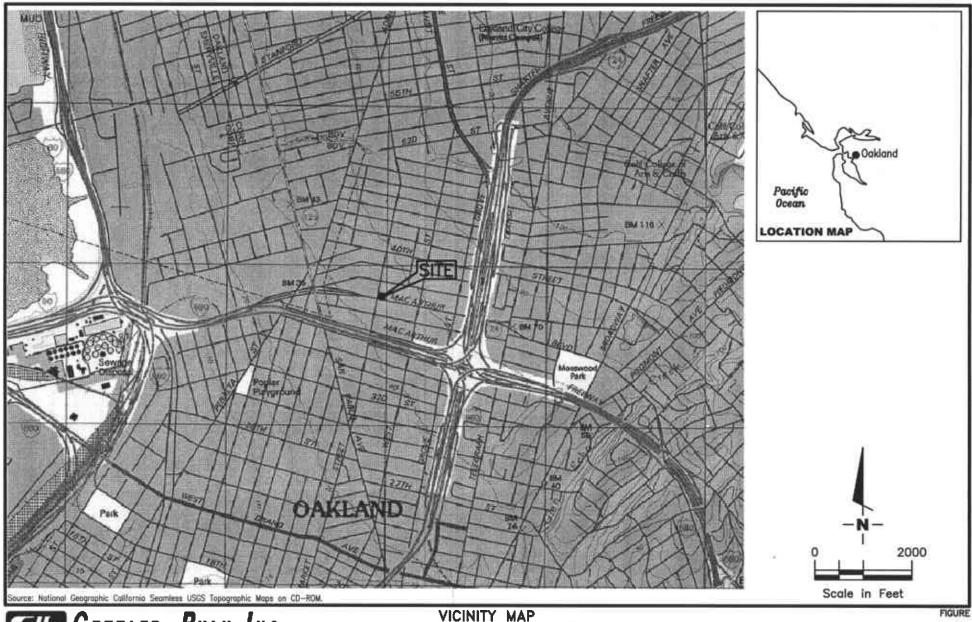
DIPE/ETBE/TAME/TBA/1,2-DCA/1,2-DBA by EPA Method 8260B

Notes:

All samples were non detect for 1,2-DCA (<2.0 ppb) and 1,2-DBA (<2.0 ppb).

^a Analyzed by EPA Method 8021B

^b Analyzed by EPA Method 8260B





(925) 551-7555

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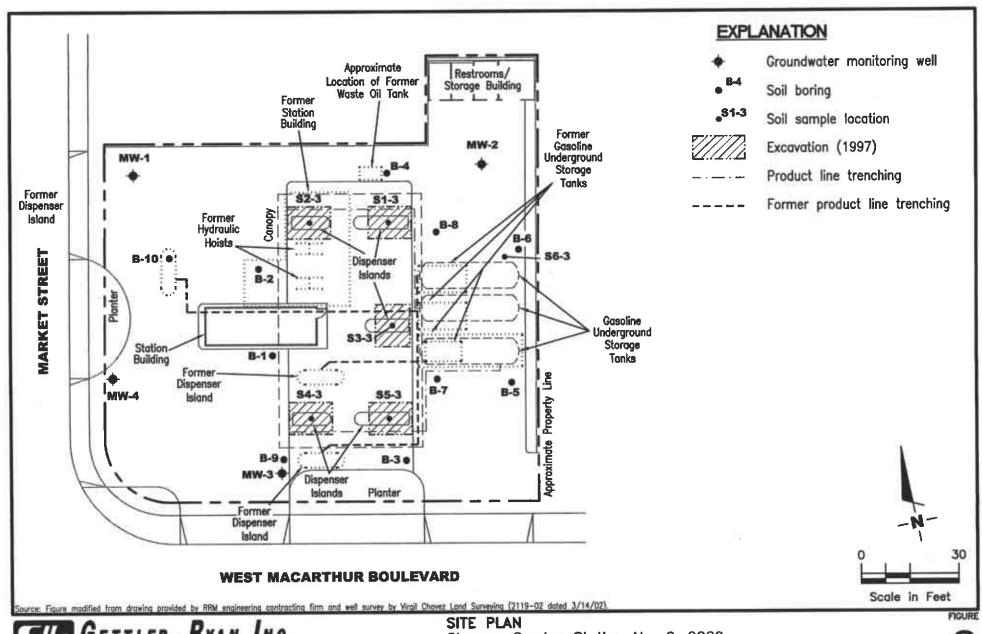
DATE 4/02

REVISED DATE

PROJECT NUMBER DG92029G.4C01

FILE NAME: P:\ENVIRO\CHEVRON\9-2029\VIC-9-2029.DWG | Layout Tab: Vic Map

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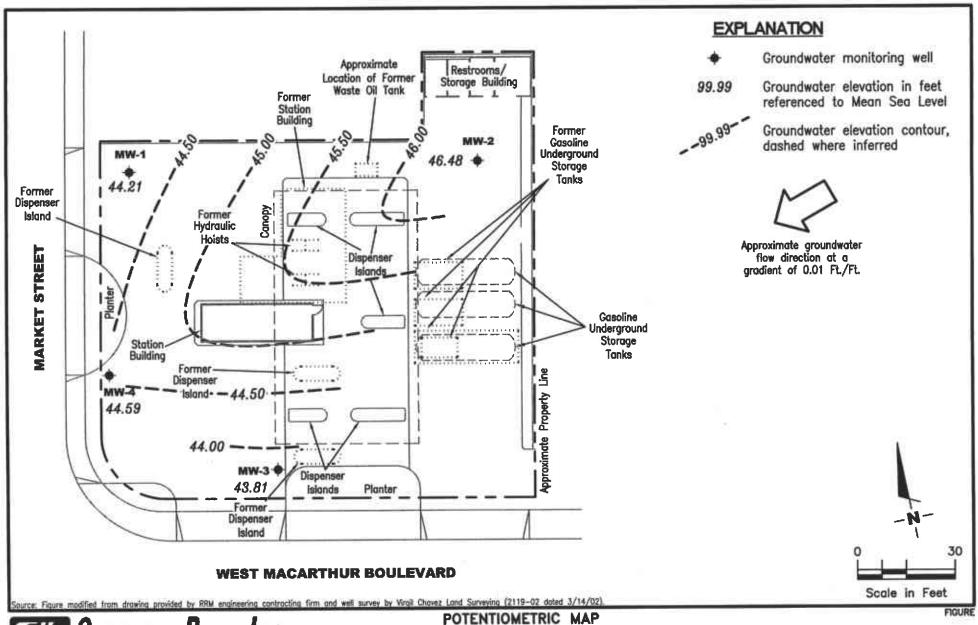
GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
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SITE PLAN
Chevron Service Station No. 9-2029
890 West MacArthur Boulevard
Oakland, California

REVISED DATE

PROJECT NUMBER REVIEWED BY DG92029G.4C01

DATE 4/02





PROJECT NUMBER

DG92029G.4C01

Chevron Service Station No. 9-2029 890 West MacArthur Boulevard Oakland, California

March 12, 2002

FILE NAME: P:\ENVIRO\CHEVRON\9-2029\A00-9-2029.DWG | Layout Tab: Pot1 4-02

REVIEWED BY

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES WELL INSTALLATION

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Collection, preservation, and analysis of samples is performed in accordance with the California Code of Regulations Title 23, Division 3, Chapter 16, *Underground Tank Regulations* (June 2001), the Central Valley Regional Water Quality Control Board's *Tri-Regional Board Staff Recommendations for Preliminary Investigation And Evaluation Of Underground Tank Sites* (August 1990), Environmental Protection Agency *SW-846 Methods* (November 2000), and local agency guidelines.

Well borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring under the supervision of a California Registered Geologist. Soil samples are collected from the soil boring with a split-barrel sampling device fitted with 2-inch-diameter, clean brass tubes or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soils are described using the Unified Soil Classification System (ASTM 2488-93) and the Munsell Soil Color Chart or GSA Rock Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting, capped, labeled, and placed in a cooler with blue ice for preservation to $4^{\circ}C \pm 2^{\circ}C$. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to a California state-certified hazardous material testing laboratory. Samples are selected for chemical analysis based in part on:

- a. depth relative to underground storage tanks and existing ground surface
- b. depth relative to known or suspected groundwater
- c. depth relative to areas of known hydrocarbon impact at the site
- d. presence or absence of contaminant migration pathways
- e. presence or absence of discoloration or staining
- f. presence or absence of obvious gasoline hydrocarbon odors
- g. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform headspace analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap, or by placing a small amount of the soil to be screened in a sealable plastic bag. The soil is warmed in the sun to allow organic compounds in the sample to volatilize. The PID probe is inserted into the headspace inside the tube

through a hole in the plastic cap or through the wall of the plastic bag. Headspace screening results are recorded on the boring log. Headspace screening procedures are performed and results recorded as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Construction of Monitoring Wells

Monitoring wells are constructed in the well borings with Schedule 40 polyvinyl chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen, which generally extends from the total well depth to a point above the groundwater. An appropriately sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic-rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking waterproof cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Measurement of Water Levels

The top of the newly installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL). The surveyor also obtains the horizontal coordinates of the well location including GPS longitude and latitude. Depth-to-groundwater in the well is measured from the top of the well casing with an electronic water-level indicator. Depth-to-groundwater is measured to the nearest 0.01-foot, and referenced to MSL.

Well Development and Sampling

The purpose of well development is to improve hydraulic communication between the well and the surrounding aquifer. Prior to development, each well is monitored for the presence of floating product and the depth-to-water is recorded. Wells are then developed by alternately surging the well with a vented surge block, then purging the well with a pump or bailer to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Storing and Sampling of Drill Cuttings

Drill cuttings are either drummed, or stockpiled on and covered with plastic sheeting, and samples are collected and analyzed for disposal classification on the basis of one composite sample per 100 cubic yards of soil. Drill cuttings samples are composed of four discrete soil samples, each collected from an arbitrary location. The four discrete samples are then composited at the laboratory prior to analysis.

Each discrete drill cuttings sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless steel or brass sample tube into the stockpiled material by hand, mallet, or drive sampler. The sample tubes are then covered on both ends with Teflon sheeting, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory.

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to well development, each well is monitored for the presence of free-phase hydrocarbons and the depth to water is recorded. Wells are then developed by alternately surging the well with the bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using Chevron-designated disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron Products Company, the purge water and decontamination water generated during sampling activities is transported by IWM to McKittrick Waste Management located in McKittrick, California.

From-Gettler-Ryan Inc

+9166311317

T-525 P.002

F-177



PLEASE PRINT NAME Geoffield

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-58.

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (\$10) 670-5554 PAX (510)782-1939

DRILLING PERMI	TAPPLICATION
FOR APPLICANT TO COMPLETE LOCATION OF PROJECT 890 AVEGT WAG AT THUY BLOOD ON MANNY A	PERMIT NUMBER WOI - 2151 WELL NUMBER
Chevran #9-2029	PERMIT CONDITIONS Clicked Fermit Requirements Apply
CLIENT LIP VION Products COMPANY Number LIP VION Products COMPANY Address F. D. BOX 600 4 Phone 1725/8497-8848 City 560 Ramen Zip 14568 APPLICANT	A. GENERAL. 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date. 2. Submit to ACPWA within 60 days after completion of
Namo GeHIEV - RYAN INC Pax 1916 671-1308 Address 3140 Gold Conp. VV #178 Phone (916) 631-1300 City Reache Coroleva Zip 95670	permitted original Department of Water Resources- Well Compilation Report. 3. Permit is void if project not begun within 90 days of approval date B. WATER SUPPLY WELLS 1. Minimum surface seal thickness is two inches of
TYPE OF PROJECT Well Construction Georgeomical Investigation Cathodic Protection 17 General L1 Water Supply C7 Contamination 17 Monitoring 18 Well Destruction C1	coment grout placed by tremic. 2. Minimum seel depth is 50 feet for municipal and Industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
PROPOSED WATER SUPPLY WELL USE New Domestic () Replacement Domestic () Municipal () Irrigation () Industrial () Other ()	1. Minimum surface seal thickness is two inches of central grout placed by tramic. 2. Minimum seal dopth for monitoring wells is the maximum depth precileable of 20 feet. D. GEOTECHNICAL
DRILLING METHOD: Mud Rulary I.I Air Rodary II Auger III Cubic I'I Other II	Backfill bore hale by tremie with coment grout or coment grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.
driller's name <u>Grego Prilling</u> Driller's License no. <u>485165</u>	E. CATHODIC Pill hole anode zone with concrete placed by tremis, F. WELL DESTRUCTION Send a map of work site. A separate permit is required for wells deeper than 45 feet. G. SPECIAL CONDITIONS
WELL PROJECTS Drill Hole Diameter & in. Maximum Cosing Diameter & in. Depth 3.5 ft. Surface Scal Dopth 7 ft. Owner's Well Number MW-	NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.
GEOTECHNICAL PROJECTS Number of Borings Maximum Plote Diamater in. Depth 1. ESTIMATED STARTING DATE 2/18/02	1202
ESTIMATED COMPLETION DATE 2/19/02	APPROVED DATE

11:41am From-Gattler-Ryan inc

+9166311917

T-525 P.009/019 F-177



Jan-03-02

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (510) 670-5554 FAX (510)782-1939

DRILLING PERMI	T APPLICATION
FOR APPLICANT TO COMPLETE	for office use
LOCATION OF PROJECT 810 West MacArthur	PERMIT NUMBER
Rival lakiana, Cl	WELL NUMBER
	APN
(he yran 79- 2029	PERMIT CONDITIONS Circled Permit Requirements Apply
CLIENT (AM ADALL	A CONTRAT.
Nalme Incurrent Fredricts Company Address P. 8 Nov 6 004 Phone (9) 5 1 343-8898 City 59 14 568	A. GENERAL 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
• • •	Submit to ACPWA within 60 days after completion of
APPLICANT GO HEY RYAN INC.	(permitted original Department of Water Resources
RAY /91 61 6 21 121 /	Well Completion Report.
Address 3140 Golde (480 01 # 170 Phone (916) 631-1300	3. Permit is void if project not begun within 90 days of approval date
City Lauche Coldeva Zip 45670	r. water supply wells
	1. Minimum surface seal thickness is two inches of
TYPE OF PROJECT	coment grout placed by truthe.
Well Construction Geotechnical Investigation	2. Minimum seal depth is 50 feet for municipal and Industrial wells or 20 feet for documents and irrigation
Cathodic Protection 11 General [1]	wells autast a larget debth is specially abbroked.
Water Supply C1 Contamination [7]	C. GROUNDWATER MONITORING WELLS
Monitoring IV Well Destruction [1]	INCLUDING PIEZOMETERS
Proposed water supply well use	i, Minimum surface seal thickness is two inches of
New Domestic 12 Replacement Domestic ()	coment growt placed by tremic.
Manipali () Irrigation (1	2 Ministran seal depth for monitoring wells is the
Industrial II Other	maximum depth practicable or 20 feet.
Management of the second of th	D. GEOTECHNICAL Backfill bore hole by tremic with cement grout or comput
drilling method:	Browns with pose the state of control both of control by the state of control
Mud Rollary II Air Rotury O Auger W	or high combacted cyttings.
Cable (1) Other (2	E. CATHODIC
DRILLER'S NAME Gregg Prilling DAYLORIS INCOME. 46 516 5	Fill hale anode some with concrete placed by tramic.
OKILLER S MARIE	r. well destruction
DRILLER'S LICENSE NO. 48 516 5	Sond a map of work site. A separate permit is required
	for wells deeper than 45 fest.
	G. SPECIAL CONDITIONS
WELL PROJECTS Drill Hole Diameter S in. Maximum Casing Diasteter In. Depth 5 ft. Surface Scal Depth 7 ft. Owner's Well Number	NOTE: One application must be submitted for each well or well destruction. Multiple barings on one application are acceptable for geo(coluites) and contamination investigations.
GEOTECHNICAL PROJECTS	
Number of Borings Maximum	
Hole Diameterin. Degth (t.	
2/18/01_	1 1 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
ESTIMATED STARTING DATE 2/15/02	APPROVED DATE DATE
I hereby agree to comply with all requirements of this permit and Alameda County (Ordinance No. 73-68, / 【
OF PLANCE -	7 11 1
APPLICANT'S SIGNATURE DATE	TIPPE \
PLEASE PRINT NAME GEOFFIEL O. RISSE R	ov.5-13-00 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

Jan-03-02

11:41am From-Gettler-Ryan Inc

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T-525 P.004/019 F-177



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (510) 670-8554 FAX (510)782-1939

DRILLING PERMI	T APPLICATION
for applicant to complete	FOR OFFICE USE
LOCATION OF PROJECT 890 VVBS+ MacArthur	PERMIT NUMBER
	APN
(he view # 9-2029	PERMIT CONDITIONS Circled Permit Requirements Apply
CLIENT Name 1 P V VAN Drod 46+5 (ampany Address P. D. Box 6004 Phone 18: 925 1842 - 8898 Clay 5 gw Ramen zip 44 565	A. GENERAL I. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
APPLICANT (Ettler - R VI N INC Name Pax (916) 631-131 / Address 81 40 (2016 (2010 \$170 Phone (916) 631-130) City Rawoha (2014 21p 95610	2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources. Well Completion Report. 3. Fermit is void if project not begun within 90 days of approval date B, WATER SUPPLY WELLS 1. Minimum surface seal thickness is two inches of
TYPE OF PROJECT Well Construction Cathodic Protection Water Supply Monitoring General Contamination Contaminatio	cement grout placed by tromis. 2. Minimum seal depth is 50 feet for municipal and Industrial wells or 20 feet for domestic and imigation wells unless a lessor depth is specially approved. C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
PROPOSED WATER SUPPLY WELL USE New Domestic (1) Replacement Domestic (1) Municipal (1) Irrigation (1) Industrial (1) Other (1)	I. Minimum sprince real thickness is two inches of coment great placed by tremic. 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet. D. GEOTECHNICAL
DRILLING METHOD: Mud Rotary (1 Air Rotary (1 Auger (2) Cable (1) Other (2)	Duckful bore bole by tremic with coment grout or consent grout and mixture. Upper two-three feet replaced in kind or with compacted outlings. E. CATHODIC Pill hole anode zone with concrete pluced by tremic.
DRILLER'S LICENSE NO. 485165	F. WEIL DESTRUCTION Sond a map of work site. A separate permit in required for wells deeper than 45 feet. G. SPECIAL CONDITIONS
WELL PROJECTS Drill Holo Diameter 8 In. Maximum Casing Diameter 2 In. Depth 5 n. Surface Seal Depth 7 n. Owner's Well Number MW-3	NOTE: One application must be submitted for each well of wall destruction. Multiple begings on one application are acceptable for geotechnical and confamination investigations.
CEOTECHNICAL PROJECTS Number of Borings Maximum Hole Diameter in Depth R.	1.100
ESTIMATED STARTING DATE 2/18/02	APPROVED DATE
I hereby agree to comply with all requirements of this permit and Alameda County C	Ordinance No. 73-68.
APPLICANT'S SIGNATURE	13/02 (()
PLEASE PRINTINAME GEOTTIES T. RISSE RI	sv.5-13-00

+9166311317

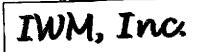
T-525 P.005/019 F-177



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (S10) 670-5554 FAX (510)782-1939

DRILLING PERMIT A	PPLICATION
For applicant to complete	for office use
	PERMIT NUMBER
LOCATION OF PROJECT 810 West Mac Atthur	WELL NUMBER
- 4 tr 2 tr	APN
660110N +9-10+9	PERMIT CONDITIONS
	Circled Permit Requirements Apply
NAMES CHEVRON Products Company	A. GENERAL
	1. A permit application should be submitted so as to
Address F. 11. Box 2004 Phone (3) 5) 8 43 - 88 18 City 50 N Roman Zip 6 5 6 6	prive at the ACPWA office sive days prior to
ON	proposed starting date.
Name Getter-RYAN INC	2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-
Namo CC [C T V C T T	Well Completion Report.
Address 3140 6010 (000 0141 Phone (016) 631-1300	3. Permit is void if project not begun within 90 days of
City Raytha laidera 21 95670	approval date
	B. WATER SUPPLY WELLS
	1. Minimum surface seal Chickness is two inches of
TYPE OF PROJECT	cement grout placed by tromic. 2. Minimum seal depth is 50 feet for municipal and
Well Construction Geolechmical Investigation	Industrial wells or 20 feet for domestic and irrigation
Cathodic Protection 17 General L1 Water Supply C1 Contaction 17	wells unless a leaser depth is specially approved.
Wuter Supply Cl Contentiation (1) Monitoring Well Description Cl	C. GROUNDWATER MONITORING WELLS
Mandalan M. Mon Desagrance Ct.	\ / INCLUDING PIEZOMETERS
Proposed water supply well use	1. Minimum surface scal thickness is two inches of
New Domestie 1:1 Replacement Domestie (1	coment grout placed by tremis.
Municipal 13 Irrigation U	2.Minimum seel depth for monitoring walls is the maximum depth practicable or 20 feet.
Industrial (.) Other	D. GEOTECHNICAL
DRILLING METHOD:	Backful bore hole by tramin with coment growt or coment
Mud Rolary I.) Air Rolary D Auger D	grow/sand mixture. Upper two-three feet replaced in kind
Cable I'i Other I;	or with compacted व्यक्षीतहर.
(10 10 11/10	E. CATHODIC
DRILLER'S NAME GVEYG OF LIND	Pill hole anode zone with concrete placed by trunic.
DRILLER'S LICENSE NO. 485165	F. WELL DESTRUCTION Scad a map of work site. A separate permit is required
driller's license no	for wells deeper than 45 feet
	G. SPECIAL CONDITIONS
WELL PROJECTS Q	or the second of
Drill Hole Diameter 0 in Maximum	NOTE: One application must be submitted for each well or well struction. Multiple borings on one application are acceptable
Casing Diameter In Depth 2 ft. Owner's Wall Number MW 6	of Scotectures and confinmination investigations.
GEOTECHNICAL PROJECTS	
Number of Borlage Meximum	
Hulo Diamoterin. DepthR	1 10 1 1 00
BSTIMATED STARTING DATE 2 (18/02	1 (11/11)
ESTIMATED COMPLETION DATE	APPROVED DATE
I hereby agree to cornely with all requirements of this permit and Alameda County Ordin	MICS NO. 73-08.
APPLICANT'S SIGNATURE APPLICANT'S SIGNATURE 1/3	
DLEASE PRINT NAME Geoffrey 1. Risse Rev.S.	13-00
1 #	



INTEGRATED WASTESTREAM MANAGEMENT, INC. 950 AMES AVENUE, MILPITAS, CA 95036 PHONE: 408.942.8955 FAX: 408.842.1499

CERTIFICATE OF DISPOSAL

Chevron #9-2029 Facility Name: Chevron Products Company Generator Name: 890 W. MacArthur Blvd Address: 6001 Bollinger Canyon Road Address: Oakland, CA San Ramon, CA 94583 Geoffrey Risse, Gettler-Ryan **Facility Contact:** Bob Cochran Contact: 916-631-1300 Phone: 925-842-9500 Phone:

TWM Job #:

Description of Waste:

Non-Hazardous

Soil

Removal Date:

Ticket #:

P2090-SS

1.6 CY of

Non-Hazardous

Soil

April 9, 2002

RSVRL090402

Transporter Information	Disposal Facility Information
Name: IWM, Inc. Address: 950 Ames Avenue Milpitas, CA 95035 Phone: (408) 942-8955	Name: Republic Services Vasco Road Landfill Address: 4001 N. Vasco Road Livermore, CA 94550 Phone: (925) 447-0491

IWM, INC. CERTIFIES THAT THE ABOVE LISTED NON-HAZARDOUS WASTE WILL BE TREATED AND DISPOSED AT THE DESIGNATED FACILITY IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

William T. DeLon William 2. Cle For	4/9/02
Authorized Representative (Print Name and Signature)	Date
Authorized Representative (Film Name and Englands)	

	MAJOR DIV	ISIONS			TYPICAL NAMES		
	ODAVELS	CLEAN GRAVELS		GW	Well graded gravels with or without sand, little or no fines		
SIEVE	GRAVELS MORE THAN HALF	OR NO FINES		GP	Poorly graded gravels with or without sand, little or no fines		
SOILS NO. 200 S	COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	GRAVELS WITH		GM	Silty gravels, silty gravels with sand		
		OVER 15% FINES		GC	Clayey gravels, clayey gravels with sand		
		CLEAN SANDS		SW	Well graded sands with or without gravel, little or no fines		
COARSE	SANDS			SP	Poorly graded sands with or without gravel, little or no fines		
MORE TH	COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	SMALLER THAN D. 4 SIEVE SIZE SANDS WITH		SM	Silty sands with or without gravel		
		OVER 15% FINES		SC	Clayey sands with or without gravel		
SIEVE	SEVE			ML	Inorganic silts and very fine sands, rock flour, silts with sands and gravels		
SOILS NO. 200		ID CLAYS		CL	Inorganic clays of low to medium plasticity, clays with sands and gravels, lean clays		
7	LIQUID LIMIT :	50% OR LESS		OL	Organic silts or clays of low plasticity		
	SILTS AN	ID CLAYS	Ш	мн	Inorganic silts, micaceous or diatornaceous, fine sandy or silty soils, elastic silts		
FINE-		IT GREATER THAN 50%		IT GREATER THAN 50%		СН	Inorganic clays of high plasticity, fat clays
MORE T				ОН	Organic silts or clays of medium to high plasticity		
H	IIGHLY ORGAN	IC SOILS		РТ	Peat and other highly organic soils		
	PID Volatil	e vapors in ppm			Observed contact		
	bgs below	ground surface			— — — Inferred contact		
(2.5	SYR 6/2) Soil o	color according to Color Charts (199			No soil sample recovered		
P1		·			"Undisturbed" sample		
I R		le drive hammer pounds falling 30					
	140 pounds falling 30 Blows required to driv 1 foot are indicated o				Static groundwater level		



UNIFIED SOIL CLASSIFICATION
ASTM D 2488-85
AND
KEY TO SAMPLING DATA

Ge	ttler-Ry	yan, Inc	•	Log of Boring	j MW−1				
		- Ciption No	0_2020	LOCATION: 890 West MacArthur Blvd., Oakland, CA					
		ce Station No	7. 9-2029	CASING ELEVATION: 50.71 ft. (MS					
	NO.: DG920			WL (ft. bgs): 10.0 DATE: 03/01/02	AB 40				
	ED: 03/01/0			WL (ft. bgs): DATE:	TIME:				
	ED: 03/01/	UZ Hollow Stem	Auger	TOTAL DEPTH: 25 feet					
	MPANY: Gre		Augui	GEOLOGIST: Geoff Risse					
(feet) (ppm) PID (ppm)	UMBER	SAMPLE INT. GRAPHIC LOG		GEOLOGIC DESCRIPTION	WELL DIAGRAM				
± d 0	d ß	N 60 N	Concrete ov	er base rock – 6 inches thick.	1 TU-19				
8-	23 MWI-8	CL	rust, moist, v sand.	yellowish brown (10YR 5/8) mottled with erry stiff, low plasticity: 95% clay, 5% fine sturated.	2" blank schedule 40 PVC				
16-	40		Becomes h	ard.	90				
20-	30 MW1-2		Color char stiff; 90%	nges to brown (7.5YR 5/4), becomes very clay, 5% fine sand, 5% fine gravel.	2- machii				
24-	40 MW1-24	1.5	SP POORLY G saturated	RADED SAND (SP) - brown (7.5YR 5/4), dense: 90% coarse sand, 10% fine gravel.	Cap				
-	1111			f boring at 25 feet bgs. verted to equivalent standard penetration bt.)					

Gettler-Ryan, Inc.							Log of Boring MW-2			
		71	on Servic	n Statio	n No G	-2029	LOCATION: 890 West MacArthur Blvd., Oakland, CA			
						2020	CASING ELEVATION: 52.57 ft. (MS			
			DG920		-		WL (ft. bgs): 10.0 DATE: 03/01/02	TIME: 11:06		
			03/01/0				WL (ft. bgs): DATE:	TIME:		
			03/01/0		tom Au	ger	TOTAL DEPTH: 25 feet			
): 8 in. i			ger	GEOLOGIST: Geoff Risse			
(feet)	(mdd) GIA	BLOWS/FT. *	SAMPLE NUMBER : A	SAMPLE INT.	SOIL CLASS		GEOLOGIC DESCRIPTION	WELL DIAGRAM		
g€	PI	ᇳ	ŝ	(S) (D)	S)	Concrete ove	er base rock - 6 inches thick.	1 1		
4-	1000	27	MW2-4.5		CL	CLAY (CL) — rust, moist, v gravel.	grayish brown (10YR 5/2) mottled with ery stiff, low plasticity; 90% clay, 10% fine	blank schedule 40 PVC		
8-	1000	38	MW2-9.5			saturated, h	GRAVEL (CL) - brown (7.5YR 4/4), ard, low plasticity; 85% clay, 15% medium - brown (7.5YR 4/4), saturated, very stiff, by; 95% clay, 5% fine sand.	2° blank		
16-	100	22	MW2,-14.5					2" machine slotted PVC (0.0] q inch)		
20	1000	13	MW2-19			95% clay,	nges to black (7.5YR 2.5/i), becomes stiff; 5% fine sand.	— 2" machine sk		
24	100	0 44	MW2-24	1.5	SF	saturated	RADED SAND (SP) - black (7.5YR 2.5/1), , dense; 95% coarse sand, 5% clay.	de 2		
	-				***		f boring at 25 feet bgs. verted to equivalent standard penetration bt.)	4		

NO.: DG9202 ED: 03/01/02 MED: 03/01/03 THOD: 8 in. F MPANY: Greg	2 12 Hollow Stem Aug	Concrete over ba	LOCATION: 890 West MacArthur Blv CASING ELEVATION: 50.31 ft. (MSt WL (ft. bgs): 10.0 DATE: 03/01/02 WL (ft. bgs): DATE: TOTAL DEPTH: 25 feet GEOLOGIST: Geoff Risse EOLOGIC DESCRIPTION ase rock - 6 Inches thick. enish gray (56 5/1), moist, very stiff; avel, coarse sand lenses, hydrocarbon	TIME: 13:02 TIME: WELL DIAGRAM
NO.: DG9202 ED: 03/01/02 HED: 03/01/02 THOD: 8 in. H MPANY: Greg	SAMPLE INT. SAMPLE INT. SAMPLE INT. SOIL CLASS SOIL CLA	Concrete over ba	CASING ELEVATION: 50.31 ft. (MSI WL (ft. bgs): 10.0 BATE: 03/01/02 WL (ft. bgs): DATE: TOTAL DEPTH: 25 feet GEOLOGIST: Geoff Risse EOLOGIC DESCRIPTION ase rock - 6 Inches thick.	TIME: 13:02 TIME: WELL DIAGRAM
ED: 03/01/02 ED: 03/01/02 THOD: 8 in. F MPANY: Greg	SAMPLE INT. SAMPLE INT. GRAPHIC LOG Scan Soll CLASS	Concrete over ba	WL (ft. bgs): 10.0 DATE: 03/01/02 WL (ft. bgs): DATE: TOTAL DEPTH: 25 feet GEOLOGIST: Geoff Risse EOLOGIC DESCRIPTION ase rock - 6 Inches thick.	TIME: 13:02 TIME: WELL DIAGRAM
THOD: 03/01/0. THOD: 8 in. H MPANY: Greg	SAMPLE INT. GRAPHIC LOG Supply Soli CLASS	Concrete over ba	WL (ft. bgs): DATE: TOTAL DEPTH: 25 feet GEOLOGIST: Geoff Risse EOLOGIC DESCRIPTION ase rock - 6 Inches thick.	WELL DIAGRAM
BHOMES/FI. & in. F. WPANY: Greg * * * * * * * * * * * * * * * * * * *	SAMPLE INT. GRAPHIC LOG SOIL CLASS SOIL CLASS	Concrete over ba	GEOLOGIST: Geoff Risse EOLOGIC DESCRIPTION ase rock - 6 Inches thick.	ment of the same o
SAMPLE NUMBER	SAMPLE INT. 62 GRAPHIC LOG SOIL CLASS	Concrete over ba	EOLOGIC DESCRIPTION ase rock - 6 Inches thick.	ment of the same o
BLOWS/F1. * SAMPLE NUMBER	SAMPLE INT.	Concrete over ba	ase rock - 6 Inches thick.	ment The same of t
	V.> .V.	CLAY (CL) - gree 90% clay, 10% gra	poiet gray (5G 5/1) moist, very stiff,	e 40 PVC
28 MW3-4.5		CLAY (CL) - gree 90% clay, 10% gra	poiet gray (5G 5/1) moist, very stiff,	e 40 PVC
	1///			blank schedule 40 PVC
29 MW3-9.5	ML CL	Ţ <u> </u>	y (N6), saturated, very stiff; 90% silt, um sand, faint hydrocarbon odor. ark gray (N4), saturated, hard, low clay, 5% fine sand.	2 blank s
53 MW3-14.5				(0 0 f0 mch)
48 MW3-19.5	5	90% clay, 5% t	ine sand, 5% fine graves.	2 machine statted PVC
	SP	POORLY GRADI saturated, der 5% clay.	ED SAND (SP) - brown (7.5YR 4/3), nse; 90% coarse sand, 5% coarse gravel,	deo-
49 MW3-24	.5			
3	48 MW3-19.5	53 MW3-14.5 MW3-19.5 SP	CL CLAY (CL) - da plasticity; 95% c color changes 90% clay, 5% find the saturated, der 5% clay. Bottom of bor (x = Convertic blows/foot.)	CL CLAY (CL) - dark gray (N4), saturated, hard, low plasticity; 95% clay, 5% fine sand. Color changes to dark brown (7.5YR 3/2); becomes 90% clay, 5% fine sand, 5% fine gravel. SP POORLY GRADED SAND (SP) - brown (7.5YR 4/3), saturated, dense; 90% coarse sand, 5% coarse gravel, 5% clay. Bottom of boring at 25 feet bgs. (x = Converted to equivalent standard penetration blows/foot.)

	G	etti	er–Ry	/ 8	u, II	ic.		Log of Boring				
PROJECT: Chevron Service Station No. 9-2029								LOCATION: 890 West MacArthur Blvd., Oakland, CA				
			DG920						CASING ELEVATION: 49.93 ft. (MSL)			
			03/01/0	_				WL (ft. bgs): 10.0 DATE: 03/01/02 TIME: 15:23				
			03/01/0					NL (II, Dgs). BATE:	TIME:			
): <i>8 in</i> .		ow St	em Aug	er	TOTAL DEPTH: 25 feet				
			Y: Gre					GEOLOGIST: Geoff Risse				
(feet)	PID (ppm)	BLOWS/FT. *	BER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	WELL DIAGRAM			
50	<u>a.</u>	Ē	Ø	-	N 2 A	un	Concrete over	base rock - 8 inches thick.	THE PAT			
4-	7	28	MW4-4			a	non-plastic; 9	ght gray (7.5YR 7/1), moist, very stiff, 5% clay, 5% fine sand, faint hydrocarbon	2" blank schedule 40 PVC ———————————————————————————————————			
12-	22	30	MW4-9.5			SP	saturated, de to coarse gra	DED SAND (SP) - gray (7.5YR 6/1), ense; 90% coarse to medium sand, 10% fine avel, faint hydrocarbon odor. brown (7.5YR 4/3), saturated, hard, y; 95% clay, 5% fine sand.				
16	0	37	MW4-14.	5				OII	slotted PVC (0.016 inch) —			
20	4	31	MW4-19	.5			becomes ve		2° machine slotted P\			
24	-					SW	WELL-GRAD saturated, coarse gra	DED SAND (SW) - gray (7.5YR 6/1), dense; 90% fine to coarse sand, 10% fine to vel.	-cap			
١.,	1	48	MW4-2	4.5			1 2 1	having at 25 feet has				
				9				boring at 25 feet bgs. erted to equivalent standard penetration)	-			

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



MONITORING WELL OBSERVATION SUMMARY SHEET

CHEVRON #:	9.202		_	386911	
LOCATION:	890 W.M.	lac Authur K	Blud. DATE:	3-12-02	
	Oakland		TIME:		
		·			
Well ID	Total Depth	Depth to Water	Product Thickness	TOB or TOC	Comments
hw-1_	24.67	6.50	9	TOC	·
10-9	24.50	6.50			
<u>πω-3</u> mw-4	24.64	5.34			
			*	•	
			<u> </u>		.
:					
					<u></u>
					
Comments:					
			·	· · · · · · · · · · · · · · · · · · ·	·
	01		Assistant:		· · · · · · · · · · · · · · · · · · ·
Sampler: 4	B6				

WELL MONITORING/DEVELOPMENT FIELD DATA SHEET

Client/ CHEVI Facility Address: 890	2010 9-2029 1 W. MacAutt	iw Blvd.	Job#:	38691		
	cland, C	<u> </u>	Sampler:	B6		
Well ID	Mu. 1	Well Condition	n: OK		<u>.</u>	
Well Diameter	<u> </u>	Hydrocarbon Thickness:	€ Ft.	Amount Bai		(gal.)
Total Depth	22.29 th	Volume Factor (VF)	2" = 0.17 6" =	3" = 0.38		= 0.66
Depth to Water	6.50 ft.	.17 - 3	i ^O Xa (case volume) :	= Estimated Pur	ge Volume: 🚄	o (gal.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other: Stackless	Sa Eq	empling quipment: D P	disposable Bai diler dressure Bailer Grab Sample	ler	
Starting Time: Sampling Time: Purging Flow Ra Did well de-wate	* 47	Water C	Conditions: Solor: Solo	little, to	NO SIH-	
	Volume pH (gal.)	Conductivity µmhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	9					
0938	12 15 103	45<	65.5			
				·		
8945 3	6 6.98	455	65.8			
	141 CONTAINED		INFORMATION	BORATORY	ANAL	YSES
SAMPLE ID	(#) - CONTAINER	7 HC		castr	TPHG/Ble	MAIRE 70
COMMENTS:	TP AFter	riging Anc	(pusies	24.67.		

WELL MONITORING/DEVELOPMENT FIELD DATA SHEET

		Sampler: 4			
	Well Condition Hydrocarbon Thickness: Volume Factor (VF)	2" = 0.17 6" :	3" = 0.38 = 1.50): 4" 12" = 5.80	(gal.) = 0.66
Stack Suction Grundfos	Eq Dailer) Weather Water Co	Other Conditions:	Bailer Pressure Bailer Grab Sample : Claude Bran	Odor:x,2	
1 //					(gal.)
Olume pH gal.) 7 7-14 6.28	μmhos/cm	65.00 	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
(#) - CONTAINER F		, TYPE L	ABORATORY		yses
	20.65 ft. 14.56 x very stack suction Grundfos Other: Stack stack suction Grundfos Other: Stack	Thickness: Thickness: Volume Factor (VF) 14.56 x VF -17 = 2 Wishbasable Bailer Sa Satiler Stack Suction Grundfos Other: Slain/cs steel Dailer Water Co e: 3 gpm, Sediment If yes; Olume pH Conductivity pmhos/cm 7 1 378 LABORATORY III	Thickness: Thickn	Thickness: Thickn	Thickness: Thickness: Thickness: Volume Factor (VF) Thickness: Volume Factor (VF) Thickness: Volume Factor (VF) Thickness: Volume Factor (VF) Thickness: Thickness: Volume Factor (VF) Thickness: Thickness:

WELL MONITORING/DEVELOPMENT FIELD DATA SHEET

	RON 9-202 1 W. MacAu Cland,	thur Blvd. CA		38691 3-12-02 6		
Well ID Vell Diameter otal Depth Depth to Water	10.50 to	Well Condition Hydrocarbon Thickness: Volume Factor (VF)	2" = 0,17 6" = 1		2" = 5.80	(gal.) = 0.66
Purge Equipment: (Disposable Bailer Bailer Stack Suction Grundfos Other: Stack	Ec	ampling quipment: Dis Bai Pre Gra	Estimated Purge iposable Baile iler essure Bailer ab Sample	· .	C (gal.)
Starting Time: Sampling Time: Purging Flow Ra Did well de-wate	.	Water C	Conditions: Color: Brown of Description: Le	<u></u>		<u></u>
DIO MEN OC-MON	•					
Time \	Volume pH (gal.) S J	Conductivity µmhos/cm	Temperature •C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Time \\ \(\langle \) \(\lang	Volume pH (gal.) 3	μmhos/cm	•C			
Time \\ \(\langle \) \(\lang	Volume pH (gal.) 3	μmhos/cm	67·(

_9/97-fieldet.frm

WELL MONITORING/DEVELOPMENT FIELD DATA SHEET

lient/ CHEV	<u> </u>	-2029		Job#:	3869		<u> </u>
ddress: 89	M.W.	<u>ac Auth</u>	w Blvd.	Date:	3-12-00	5	·
city: Ob				Sampler:	BE		
Well ID	Mu	4	Well Condition	on: OK	· · · · · · · · · · · · · · · · · · ·		.
Vell Diameter	<u>~</u>	<u>in.</u>	Hydrocarbon	8	Amount Ba	a 1 .	(aal.)
Total Depth	24.5	7 _{ft.}	Thickness:	2" = 0.17	3" = 0.38	. 4*	= 0.66
Depth to Water	5.34	<u>ft.</u>	Factor (VF)		5" = 1.50	12" = 5.80	
	19-7	<u>-3</u> .x ve.	17 = 3	X3 (case volum	ne) = Estimated Pu	rge Volume: 🚊	30 Igal.)
Purge Equipment:	Disposabl Bailer Stack Suction			ampling quipment:	Disposable Ba Bailer Pressure Baile Grab Sample		
	Other: 51	lainles Stea	(Baler)	Oth	er:		
-	•						•
Starting Time: Sampling Time: Purging Flow R	ate:	3	_ Water 0 Sedime	Color: <u>light</u> nt Description		· ·	Slight.
Sampling Time: Purging Flow R Did well de-wa	1125 ate:	3	_ Water (Sedime If yes;	Color: <u>Light</u> nt Description Time:	n: Volu	ome:	(0al.) Alkalinity
Sampling Time: Purging Flow R Did well de-war	IIDS ate: ter? Volume (gal.)	PH PH	water (com. Sedime if yes; Conductivity	Color: <u>Light</u> nt Description Time: Temperate	n:Volu	ıme:	(ga).)
Sampling Time: Purging Flow R Did well de-wa	1125 ate: ter?	PH PH	Water (Sedime If yes; Conductivity	Color: <u>Light</u> nt Description Time: Temperate	n: Volu	ome:	(0al.) Alkalinity
Sampling Time: Purging Flow R Did well de-war	IIDS ate: ter? Volume (gal.)	PH PH	water (com. Sedime if yes; Conductivity	Temperate	n: Volu	ome:	(0al.) Alkalinity
Sampling Time: Purging Flow R Did well de-war Time //03	1125 ate: ter? Volume (gal.) 3	PH47	water (com. Sedime if yes; Conductivity	Color: <u>Light</u> nt Description Time: Temperate	n: Volu	ome:	(0al.) Alkalinity
Sampling Time: Purging Flow R Did well de-war Time //03	1125 ate: ter? Volume (gal.) 3	PH47	water (com. Sedime If yes; Conductivity	Temperate	n: Volu	ome:	(qal.) Alkalinity
Sampling Time: Purging Flow R Did well de-war Time //03	1125 ate: ter? Volume (gal.) 3	PH47	water (com. Sedime If yes; Conductivity	Temperate	n: Volu	ome:	(0al.) Alkalinity
Sampling Time: Purging Flow R Did well de-war Time // 0.9	1125 ate: ter? Volume (gal.) 3 (a) 7 72 73 74 74 77	9 M pH 2.47	water (com. Sedime If yes; Conductivity	Temperate	n: Volu	ome:	(0al.) Alkalinity
Sampling Time: Purging Flow R Did well de-war Time // 0.9 // 1/2 // 2	1125 ate: ter? Volume (gal.) 3 (a) 7 72 73 74 74 77	3 M pH 5.47 5.97	Water (com. Sedime if yes; Conductivity	Temperate Color: Ingnient Description Time: Temperate Color: One of the color of the co	ON	ORP (mV)	Alkalinity (ppm)
Sampling Time: Purging Flow R Did well de-war Time // 0.9 // 1/2 // 2	1125 ate: ter? Volume (gal.) 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	7 ph ph 5.97 5.96	Conductivity µmhos/cm 540 LABORATORY EFRIG. PRESE	Temperate COS. CO C	ON LABORATORY	ORP (mV)	Alkalinity (ppm)
Sampling Time: Purging Flow R Did well de-war Time //03 ///2 ///2 ///2 ////2	1125 ate: ter? Volume (gal.) 7 72 75 77 77 77 77 77 77 77 77 77 77 77 77	7 ph ph 5.97 5.96	Conductivity µmhos/cm 540 LABORATORY EFRIG. PRESE	Temperate COS. CO. INFORMATI	ON	ORP (mV)	Alkalinity (ppm)

_9/97-Neldat.fm

Virgil Chavez Land Surveying

312 Georgia Street, Suite 225 Vallejo, California 94590-5907 (707) 553-2476 • Fax (707) 553-8698

April 9, 2002

Project No.: 2119-02

Geoff Risse Gettler-Ryan, Inc. 3140 Gold Camp Drive, Suite 170 Rancho, Cordova, CA 95670

Subject:

Monitoring Well Survey

Chevron Service Station #9-2029 890 W. MacArthur Boulevard

Oakland, CA

Dear Geoff:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on March 14, 2002. The benchmark for this survey was a USGS bronze disk located near the north end of the curb return at the Northwest corner of 38th Street and Broadway. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83). Benchmark Elevation 85.41 feet (NGVD 29).

Latitude	Longitude	Northing	Easting	Elev.	Desc.
			•	51.14	RIM MW-1
37.8284353	-122.2743061	2128971.60	6049253.80	50.71	TOC MW-1
3110201303	*55.5			52.97	RIM MW-2
37.8283896	-122.2739349	2128952.92	6049360.67	52.57	TOC MW-2
37.0203070	122.2700010	212030211		50.83	RIM MW-3
37.8281612	-122.2742091	2128871.26	6049279.91	50.31	TOC MW-3
31.0201012	-122.2742071	21200,1100	••••	50.36	RIM MW-4
22 0000626	-122.2743680	2128910.88	6049234.76	49.93	TOC MW-4
37.8282676	-122.2/43000	2120910.00	0045254.70		

No. 6323

Sincerely,

Virgil D. Chavez, PLS 6323

CASE NARRATIVE

Prepared For:

Thomas Bauhs
Chevron Products Company
6001 Bollinger Canyon Road
Building L
P.O. Box 6004
San Ramon, CA 94583-0904

Prepared By:

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

SAMPLE GROUP

The sample group for this submittal is 799013. Samples arrived at the laboratory on Tuesday, March 05, 2002.

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

COMMENTS

Poor surrogate recoveries were observed for samples MW-4-4.0 and MW-3-4.5 from Facility 92029 due to the dilution needed to perform the BTEX/MTBE and TPH-GRO analysis.

The client requested we analyze and report sample MW-1-24.5 from Facility 92029 even though the 14-day holding time was exceeded for the TPH-GRO analysis.



REPRINT

ANALYTICAL RESULTS

Prepared for:

Chevron Products Company 6001 Bollinger Canyon Road Building L PO Box 6004 San Ramon CA 94583-0904 925-842-8582

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 799013. Samples arrived at the laboratory on Tuesday, March 05, 2002. The PO# for this group is 99011184 and the release number is BAUHS.

Client Description			Lancaster Labs Number
MW-4-S-4.0-020301	NA	Soil	3782254
MW-4-S-14.5-020301	NA	Soil	3782255
MW-4-S-24.5-020301	NA	Soil	3782256
MW-3-S-4.5-020301	NA	Soil	3782257
MW-3-S-14.5-020301	NA	Soil	3782258
MW-3-S-24.5-020301	NA	Soil	3782259
MW-2-S-4.5-020301	NA	Soil	3782260
MW-2-S-14.5-020301	NA	Soil	3782261
MW-2-S-24.5-020301	NA	Soil	3782262
MW-1-S-6-020301	NA	Soil	3782263
MW-1-S-24.5-020301	NA	Soil	3782264

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO

Gettler-Ryan Inc.

Attn: Geoffrey D. Risse





Respectfully Submitted,

Steven A. Skiles Sr. Chemist



REPRINT

Page 1 of 2

Lancaster Laboratories Sample No. SW 3782254

Collected:03/01/2002 15:15

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:36

Discard: 03/27/2002

MW-4-S-4.0-020301

NA

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029 890 McCarthur

NΑ

As Received Dilution Method As Received CAT Ractor Detection Units Result CAS Number No. Analysis Name Limit mg/kg 500 20. 150. TPH-GRO - Soils 01725 The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range

GRRC

gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

A poor surrogate recovery was observed due to the dilution needed to perform the analysis.

02160 BTEX/MTBE

02174	Benzene	71-43-2	0.18	0.020	mg/kg	100
02177	Toluene	108-88-3	N.D.	0.020	mg/kg	100
02178	Ethvlbenzene	100-41-4	2.1	0.020	mg/kg	100
02170	Total Xylenes	1330-20-7	1.9	0.060	mg/kg	100
02199	MTBE	1634-04-4	0.23	0.20	mg/kg	100

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

A poor surrogate recovery was observed due to the dilution needed to perform the analysis.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for toluene. The presence or concentration of this compound cannot be determined due to the presence of this interferent.

State of California Lab Certification No. 2116

Laboratory Chronicle



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



REPRINT

Page 2 of 2

Lancaster Laboratories Sample No. SW 3782254

Collected: 03/01/2002 15:15

hy TR

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:36

Discard: 03/27/2002

MW-4-S-4.0-020301

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

890 McCarthur

NA

NA

CAT No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline method	Trial# 1	Analysis Date and Time 03/15/2002 16:46	Analyst Steven A Skiles	Dilution Factor 500
02160	BTEX/MTBE	SW-846 8021B	1	03/07/2002 05:09	Martha L Seidel	100
01150	GC VOA Soil Prep	SW-846 5035		03/06/2002 19:25	Martha L Seidel	n.a.

GRRC



3782255 Lancaster Laboratories Sample No.

Collected:03/01/2002 15:30

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:36

Discard: 03/27/2002

MW-4-S-14.5-020301

NΑ

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

890 McCarthur

NA

NA

Soil

GRRC

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01725	TPH-GRO - Soils The reported concentration of gasoline constituents eluting start time.	prior to the C6	(n-hexane) TPH-	GRO range	mg/kg	25

The analysis for volatiles was performed on a sample in methanol. The reporting limits were adjusted appropriately.

02160 BTEX/MTBE

02174 Benz	ene	71-43-2	N.D.	0.0050	mg/kg	25 25
02177 Tolu	iene	108-88-3	N.D.	0.0050	mg/kg	
02178 Ethy	lbenzene	100-41-4	0.019	0.0050	mg/kg	25
·	al Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02102 1000 02199 MTBI	•	1634-04-4	N.D.	0.050	mg/kg	25

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Laboratory	Chronicle
-	ובמו

CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
01725	TPH-GRO - Soils	N. CA LUFT Gasoline method	1	03/15/2002 17:24	Steven A Skiles	25
	BTEX/MTBE	SW-846 8021B	1	03/06/2002 23:36	Martha L Seidel	25
02160 01150	GC VOA Soil Prep	SW-846 5035	1	03/06/2002 19:26	Martha L Seidel	n.a.



Page 1 of 1

Lancaster Laboratories Sample No. 3782256

Collected:03/01/2002 15:44

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:36

Discard: 03/27/2002 MW-4-S-24.5-020301

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

GRRC

890 McCarthur

NA

NA

CAT			As Received	As Received Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
01725	TPH-GRO - Soils The reported concentration of gasoline constituents eluting start time. The analysis for volatiles was in methanol. The reporting 1:	prior to the C6 s performed on a	(n-hexane) TPH- sample which wa	GRO range as preserved	mg/kg	25
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02177	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02178	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
02182	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02199	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
	The analysis for volatiles was in methanol. The reporting 1.	s performed on a imits were adjus	sample which was ted appropriatel	s preserved .y.		

CAT		Laboratory	Chro	nicle Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
01725	TPH-GRO - Soils	N. CA LUFT Gasoline method	1	03/15/2002 18:02	Steven A Skiles	25
02160	BTEX/MTBE	SW-846 8021B	1	03/07/2002 00:13	Martha L Seidel	25
01150	GC VOA Soil Prep	SW-846 5035	1	03/06/2002 19:27	Martha L Seidel	n.a.





3782257 Lancaster Laboratories Sample No.

Collected:03/01/2002 12:56 by TB

Account Number: 10992

Submitted: 03/05/2002 09:10 Reported: 03/19/2002 at 19:36 Chevron Products Company 6001 Bollinger Canyon Road

Discard: 03/27/2002

Building L PO Box 6004

MW-3-S-4.5-020301

Soil NA

San Ramon CA 94583-0904

Facility# 92029

GRRC

890 McCarthur

NA

NA

			As Received	As Received Method		Dilution	
CAT No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor	
01725	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.						
	The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. A poor surrogate recovery was observed due to the dilution needed to						
	perform the analysis.						
02160	BTEX/MTBE						
02174	Benzene	71-43-2	N.D.	0.050	mg/kg	100	
02177	Toluene	108-88-3	N.D.	0.050	mg/kg	100	
02178	Ethylbenzene	100-41-4	3.7	0.020	mg/kg	100	
02182	Total Xylenes	1330-20-7	N.D.	300.	mg/kg	100	
02199	MTBE	1634-04-4	0.52	0.20	mg/kg	100	
	The analysis for volatiles was		sample which was				

A poor surrogate recovery was observed due to the dilution needed to perform the analysis.

in methanol. The reporting limits were adjusted appropriately.

Due to the presence of interferents near their retention time, normal reporting limits were not attained for the compounds listed below. The presence or concentration of these compounds cannot be determined below the reporting limits due to the presence of these interferents.

benzene toluene total xylenes







Page 2 of 2

Lancaster Laboratories Sample No. SW 3782257

Collected:03/01/2002 12:56

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:36

Discard: 03/27/2002

MW-3-S-4.5-020301

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

GRRC

890 McCarthur

NA

NA

	Laboratory Chronicle Analysis					
CAT No.	Analysis Name	Method N. CA LUFT Gasoline	Trial#	Date and Time 03/15/2002 18:40	Analyst Steven A Skiles	Dilution Factor 500
01725	TPH-GRO - Soils	method	1	03/07/2002 11:28	Martha L Seidel	100
02160 01150	BTEX/MTBE GC VOA Soil Prep	SW-846 8021B SW-846 5035	1	03/06/2002 19:28	Martha L Seidel	n.a.



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Page 1 of 1

Lancaster Laboratories Sample No. 3782258 SW

Collected:03/01/2002 13:09

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Chevron Products Company 6001 Bollinger Canyon Road

Reported: 03/19/2002 at 19:37 Discard: 03/27/2002

Building L PO Box 6004

MW-3-S-14.5-020301

Soil

San Ramon CA 94583-0904

Facility# 92029

NΆ

GRRC

890 McCarthur NA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01725	TPH-GRO - Soils The reported concentration of TP gasoline constituents eluting pr start time. The analysis for volatiles was p in methanol. The reporting limi	erformed on a	(n-hexane) TPH-GR sample which was	Preserved	mg/kg	25
02160	BTEX/MTBE					
02174 02177 02178	Benzene Toluene Ethylbenzene	71-43-2 108-88-3 100-41-4 1330-20-7	0.22 N.D. 0.11 N.D.	0.0050 0.0050 0.0050 0.015	mg/kg mg/kg mg/kg mg/kg	25 25 25 25
02182 02199	Total Xylenes MTBE The analysis for volatiles was print methanol. The reporting limit	1634-04-4 performed on a	0.21 sample which was	0.050 preserved	mg/kg	25

		Laboratory	Chro	nicle Analysis		Dilution
CAT No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline	Trial# 1	Date and Time 03/15/2002 19:18	Analyst Steven A Skiles	Factor 25
02160 01150	BTEX/MTBE GC VOA Soil Prep	method SW-846 8021B SW-846 5035	1 1	03/07/2002 00:50 03/06/2002 19:29	Martha L Seidel Martha L Seidel	25 n.a.



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Lancaster Laboratories Sample No. SW 3782259

Collected: 03/01/2002 13:27

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:37

Discard: 03/27/2002

MW-3-S-24.5-020301

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

890 McCarthur

NΑ

NA

GRRC

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01725	TPH-GRO - Soils The reported concentration of Tigasoline constituents eluting pastart time. The analysis for volatiles was in methanol. The reporting lim	rior to the C6	(n-hexane) TPH-G sample which was	RO range preserved	mg/kg	25
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02177	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02178	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
02182	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02102	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
	The analysis for volatiles was in methanol. The reporting lim	its were adjust	ted appropriately	· .		

		Laboratory	Chro	nicle Analysis		Dilution
CAT No.	Analysis Name	Method N. CA LUFT Gasoline	Trial#	Date and Time 03/15/2002 19:56	Analyst Steven A Skiles	Factor 25
01725	TPH-GRO - Soils	method	-		Martha L Seidel	25
02160	BTEX/MTBE	SW-846 8021B	1	03/07/2002 10:51		•
01150	GC VOA Soil Prep	SW-846 5035	1	03/06/2002 19:30	Martha L Seidel	n.a.



Lancaster Laboratories Sample No. 3782260

Collected:03/01/2002 10:57

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:37

Chevron Products Company 6001 Bollinger Canyon Road

Discard: 03/27/2002

Building L PO Box 6004

GRRC

MW-2-S-4.5-020301

NΑ Soil San Ramon CA 94583-0904

Facility# 92029

NA

890 McCarthur

NA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01725	TPH-GRO - Soils The reported concentration of TR gasoline constituents eluting pr start time. The analysis for volatiles was r in methanol. The reporting limit	erformed on a	(n-hexane) TPH-GF sample which was	RO range preserved	mg/kg	25
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02177	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02178	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
02182	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02199	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
V21//	The analysis for volatiles was in methanol. The reporting lim	performed on a its were adjust	sample which was ed appropriately	preserved		

	Laboratory Chronicle Analysis					
CAT No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline	Trial# 1	Date and Time 03/15/2002 20:34	Analyst Steven A Skiles	Factor 25
02160 01150	BTEX/MTBE GC VOA Soil Prep	method SW-846 8021B SW-846 5035	1 1	03/11/2002 19:44 03/11/2002 16:06	Stephanie A Selis Martha L Seidel	25 n.a.



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Lancaster Laboratories Sample No. SW 3782261

Collected:03/01/2002 11:14

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:37

Discard: 03/27/2002

MW-2-S-14.5-020301

AN

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

GRRC

890 McCarthur

NA

NA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01725	TPH-GRO - Soils The reported concentration of T gasoline constituents eluting p start time. The analysis for volatiles was in methanol. The reporting lim	rior to the C6 performed on a	(n-hexane) TPH-G sample which was	RO range preserved	mg/kg	25
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02174	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02177	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
02178	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02182	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
V22-7	The analysis for volatiles was in methanol. The reporting lim	performed on a mits were adjus	sample which was ted appropriately	preserved v.		

		Laboratory	Chro	nicle		
CAT No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline	Trial#	Analysis Date and Time 03/15/2002 22:29	Analys t Steven A Skiles	Dilution Factor 25
02160 01150	BTEX/MTBE GC VOA Soil Prep	method SW-846 8021B SW-846 5035	1 1	03/07/2002 02:41 03/06/2002 19:32	Martha L Seidel Martha L Seidel	25 n.a.



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Lancaster Laboratories Sample No. SW 3782262

Collected: 03/01/2002 11:26

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:37

Discard: 03/27/2002

MW-2-S-24.5-020301

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

890 McCarthur

NA

NA

GRRC

				As Received		
CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
01725	TPH-GRO - Soils The reported concentration of T gasoline constituents eluting p start time. The analysis for volatiles was in methanol. The reporting lim	prior to the C6 performed on a	(n-hexane) TPH-	GRO range s preserved	mg/kg	25
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02177	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02177	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02182 02199	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
	The analysis for volatiles was in methanol. The reporting li	performed on a mits were adjus	sample which wa ted appropriatel	s preserved Y.		

		Laboratory	Chro	nicle		
CAT No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline	Trial#	Analysis Date and Time 03/15/2002 23:07	Analyst Steven A Skiles	Dilution Factor 25
02160 01150	BTEX/MTBE GC VOA Soil Prep	method SW-846 8021B SW-846 5035	1 1	03/07/2002 03:18 03/06/2002 19:33	Martha L Seidel Martha L Seidel	25 n.a.



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Lancaster Laboratories Sample No. SW 3782263

Collected:03/01/2002 08:38

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Reported: 03/19/2002 at 19:37

Discard: 03/27/2002

MW-1-S-6-020301

NA

Soil

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

GRRC

890 McCarthur

NA

NA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01725	TPH-GRO - Soils The reported concentration of T gasoline constituents eluting p start time. The analysis for volatiles was in methanol. The reporting lim	rior to the C6	(n-hexane) TPH-0	RO range preserved	mg/kg	25
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02177	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02178	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
02173	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02102	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
	The analysis for volatiles was in methanol. The reporting lim	performed on a its were adjus	sample which was ted appropriately	s preserved V		

		Laboratory	Chro	nicle		Dilution				
CAT	Analysis									
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor				
01725	TPH-GRO - Soils	N. CA LUFT Gasoline	1	03/15/2002 23:45	Steven A Skiles	25				
		method				0.5				
02160	BTEX/MTBE	SW-846 8021B	1	03/07/2002 03:55	Martha L Seidel	25				
01150	GC VOA Soil Prep	SW-846 5035	1	03/06/2002 19:34	Martha L Seidel	n.a.				





3782264 Lancaster Laboratories Sample No.

Collected:03/01/2002 09:10

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10

Chevron Products Company 6001 Bollinger Canyon Road

Reported: 03/19/2002 at 19:37

Building L PO Box 6004

Discard: 03/27/2002 MW-1-S-24.5-020301

Soil

San Ramon CA 94583-0904

GRRC

Facility# 92029

NA

890 McCarthur

NA

NA

				As Received		
CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
01725	TPH-GRO - Soils	n.a.	N.D.	1.0	mg/kg	25
	The reported concentration of Ti	PH-GRO does not	include MTBE or	other		
	gasoline constituents eluting p	rior to the C6	(n-hexane) TPH-G	RO range		
	start time.					
	The analysis for volatiles was	performed on a	sample which was	preserved		
	in methanol. The reporting lim	its were adjust	ted appropriately	· •		
			:1- arram th	ough the		
	The client requested we analyze		is sample even ch	lough the		
	14-day holding time was exceede	d.				
02160	BTEX/MTBE					
02174	Benzene	71-43-2	N.D.	0.0050	mg/kg	25
02174	Toluene	108-88-3	N.D.	0.0050	mg/kg	25
02177	Ethylbenzene	100-41-4	N.D.	0.0050	mg/kg	25
021/8	Total Xylenes	1330-20-7	N.D.	0.015	mg/kg	25
02102	MTBE	1634-04-4	N.D.	0.050	mg/kg	25
02133	The analysis for volatiles was			preserved		
	in methanol. The reporting lim					
	TH MECHANOT. THE LEPOTOTING TIME	100 0010 00100		•		

CAT	Laboratory Chronicle										
No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline method	Trial# 1	Date and Time 03/16/2002 00:23	Analyst Steven A Skiles	Factor 25					
02160 01150	BTEX/MTBE GC VOA Soil Prep	SW-846 8021B SW-846 5035	1 1	03/07/2002 04:32 03/06/2002 19:35	Martha L Seidel Martha L Seidel	25 n.a.					





Client Name: Chevron Products Company

Group Number: 799013

Reported: 03/19/02 at 07:37 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: 02057A34B	Sample nut	mber(s): 3	782254-37	82256,3782	2258,37822	61-3782264		
Benzene	N.D.	.005	mg/kg	106		84-132		
Toluene	N.D.	.005	mg/kg	103		88-116		
Ethylbenzene	N.D.	.005	mg/kg	103		87-127		
Total Xylenes	N.D.	.015	mg/kg	103		88-120		
MTBE	N.D.	. 05	mg/kg	110		64-158		
Batch number: 02057A34C	Sample nu	mber(s): 3	782257,37	82259				
Benzene	N.D.	.005	mg/kg	106		84-132		
Toluene	N.D.	.005	mg/kg	103		88-116		
Ethylbenzene	N.D.	.005	mg/kg	103		87-127		
Total Xylenes	N.D.	.015	mg/kg	103		88-120		
MTBE	N.D.	.05	mg/kg	110		64-158		
Batch number: 02070A33B	Sample nu	mber(s): 3	782260					
Benzene	N.D.	.005	mg/kg	105		84-132		
Toluene	N.D.	.005	mg/kg	105		88-116		
Ethylbenzene	N.D.	.005	mg/kg	106		87-127		
Total Xylenes	N.D.	.015	mg/kg	105		88-120		
мтве	N.D.	.05	mg/kg	100		64-158		
Batch number: 02074A36A	Sample nu	mber(s): 3	3782254-37					
TPH-GRO - Soils	N.D.	ı.	mg/kg	94		75-117		
Batch number: 02074A36B	Sample nu	mber(s): 3						
TPH-GRO - Soils	N.D.	1.	mg/kg	94		75-117		•

Sample Matrix Quality Control

	MS	MSD	ms/msd		RPD	BKG	DUP	DUP	Dup RPD
Analysis Name	%REC	%REC	<u>Limits</u>	RPD	MAX	Conc	Conc	RPD	Маж
Batch number: 02057A34B	Sample	number	(s): 378225	54-37822	56,378	2258,37822	61-3782264		
Benzene	91	97	56-142	6	30				
Toluene	83	88	66-120	6	30				
Ethylbenzene	88	95	66-131	8	30				
Total Xylenes	84	89	67-122	б	30				
MTBE	103	137	42-163	10	30				
Batch number: 02057A34C	Sample	number	(s): 378225	57,37822	259				
Benzene	91	97	56-142	6	30				
Toluene	83	88	66-120	6	30				
Ethylbenzene	88	95	66-131	8	30				
Total Xylenes	84	89	67-122	6	30				
MTBE	103	137	42-163	10	30				

*- 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.







Client Name: Chevron Products Company

Group Number: 799013

Reported: 03/19/02 at 07:37 PM

Sample Matrix Quality Control

	MS	MSD	ms/msd		RPD	BKG	DUP	DUP	Dup RPD
Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: 02070A33B	Sample	number	(s): 378226	0					
Benzene	110	110	56-142	0	30				
Toluene	91	89	66-120	3	30				
Ethylbenzene	103	102	66-131	1	30				
Total Xylenes	95	93	67-122	3	30				
MTBE	139	138	42-163	1	30				
Batch number: 02074A36A	Sample	number	(s): 378225	4-37822	260				
TPH-GRO - Soils	84	78	44-116	7	30				
Batch number: 02074A36B	Sample	number	(s): 378226	1-3782	264				
TPH-GRO - Soils	84	78	44-116	7	30				•

Surrogate Quality Control

Analysis Name: BTEX/MTBE Batch number: 02057A34B

Batti name	Trifluorotoluene-F	Trifluorotoluene-P	
3782254	<u> </u>	29*	
3782255		93	
3782256		80	
3782258		89	
3782261		86	
3782262		82	
3782263		89	
3782264		86	
Blank		98	
LCS	99	101	
MS	93	94	
MSD	95	96	
Limits:	61-127	68-122	

Analysis Name: BTEX/MTBE Batch number: 02057A34C

Trifluorotoluene-F Trifluorotoluene-P

0*
89

3782257		0*
3782259		89
Blank		. 97
LCS	99	101
MS	93	94
MSD	95	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.







Client Name: Chevron Products Company

Reported: 03/19/02 at 07:37 PM

Group Number: 799013

Surrogate Quality Control

Limits:	61-127	68-122
Analysis N	ame: TPH-GRO - Soils	
Batch numb	er: 02070A33B	
	Trifluorotoluene-F	Trifluorotoluene-P
3782260		91
Blank	98	107
LCS	108	110
MS	91	97
MSD	91	96
Limits:	61-127	68-122
Analysis N	Name: TPH-GRO - Soils	
Hatch numb	per: 02074A36A	
Baccii Ilulu	Trifluorotoluene-F	
3782254	7*	
3782255	96	
3782256	86	
3782257	8*	
3782258	89	
3782259	88	
3782260	95	
Blank	99	
LCS	108	
MS	104	
MSD	97	
Limits:	61-127	
Analysis	Name: TPH-GRO - Soils	
Batch num	ber: 02074A36B	
	Trifluorotoluene-F	
3782261	85	
3782262	81	
3782263	95	
3782264	85	
Blank	99	
LCS	108	
MS	104	
MSD	97	
	-	

*- Outside of specification

Limits:

61-127

(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.



Chevron California Region Analysis Request/Chain of Custody

SCR#: .

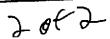
Lancaster Laboratories Where quality is a science.	Acct. #: 10997 For Langaster Laboratories use o
Where quality is a science.	List total number of containers Analyses Requested in the box under each analysis.

Where quality is a science.		•			L	alvec	es Re	queste	List ed in th	total nu ne box u	mber of c nder eacl	ontainers n analysis.				
· · · · · · · · · · · · · · · · · · ·			B.C Audine		-	<u>a., o.</u>	Pr	eserva	tion C	odes			Prese	ervative Co	les	1
Consultant/Office: Gettler - Ryan	INC		Matrix		0							-	H = HCl	T = Thic	sulfat	.e
Consultant/Office: Gentley 1, Riss Consultant Prj. Mgr.: Geoffrey 1, Riss Consultant Phone #: (916) 631-1300	<u>C</u> Prj. #: <u>I 6920</u>	296,401	<u> </u> 	-									N = HNO ₃ S = H ₂ SO ₄			
•			able	ainers	+ MTBE D	DR0							☐ J value	reporting ne	eded	
Service Order #:	Region:		Potable	of Containers.	Ī	GRO □ C							☐ Must me	eet lowest de	etectio	nc
Site Address: The Vian + Sampler: Geoffrey 1, Riss Chevron PM: Tom Bauns	<u></u> _		4	1	5 √ 8	_		7421					limits po compou	ossible for 82 unds	260	
Chevron PM: 10M DAN 117	<u> </u>	ime Grab		Air Air	BTEX 8021 [17]	TPH 8015 MOD	8260 full scan	Oxygenates					1			
		ime de	Soil Water			표	8260	Crygin Coxygin		_			-	BE Confirma		00
Sample Identification NW 4 - 4.0		115	V		1	<u> </u>		•		_	 -	-	Confirm	highest hit	by 82	60
MW 4-9.5	15	7-3			11		10	<u>4</u> /	╀╌┼		-		Confirm	all hits by 8	3260 M	BE
MW4-14.5	_1	530	V	_	1	14	0	47	++				Run_	oxy's on	highe	st hi
MW 4-19.5		544	7		j	-"		l l	en	1			Run	оху'ѕ оп	all hit	s
MW 4 - 27.5		156	V		1	1.					17 F	4	_			
MW 3 - 4.5 MW 3 - 9.5	13	62	V		1	14	0.1	<u>-4</u> _	╁-┼							
MW3 - 14.5		309	/	-	-14	-		b	+-+		1 +	++	-			
MW3 - 19.5	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	319	<u>'</u>	1 +	- 1	1	94	- 4			+ +		-			
MW3 - 24.5		Religuished		00	رد ه	سا۔ مرہ		Date /4/0	Tim	e R	eceived	by:		Date	, 7 	Time
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Chevron California Region Analysis Request/Chain of Custody

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Where quality is a science.						- broo	o Pan	uestec	List total	al number	of contain each anal	ners lysis.			
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CASE NARRATIVE

Prepared For:

Thomas Bauhs
Chevron Products Company
6001 Bollinger Canyon Road
Building L
P.O. Box 6004
San Ramon, CA 94583-0904

Prepared By:

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

SAMPLE GROUP

The sample group for this submittal is 799018. Samples arrived at the laboratory on Tuesday, March 05, 2002.

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

COMMENTS

Poor surrogate recoveries were observed for sample SP1(A-D) from Facility 92029 due to a dilution needed to perform the TPH-GRO analysis.

The client requested we analyze and report sample SP1(A-D) from Facility 92029 even though the 14-day holding time was exceeded for the TPH-GRO analysis.

Sample SP1(A-D) from Facility 92029 was homogenized prior to the BTEX/MTBE analysis.



ANALYTICAL RESULTS

Prepared for:

Chevron Products Company 6001 Bollinger Canyon Road Building L PO Box 6004 San Ramon CA 94583-0904 925-842-8582

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 799018. Samples arrived at the laboratory on Tuesday, March 05, 2002. The PO# for this group is 99011184 and the release number is BAUHS.

Client Description
SP1(A-D) Soil Sample

<u>Lancaster Labs Number</u> 3782280

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO

Gettler-Ryan Inc.

1 COPY TO

IWM, Inc.

Attn: Geoffrey D. Risse

Attn: Jay Deleon

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

Respectfully Submitted,

Max E. Snavely

Sr. Chemist



Lancaster Laboratories Sample No. SW 3782280

Collected:03/01/2002 16:17

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10 Reported: 03/19/2002 at 14:46

Discard: 03/27/2002 SP1(A-D) Soil Sample Chevron Products Company 6001 Bollinger Canyon Road Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
gasoline constituents eluting postart time. The analysis for volatiles was postared to the state of the stat	rior to the C6	(n-hexane) TPH-G sample which was	RO range preserved	mg/kg	100
perform the analysis. The client requested we analyze	and report th	is sample even th	ough the	ma/ka	1
Lead BTEX/MTBE	7439-92-1	1.4	0.01	g,g	
Benzene Toluene Ethylbenzene Total Xylenes MTBE The analysis for volatiles was	71-43-2 108-88-3 100-41-4 1330-20-7 1634-04-4 performed on a	N.D. 0.38 0.38 0.058 sample which was	0.020 0.020 0.0050 0.015 0.050 s preserved	mg/kg mg/kg mg/kg mg/kg mg/kg	25 25 25 25 25 25
	TPH-GRO - Soils The reported concentration of Tigasoline constituents eluting postart time. The analysis for volatiles was pin methanol. The reporting lime A poor surrogate recovery was observed the analysis. The client requested we analyze 14-day holding time was exceeded Lead BTEX/MTBE Benzene Toluene Ethylbenzene Total Xylenes MTBE The analysis for volatiles was	TPH-GRO - Soils n.a. The reported concentration of TPH-GRO does not gasoline constituents eluting prior to the C6 start time. The analysis for volatiles was performed on a in methanol. The reporting limits were adjust. A poor surrogate recovery was observed due to perform the analysis. The client requested we analyze and report the 14-day holding time was exceeded. Lead 7439-92-1 BTEX/MTBE Benzene 71-43-2 Toluene 108-88-3 Ethylbenzene 100-41-4 Total Xylenes 1330-20-7 MTBE 1634-04-4 The analysis for volatiles was performed on a	TPH-GRO - Soils n.a. 71. The reported concentration of TPH-GRO does not include MTBE or gasoline constituents eluting prior to the C6 (n-hexane) TPH-G start time. The analysis for volatiles was performed on a sample which was in methanol. The reporting limits were adjusted appropriately A poor surrogate recovery was observed due to the dilution nee perform the analysis. The client requested we analyze and report this sample even the 14-day holding time was exceeded. Lead 7439-92-1 1.4 BTEX/MTBE Benzene 71-43-2 N.D. Toluene 108-88-3 N.D. Ethylbenzene 100-41-4 0.38 Total Xylenes 1330-20-7 0.38 MTBE 1634-04-4 0.058	Analysis Name CAS Number CAS Number Result Detection Limit TPH-GRO - Soils n.a. 71. 4.0 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. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. A poor surrogate recovery was observed due to the dilution needed to perform the analysis. The client requested we analyze and report this sample even though the 14-day holding time was exceeded. Lead 7439-92-1 Benzene 71-43-2 N.D. 0.020 Toluene 108-88-3 N.D. 0.020 Toluene 1100-41-4 0.38 0.0050 Total Xylenes MTBE 1634-04-4 0.058 0.050 The analysis for volatiles was performed on a sample which was preserved	Analysis Name CAS Number Result Detection Limit TPH-GRO - Soils n.a. 71. 4.0 mg/kg 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. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. A poor surrogate recovery was observed due to the dilution needed to perform the analysis. The client requested we analyze and report this sample even though the 14-day holding time was exceeded. Lead 7439-92-1 Benzene 71-43-2 N.D. 0.020 mg/kg Toluene 108-88-3 N.D. 0.020 mg/kg Total Xylenes 1330-20-7 0.38 0.0050 mg/kg The analysis for volatiles was performed on a sample which was preserved

The sample was homogenized prior to analysis.

Due to the presence of interferents near their retention time, normal reporting limits were not attained for benzene and toluene. The presence or concentration of these compounds cannot be determined below the reporting limits due to the presence of these interferents.





Page 2 of 2

Lancaster Laboratories Sample No. SW 3782280

Collected:03/01/2002 16:17

by TB

Account Number: 10992

Submitted: 03/05/2002 09:10 Reported: 03/19/2002 at 14:46

Discard: 03/27/2002 SP1(A-D) Soil Sample Chevron Products Company 6001 Bollinger Canyon Road Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029

Laboratory Chronicle

		<u> </u>		Analysis	*	Dilution
CAT No. 01725	Analysis Name TPH-GRO - Soils	Method N. CA LUFT Gasoline	Trial# 1	Date and Time 03/16/2002 01:01	Analyst Steven A Skiles	Factor 100
01655 02160 01150 05708	Lead BTEX/MTBE GC VOA Soil Prep SW SW846 ICP Digest	method SW-846 6010B SW-846 8021B SW-846 5035 SW-846 3050B	1	03/15/2002 16:18 03/09/2002 02:17 03/08/2002 10:53 03/07/2002 06:00	David K Beck Martha L Seidel Steven A Skiles Liana C Jones	1 25 n.a. 1



Page 1 of 2

Client Name: Chevron Products Company

Reported: 03/19/02 at 02:46 PM

Group Number: 799018

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 020665708001 Lead	Sample n	umber(s): .82	3782280 mg/kg	99		86-109		
Batch number: 02066A33C Benzene Toluene Ethylbenzene Total Xylenes MTBE	Sample n N.D. N.D. N.D. N.D. N.D.	umber(s): .005 .005 .005 .015	3782280 mg/kg mg/kg mg/kg mg/kg mg/kg	109 109 110 108 98		84-132 88-116 87-127 88-120 64-158		
Batch number: 02074A36B TPH-GRO - Soils	Sample n	umber(s):	3782280 mg/kg	94		75-117		

Sample Matrix Quality Control

	ms	MSD	MS/MSD		RPD	BKG	DUP	DUP	Dup RPD
Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	<u>Max</u>
Batch number: 020665708001 Lead	Sample 100	number 101	(s): 3782280 75-125	1	20	29.1	29.3	1 (1)	20
Batch number: 02066A33C Benzene Toluene Ethylbenzene Total Xylenes MTBE	Sample 108 84 96 89 125	number 107 83 95 87 122	(s): 3782280 56-142 66-120 66-131 67-122 42-163	1 2 1 2 3	30 30 30 30 30				
Batch number: 02074A36B TPH-GRO - Soils	Sample 84	e number 78	(s): 3782286 44-116	7	30				

Surrogate Quality Control

Analysis Name: TPH-GRO - Soils

Batch number: 02066A33C

Trifluorotoluene-F Trifluorotoluene-P 74 3782280 105 91 Blank 108 107 LCS 98 MS 94 94 98 MSD 68-122 61-127 Limits:

*- 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.





Page 2 of 2

Client Name: Chevron Products Company

Group Number: 799018

Reported: 03/19/02 at 02:46 PM

Surrogate Quality Control

Analysis Name: TPH-GRO - Soils

Batch number: 02074A36B

Trifluorotoluene-F

3782280	27*
Blank	99
LCS	108
MS	104
MSD	97

Limits:

61-127

*- 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.



Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories Where quality is a science.	For Lancaster Laboratories use
Where quality is a science.	List total number of container

Where quality is a:	science.						_	Ana	alyses			d in t	he bo	x unde	r of cor r each :	ntainers analysis	<u>. </u>				
	11 0 04	/ T.			l n	/latrix				Pres	erva	lion C	ode	s	, ,		4	Pres	ervati	ve Cod	a s
Consultant/Office: <u>/26</u> Consultant Prj. Mgr.: <u>/</u>	ettler - Ryan coffrey 0, Riss 116)631-1300	<u> </u>	120296,	401 17	" 		_	0			"						l N	I = HCI I = HNO3 S = H₂SO	T s E	' = Thios 3 = NaO) = Othe	sulfate H
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												-									6/22/01



ANALYTICAL RESULTS

Prepared for:

Chevron Products Company 6001 Bollinger Canyon Road Building L PO Box 6004 San Ramon CA 94583-0904 925-842-8582

Prepared by:

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

APR O I

GETTLEK-KYAN INC.

SAMPLE GROUP

The sample group for this submittal is 800511. Samples arrived at the laboratory on Friday, March 15, 2002. The PO# for this group is 99011184 and the release number is BAUHS.

Client Description		Lancaster Labs Number
OA-T-020312	NA Water	3789391
MW-1-W-020312	Grab Water	3789392
MW-2-W-020312	Grab Water	3789393
MW-3-W-020312	Grab Water	3789394
MW-4-W-020312	Grab Water	3789395

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO

Chevron Products Company

Attn: Deanna Harding





Respectfully Submitted,





Lancaster Laboratories Sample No. WW 3789391

Collected:03/12/2002 00:00

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

QA-T-020312

NA Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004 San Ramon CA 94583-0904

Facility# 92029 Job# 386911 890 W MACARTHUR-OAKLAND NA

OA

GRD

QA029

CAT			As Received	As Received Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
01729	TPH-GRO - Waters				·	
01730	TPH-GRO - Waters The reported concentration of gasoline constituents eluting start time. A site-specific MSD sample was was performed to demonstrate p	prior to the C6 not submitted	(n-hexane) TPH- for the project.	GRO range A LCS/LCSD	ug/l	1
08214	BTEX, MTBE (8021)					
00776	Benzene	71-43-2	N.D.	0.50	ug/l	1
00777	Toluene	108-88-3	N.D.	0.50	ug/1	1
00778	Ethylbenzene	100-41-4	N.D.	0.50	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	1.5	ug/l	1
00780	Methyl tert-Butyl Ether A site-specific MSD sample was was performed to demonstrate p	1634-04-4 not submitted	N.D. for the project.	2.5 A LCS/LCSD	ug/l	1
	was betrotued to demonstrate b	recipion and ac	curuc, ac a bace			

State of California Lab Certification No. 2116

		Laboratory	Chro:	nicle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
01729	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	03/18/2002 21:37	Melissa D Mann	1
08214	BTEX, MTBE (8021)	SW-846 8021B	1	03/18/2002 21:37	Melissa D Mann	1
01146	GC VOA Water Prep	SW-846 5030B	1	03/18/2002 21:37	Melissa D Mann	n.a.

#=Laboratory MethodDetection Limit exceeded target detection limit N.D.=Not detected at or above the Reporting Pike 180.

PO Box 12425 Lancaster, PA 17605-2425 717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. WW 3789392

Collected:03/12/2002 09:58

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-1-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

As Received

Facility# 92029

Job# 386911

GRD

890 W MACARTHUR-OAKLAND

NΑ

NA

M1029

CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
01729	TPH-GRO - Waters					
01730	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	· 1
	The reported concentration of	TPH-GRO does no	ot include MTBE o	r other		
	gasoline constituents eluting start time.	prior to the C6	(n-hexane) TPH-	GRO range		
	A site-specific MSD sample was	not submitted	for the project.	A LCS/LCSD		
	was performed to demonstrate					
	<u>-</u>					
08214	BTEX, MTBE (8021)					
00776	Benzene	71-43-2	N.D.	0.50	ug/l	1
00777	Toluene	108-88-3	N.D.	0.50	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.50	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	1.5	ug/1	1
00780	Methyl tert-Butyl Ether	1634-04-4	N.D.	2.5	ug/l	1
	A site-specific MSD sample was	s not submitted	for the project.	A LCS/LCSD		
	was performed to demonstrate	precision and a	curacy at a bato	h level.		
01595	Oxygenates by 8260B					
02010	Methyl t-butyl ether	1634-04-4	N.D.	2.	ug/l	1
02011	di-Isopropyl ether	108-20-3	N.D.	2.	ug/l	1
02013	Ethyl t-butyl ether	637-92-3	N.D.	2.	ug/l	1
02014	t-Amyl methyl ether	994-05-8	N.D.	2.	ug/1	1
02015	t-Butyl alcohol	75-65-0	N.D.	100.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	2.	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	2.	ug/l	1

State of California Lab Certification No. 2116

#=Laboratory MethodDetection Limit exceeded target detection limit

N.D.=Not detected at or above the Repetiting Final F





Page 2 of 2

Lancaster Laboratories Sample No. WW 3789392

Collected:03/12/2002 09:58

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-1-W-020312

Grab

Water

Chevron Products Company

6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

Job# 386911

GRD

890 W MACARTHUR-OAKLAND

בעו מעב

NA

M1029

		Laboratory	Chro	nicle		
CAT		-		Dilution		
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
01729	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	03/18/2002 15:04	Melissa D Mann	1
08214	BTEX, MTBE (8021)	SW-846 8021B	1	03/18/2002 15:04	Melissa D Mann	1
01595	Oxygenates by 8260B	SW-846 8260B	1	03/21/2002 21:46	Susan McMahon-Luu	1
01146	GC VOA Water Prep	SW-846 5030B	1	03/18/2002 15:04	Melissa D Mann	n.a.
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2002 21:46	Susan McMahon-Luu	n.a.



Lancaster Laboratories Sample No. 3789393

Collected:03/12/2002 11:58

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-2-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

Job# 386911

890 W MACARTHUR-OAKLAND

NA

GRD

M2029

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor				
01729	TPH-GRO - Waters									
01730	TPH-GRO - Waters n.a. N.D. 50. ug/l l 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.									
08214	BTEX, MTBE (8021)									
00776	Benzene	71-43-2	N.D.	0.50	ug/l	1				
00777	Toluene	108-88-3	N.D.	0.50	ug/l	1				
00778	Ethylbenzene	100-41-4	N.D.	0.50	ug/l	1				
00779	Total Xylenes	1330-20-7	N.D.	1.5	ug/l	1				
00780	Methyl tert-Butyl Ether	1634-04-4	N.D.	2.5	ug/1	1				
	A site-specific MSD sample was was performed to demonstrate pro									
01595	Oxygenates by 8260B									
02010	Methyl t-butyl ether	1634-04-4	3.	2.	ug/1	1				
02011	di-Isopropyl ether	108-20-3	N.D.	2.	ug/l	1				
02013	Ethyl t-butyl ether	637-92-3	N.D.	2.	ug/l	1				
02014	t-Amyl methyl ether	994-05-8	N.D.	2.	ug/l	1				
02015	t-Butyl alcohol	75-65-0	N.D.	100.	ug/l	1				
05402	1,2-Dichloroethane	107-06-2	N.D.	2.	ug/l	1				
05412	1,2-Dibromoethane	106-93-4	N.D.	2.	ug/l	1				

State of California Lab Certification No. 2116

#=Laboratory MethodDetection Limit exceeded target detection limit N.D.=Not detected at or above the Reporting Usinit



PO Box 12425 Lancaster, PA 17605-2425 717-656-2300 Fax: 717-656-2681



Page 2 of 2

3789393 Lancaster Laboratories Sample No.

Collected: 03/12/2002 11:58

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-2-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

GRD

Job# 386911

NA

890 W MACARTHUR-OAKLAND

M2029

Laboratory	Chronicle
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CAT	Analysis								
No. 01729	Analysis Name TPH-GRO - Waters	Method N. CA LUFT Gasoline	Trial#	Date and Time 03/18/2002 15:39	An alyst Melissa D Mann	Factor 1			
01729		Method	_		Melissa D Mann	,			
08214	BTEX, MTBE (8021)	SW-846 8021B	1	03/18/2002 15:39		1			
01595	Oxygenates by 8260B	SW-846 8260B	1	03/21/2002 22:12	Susan McMahon-Luu	1			
01146	GC VOA Water Prep	SW-846 5030B	1	03/18/2002 15:39	Melissa D Mann	n.a.			
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2002 22:12	Susan McMahon-Luu	n.a.			



Lancaster Laboratories Sample No. 3789394

Collected:03/12/2002 10:52

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10 Reported: 03/29/2002 at 08:49

Discard: 04/06/2002 MW-3-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

Job# 386911

890 W MACARTHUR-OAKLAND

NA

GRD

M3029

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor				
01729	TPH-GRO - Waters									
01730	TPH-GRO - Waters n.a. 12,000. 250. ug/l 5 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.									
08214	BTEX, MTBE (8021)									
00776 00777 00778	Benzene Toluene Ethylbenzene	71-43-2 108-88-3 100-41-4	600. 8.5 1,100.	1.0 1.0 1.0	ug/l ug/l ug/l ug/l	5 5 5				
00779 00780	Total Xylenes Methyl tert-Butyl Ether A site-specific MSD sample was r	1330-20-7 1634-04-4 not submitted i	370. 700. For the project.	3.0 2.5 A LCS/LCSD	ug/l	5				
03.505	was performed to demonstrate pre	ecision and acc	curacy at a batch	Tevel-						
01595	Oxygenates by 8260B					5				
02010	Methyl t-butyl ether	1634-04-4	650.	3.	ug/1	1				
02011	di-Isopropyl ether	108-20-3	N.D.	2.	ug/l ug/l	1				
02013	Ethyl t-butyl ether	637-92-3	N.D.	2.		1				
02014	t-Amyl methyl ether	994-05-8	18.	2.	ug/l ug/l	1				
02015	t-Butyl alcohol	75-65-0	N.D.	100.	ug/1 ug/1	1				
05402	1,2-Dichloroethane	107-06-2	N.D.	2.	ug/1 ug/l	1				
05412	1,2-Dibromoethane	106-93-4	N.D.	2.	~g/ ~	-				

State of California Lab Certification No. 2116

#=Laboratory MethodDetection Limit exceeded target detection limit N.D.=Not detected at or above the Reporting Limit.

MEMBER 2425 New Holland Pike







Page 2 of 2

3789394 Lancaster Laboratories Sample No.

Collected: 03/12/2002 10:52

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-3-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

Job# 386911

GRD

890 W MACARTHUR-OAKLAND

NA

M3029

Laboratory Chronicle

CAT		Analysis							
No. 01729	Analysis Name TPH-GRO - Waters	Method N. CA LUFT Gasoline Method	Trial# l	Date and Time 03/19/2002 06:50	Analyst Melissa D Mann	Factor 5			
08214 01595 01595 01146 01163	BTEX, MTBE (8021) Oxygenates by 8260B Oxygenates by 8260B GC VOA Water Prep GC/MS VOA Water Prep	SW-846 8021B SW-846 8260B SW-846 8260B SW-846 5030B SW-846 5030B	1 1 1 1	03/19/2002 06:50 03/21/2002 23:03 03/21/2002 23:28 03/19/2002 06:50 03/21/2002 23:03	Melissa D Mann Susan McMahon-Luu Susan McMahon-Luu Melissa D Mann Susan McMahon-Luu	5 5 1 n.a.			



Lancaster Laboratories Sample No. WW 3789395

Collected:03/12/2002 11:25

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-4-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029

Job# 386911

GRD

890 W MACARTHUR-OAKLAND

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M4029

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor				
01729	TPH-GRO - Waters									
01730	O TPH-GRO - Waters n.a. 9,700. 250. ug/l 5 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.									
08214	BTEX, MTBE (8021)									
00776 00777 00778 00779 00780	Benzene Toluene Ethylbenzene Total Xylenes Methyl tert-Butyl Ether A site-specific MSD sample was was performed to demonstrate pr	71-43-2 108-88-3 100-41-4 1330-20-7 1634-04-4 not submitted to ecision and acc	360. 5.3 1,100. 150. 170. for the project.	1.0 1.0 1.0 3.0 2.5 A LCS/LCSD level.	ug/l ug/l ug/l ug/l ug/l	5 5 5 5 5				
01595	Oxygenates by 8260B									
02010 02011 02013 02014 02015 05402 05412	Methyl t-butyl ether di-Isopropyl ether Ethyl t-butyl ether t-Amyl methyl ether t-Butyl alcohol 1,2-Dichloroethane 1,2-Dibromoethane	1634-04-4 108-20-3 637-92-3 994-05-8 75-65-0 107-06-2 106-93-4	170. N.D. N.D. 13. N.D. N.D.	2. 2. 2. 100. 2.	ug/1 ug/1 ug/1 ug/1 ug/1 ug/1	1 1 1 1 1				

State of California Lab Certification No. 2116

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Report of the Property of



PO Box 12425 Lancaster, PA 17605-2425 717-656-2300 Fax: 717-656-2681



Page 2 of 2

3789395 Lancaster Laboratories Sample No.

Collected:03/12/2002 11:25

by BG

Account Number: 10992

Submitted: 03/15/2002 09:10

Reported: 03/29/2002 at 08:49

Discard: 04/06/2002

MW-4-W-020312

Grab

Water

Chevron Products Company 6001 Bollinger Canyon Road

Building L PO Box 6004

San Ramon CA 94583-0904

Facility# 92029 Job# 386911

890 W MACARTHUR-OAKLAND

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GRD

CAT		Analysis						
No.	Analysis Name	Method	Trial#	Date and Time	Analyst Melissa D Mann	Factor 5		
01729	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	03/19/2002 07:25	Melissa b Mani	-		
08214	BTEX, MTBE (8021)	SW-846 8021B	1	03/19/2002 07:25	Melissa D Mann	5		
01595	Oxygenates by 8260B	SW-846 8260B	1	03/21/2002 22:38	Susan McMahon-Luu	1		
01146	GC VOA Water Prep	SW-846 5030B	1	03/19/2002 07:25	Melissa D Mann	n.a.		
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2002 22:38	Susan McMahon-Luu	n.a.		



Client Name: Chevron Products Company

Group Number: 800511

Reported: 03/29/02 at 08:49 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: 02077A51A	Sample number(s): 3789391-3789393								
Benzene	N.D.	. 2	ug/1	108	109	80-118	2	30	
Toluene	N.D.	. 5	ug/l	108	109	82-119	1	30	
Ethylbenzene	N.D.	. 5	ug/l	108	108	81-119	1	30	
Total Xylenes	N.D.	1.5	ug/l	109	108	82-120	0	30	
Methyl tert-Butyl Ether	N.D.	2.5	ug/l	115	114	79-127	1	30	
TPH-GRO - Waters	N.D.	50.	ug/l	99	96	76-126	3	30	
Batch number: 02077A51B	Sample n	umber(s):	3789394-37	789395					
Benzene	N.D.	. 2	ug/l	108	109	80-118	2	30	
Toluene	N.D.	.5	ug/l	108	109	82-119	1	30	
Ethylbenzene	N.D.	. 5	ug/l	108	108	81-119	1	30	
Total Xylenes	N.D.	1.5	ug/l	109	108	82-120	0	30	
Methyl tert-Butyl Ether	N.D.	2.5	ug/l	115	114	79-127	1	30	
TPH-GRO - Waters	N.D.	50.	ug/l	99	96	76-126	3	30	
Batch number: P020801AB	Sample r	number(s):	3789392-3	789395					
Methyl t-butyl ether	N.D.	2.	ug/l	111		77-127			
di-Isopropyl ether	N.D.	.5	ug/l	113		74-125			
Ethyl t-butyl ether	N.D.	.5	ug/l	108		74-120			
t-Amyl methyl ether	N.D.	. 5	ug/1	113		71-114			
t-Butyl alcohol	N.D.	5.	ug/l	107		59-139			
1,2-Dichloroethane	N.D.	. 5	ug/l	123		77-132			
1,2-Dibromoethane	N.D.	. 5	ug/l	112		84-119			

Sample Matrix Quality Control

	MS	MSD	ms/msd		RPD	BKG	DUP	DUP	Dup RPD
Analysis Name	REC	%REC	Limits	RPD	<u>XAM</u>	Conc	Conc	RPD	Мах
Batch number: 02077A51A	Sample	number	(s): 37893	91-37893	93				
Benzene	114		77-131						
Toluene	114		80-128						
Ethylbenzene	115		76-132						
Total Xylenes	115		76-132						
Methyl tert-Butyl Ether	116		61-144						
TPH-GRO - Waters	107		74-132						
Batch number: 02077A51B	Sample	e number	(s): 37893	94-3789	395				
Benzene	114		77-131						
Toluene	114		80-128						
Ethylbenzene	115		76-132						
Total Xylenes	115		76-132						
Methyl tert-Butyl Ether	116		61-144						
TPH-GRO - Waters	107		74-132						

*- 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.





Page 2 of 3

Client Name: Chevron Products Company

Group Number: 800511

Reported: 03/29/02 at 08:49 AM

Sample Matrix Quality Control

	MS	MSD	ms/msd		RPD	BKG	DUP	DUP	Dup RPD
Analysis Name	%REC	%REC_	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: P020801AB	\$ampl	e number	(s): 378939	92-37893	3 9 5				•
Methyl t-butyl ether	120	121	69-134	0	30				
di-Isopropyl ether	123	125	68-133	1	30				
Ethyl t-butyl ether	124*	130*	73-123	5	30		•		
t-Amyl methyl ether	114	117	69-118	2	30				
t-Butyl alcohol	110	110	51-148	0	30				
1,2-Dichloroethane	125	128	75-141	3	30				
1,2-Dibromoethane	113	117.	78-120	3	30				

Surrogate Quality Control

Analysis Name: TPH-GRO - Waters

Batch number: 02077A51A

	Trifluorotoluene-F	Trifluorotoluene-P
3789391	97	96
3789392	98	94
3789393	98	94
Blank	102	96
LCS	111	97
LCSD	110	97
MS	115	97
Limits:	67-135	71-130

Batch number: 02077A51B

	Trifluorotoluene-F	Trifluorotoluene-P	
3789394	111	109	
3789395	117	112	
Blank	98	95	
LCS	111	97	
LCSD	110	97	
MS	115	97	
Limits	67-135	71-130	

Analysis Name: Oxygenates by 8260B

Batch numb	per: P020801AB Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3789392	104	99	99	97
3789393	104	97	100	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.



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



Page 3 of 3

Client Name: Chevron Products Company Group Number: 800511

Reported: 03/29/02 at 08:49 AM

	,,		ate Quality Contro	ol
3789394	99	96	101	97
3789395	98	91	99	104
Blank	102	95	100	97
LCS	103	97	99	101
MS	101	98	100	100
MSD	100	97	99 _	99
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.



Chevron California Region Analysis Request/Chain of Custody

412	Lancaster	<u>Laboratorie</u> science.	<u>.s</u>
7	Where quality is a	science.	

:40302-005

Acct. #:Sample #:	SCR#:
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Chevron PM: Tom Bauhs Lead	Consultant: _C	ettler-Rya	n		o o	20			흥		0		-				Ì	☐ J value repo	rting needec		
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