

ENVIRONMENTAL
PROTECTION



Chevron

99 JUL 16 PM 2:47

July 14, 1999

Chevron Products Company
6001 Bollinger Canyon Road
Building L, Room 1080
PO Box 6004
San Ramon, CA 94583-0904

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

Philip R. Briggs
Project Manager
Site Assessment & Remediation
Phone 925 842-9136
Fax 925 842-8370

Re: Chevron Service Station #9-0338
5500 Telegraph Avenue, Oakland, California

Dear Mr. Seto:

Enclosed is the Monitoring Well Replacement and Installation Report, dated July 1, 1999 that was prepared by our consultant Gettler-Ryan Inc., for the above noted site. This work was performed to further evaluate dissolved MtBE concentrations beneath the site and to replace two on-site groundwater-monitoring wells.

Two new borings were drilled to a depth of 21.5 feet below grade with soil samples collected approximately every five feet. Each boring was then converted into 2-inch diameter groundwater monitoring wells. Wells C-1 and C-2 were drilled out to remove the casing, sand pack and annular seal material. New groundwater wells C-1A and C-2A were constructed in borings C-1 and C-2 at depths of 19.5 and 20.5 feet respectively. No soil samples were collected from these two borings.

Groundwater was encountered in borings C-4 and C-5 at a depth of approximately 13 feet below grade, with water depth stabilizing at 13 feet and 8.5 feet below grade respectively. Groundwater depth for wells C-1A and C-2A was respectively at 8 and 9.5 feet below grade.

The soil and water samples were analyzed for the TPH-g, BTEX and MtBE constituents. Three soil samples taken from the two borings were below method detection limits for all of the constituents. One soil sample in well C-5 at 11 feet below grade, detected TPH-g, benzene, xylenes and MtBE in concentrations of 1.3 ppm, 0.017 ppm, 0.012 ppm and 0.10 ppm respectively. In addition, soil samples collected from boring MW-4, at 6 feet (unsaturated) and at 16 feet (saturated) were analyzed for bulk density, porosity and fraction organic carbon. These analytical results are noted under Table 3.

July 14, 199
Mr. Larry Seto
Chevron Service Station #9-0338
Page 2

TPH-g and BTEX constituents were below method detection limits in wells C-2A and C-4, while all constituents were detected in the groundwater samples collected from wells C-1A and C-5, with the highest benzene and MtBE concentrations detected in well C-5.

Groundwater beneath the central portion of the site has appears to have been slightly impacted be MtBE but has not been impacted be TPH-g or BTEX constituents. The lateral extent of hydrocarbon impacted groundwater has not been delineated downgradient of the site

Chevron will begin quarterly monitoring at the site. The next sampling event is scheduled in August.

If you have any questions or comments call me at (925) 842-9136.

Sincerely,
CHEVRON PRODUCTS COMPANY



Philip R. Briggs
Site Assessment and Remediation Project Manager

Enclosure

Cc. Mr. Bill Scudder, Chevron



GETTLER-RYAN INC.

ENVIRONMENTAL
PROTECTION

99 JUL 16 PM 2:47

CIA/CZA

0-4/CS

MONITORING WELL REPLACEMENT AND INSTALLATION REPORT

for
Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

Report No. 346456.02-2

Prepared for:

Mr. Phil Briggs
Chevron Products Company
P.O. Box 6004
San Ramon, California 94583

Prepared by:

Gettler-Ryan Inc.
6747 Sierra Court, Suite G
Dublin, California 94568

Barbara Sieminski

Barbara Sieminski
Project Geologist
R.G. 6676



Greg A. Gurs

Greg A. Gurs
Project Manager

July 1, 1999

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION	1
2.1 General	1
2.2 Geology and Hydrogeology	1
2.3 Previous Environmental Work	1
3.0 FIELD WORK	2
3.1 Drilling Activities	2
3.2 Wellhead Survey	3
3.3 Well Development and Sampling	3
3.4 Laboratory Analysis	3
4.0 RESULTS	3
4.1 Subsurface Condition	3
4.2 Soil Analytical Results	4
4.3 Groundwater Analytical Results	4
5.0 CONCLUSIONS	4
6.0 REFERENCES	5

TABLES

Table 1:	Summary of Well Destruction Activities
Table 1:	Water Level Data and Groundwater Analytical Results
Table 2:	Soil Analytical Results

FIGURES

Figure 1.	Vicinity Map
Figure 2.	Potentiometric Map

APPENDICES

Appendix A:	Work Plan Approval Letter
Appendix B:	GR Field Methods and Procedures
Appendix C:	Drilling Permit, Boring Logs and State of California Well Completion Reports
Appendix D:	Wellhead Survey Report
Appendix E:	Well Development and Sampling Field Data Sheets
Appendix F:	Laboratory Analytical Reports and Chain-of-Custody Records



GETTLER - RYAN INC.

MONITORING WELL REPLACEMENT AND INSTALLATION REPORT

for

Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

Report No. 346456.02-2

1.0 INTRODUCTION

This report summarizes the results of a well replacement and installation performed at Chevron Station #9-0338, located at 5500 Telegraph Avenue in Oakland, California. The work was performed by Gettler-Ryan Inc (GR) at the request of Chevron Products Company (Chevron) to further evaluate dissolved methyl tertiary butyl ether (MtBE) concentrations beneath the subject site and to replace two on-site groundwater monitoring wells. The scope of work included: preparing a site specific health and safety plan; obtaining the required well drilling permit; drilling two on-site soil borings and installing groundwater monitoring wells (C-4 and C-5) in these borings; drilling out two on-site groundwater monitoring wells (C-1 and C-2) and installing two new wells (C-1A and C-2A) in the existing holes; surveying wellhead elevations; developing and sampling the wells; collecting and submitting soil and groundwater samples for chemical analysis; arranging for Chevron's contractor to dispose of the waste materials; and preparing a report documenting the work. This work was proposed in GR Report No. 346456.02-1, *Work Plan for Monitoring Well Installation*, dated January 28, 1999, and *Addendum to Work Plan* dated March 22, 1999, which were approved by the Alameda County Health Care Services Agency (ACHCSA) in their letters to Chevron dated February 3, 1999, and March 25, 1999, respectively (Appendix A).

2.0 SITE DESCRIPTION

2.1 General

The subject site is an active service station located on the northeastern corner of the intersection of Telegraph Avenue and 55th Street in Oakland, California (Figure 1). Aboveground facilities consist of a station building and six dispenser islands. Two gasoline underground storage tanks (USTs) share a common pit near the northern site boundary. Pertinent site features are shown on Figure 2.

2.2 Geology and Hydrogeology

The subject site is located on the East Bay Plane, approximately 2 miles east of San Francisco Bay and 2 miles north of Lake Merritt. The local topography is relatively flat at an elevation of approximately 125 feet above mean sea level. As mapped by E. J. Helley and others (1979), soil in the site vicinity consists of Late Pleistocene alluvium consisting of weakly consolidated slightly weathered poorly sorted irregularly interbedded clay, silt, sand and gravel. The nearest surface water is Glen Echo Creek located

approximately 1 mile southeast of the site. Based on the historical quarterly monitoring data, the shallow groundwater beneath the site flows to the southwest.

2.3 Previous Environmental Work

Three on-site groundwater monitoring wells (C-1 through C-3) were installed at the site in 1989. Between November 1989 and November 1993, the wells were monitored and samples on quarterly to annual basis. Monitoring and sampling of wells C-1 through C-3 was discontinued in 1994 and then was resumed in June 1998. Petroleum hydrocarbons (up to 280 parts per billion [ppb] of total petroleum hydrocarbons as gasoline [TPHg] and up to 0.9 ppb of benzene) were detected sporadically in well C-1 and on one occasion in well C-3. Petroleum hydrocarbons were never detected in well C-2.

To accommodate the proposed new station construction, well C-3 was destroyed on June 30, 1998. Following destruction of well C-3, GR collected a grab groundwater sample from the UST backfill well. TPHg or benzene were not detected in this sample, but MtBE was detected at the concentration of 15,000 ppb.

On July 22, 1998, GR removed three 10,000-gallon single-wall fiberglass gasoline USTs, one 1,000-gallon fiberglass waste oil UST, associated product lines and dispenser islands, three hydraulic hoists, and an oil/water separator. Six compliance samples were collected from the gasoline UST pit sidewalls at the soil/groundwater interface (approximately 9 feet below ground surface [bgs]). TPHg were not detected in any of the sidewall samples. Benzene was detected in one sample at a concentration of 0.013 parts per million (ppm). MtBE was detected in all six samples at concentrations ranging from 3.3 to 6.8 ppm.

Five soil samples were collected beneath the product lines at depths between 3.5 and 4 feet bgs. TPHg, benzene or MtBE were not detected in any of these samples. Lead was detected in two of the five samples at concentrations of 1.0 ppm and 2.8 ppm.

One soil sample was collected beneath the waste oil UST at a depth of 9 feet bgs. TPHg, benzene, MtBE, total petroleum hydrocarbons as diesel (TPHd), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) or lead were not detected in this sample. However, total oil and grease (TOG) was detected in this sample at a concentration of 130 ppm.

Compliance soil samples were collected from beneath the three hydraulic hoists and oil/water separator at depths of 9 feet bgs. Soil sample collected beneath the oil/water separator contained 1.6 ppm TPHg, 2,000 ppm TPHd, 2,600 ppm TOG, and 2,800 ppm of total petroleum hydrocarbons as hydraulic oil (TPHho). TPHho were not detected beneath the other two hydraulic hoists.

Approximately 1,500 gallons of groundwater were pumped out from the new UST excavation during installation activities. On August 7, 1998, this water was transported by Integrated Wastestream Management (IWM) to the McKittrick Treatment, Storage, and disposal facility in McKittrick, California.

3.0 FIELD WORK

Field work was conducted in accordance with GR's Field Methods and Procedures (Appendix B) and the Site Safety Plan dated May 6, 1999. A well destruction and installation permit (#99WR173) was obtained from the Alameda County Public Works Agency, an underground utility locator was contracted to clear boring locations, and Underground Service Alert was notified prior to drilling at the site. Copies of the permit and State of California Well Completion Report are included in Appendix C.

3.1 Drilling Activities

On May 15, 1999, a GR geologist observed Bay Area Exploration, Inc. (C57 #522125) install two new on-site groundwater monitoring wells (C-4 and C-5) and replace two existing on-site groundwater monitoring wells (C-1 and C-2 with C-1A and C-2A, respectively) at the locations shown on Figure 2. Drilling was performed using 8-inch hollow-stem augers driven by a truck-mounted CME-55 drill rig.

Well borings C-4 and C-5 were drilled to 21.5 feet bgs. Soil samples were collected from the borings approximately every 5 feet. The GR geologist prepared logs of the borings and screened the soil samples in the field for the presence of volatile organic compounds. Screening data are presented on the boring logs (Appendix C).

Wells C-1 and C-2 were drilled out to 31 feet bgs (1 to 1.5 feet past the installed depth) to remove the casing, sand pack and annular seal material. Upon completion of drilling, bentonite was placed in the borings from the total depth to approximately 19.5 and 20.5 feet bgs, respectively. Then, groundwater monitoring wells C-1A and C-2A were constructed in borings C-1 and C-2, respectively. Well destruction activities are summarized in Table 1, and well construction details are described below.

Groundwater monitoring wells C-1A, C-2A, C-4 and C-5 were constructed using 15 feet of two-inch diameter, 0.020-inch machine-slotted Schedule 40 PVC screen. Lonestar #3 graded sand was placed in each well across the entire screen interval and extended approximately 0.5 to 1.5 feet above the top of the screen. Each well was then sealed with 1 foot of hydrated bentonite chips followed by neat cement. Well construction details are presented on the boring logs in Appendix C.

Drill cuttings were placed on and covered with plastic sheeting and stored on-site pending disposal. After completion of drilling, four samples for disposal characterization were collected from the drill cuttings and submitted to the laboratory for compositing and analysis as sample SP (A-D). On May 25, 1999, the drill cuttings were removed from the site and transported to the BFI Landfill in Livermore by Integrated Wastestream Management (IWM).

3.2 Wellhead Survey

On June 9, 1999, wells C-1A, C-2A, C-4 and C-5 were surveyed relative to mean sea level by Virgil Chavez, a California licensed land surveyor (#6323). Horizontal coordinates were obtained at the same

time. A copy of the survey report is included in Appendix D, and the survey data is summarized in Table 2.

3.3 Well Development and Sampling

On May 27, 1999, groundwater monitoring wells C-1A, C-2A, C-4 and C-5 were developed by GR personnel using a vented surge block and hand-bailing. Depth to water was measured in the wells prior to development. Groundwater samples were collected from the wells upon completion of well development. Water purged during well development and sampling was transported to McKittrick Waste Management by IWM. Groundwater monitoring data are presented in Table 2, and copies of the GR Well Development and Sampling Field Data Sheets are included in Appendix E.

3.4 Laboratory Analysis

Soil and groundwater samples were analyzed by Sequoia Analytical in Walnut Creek, California (ELAP #1271). Soil samples collected from borings C-4 and C-5 at 6 and 11 feet bgs and groundwater samples collected from the wells were analyzed for TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl tertiary butyl ether (MtBE) by Environmental Protection Agency (EPA) Methods 8015/8020. The highest MtBE concentration which was detected in the groundwater sample collected from well C-5 was confirmed by EPA Method 8260. Soil samples collected from boring C-4 at 6 feet bgs (unsaturated sample) and at 16 feet bgs (saturated sample) were analyzed for fraction organic carbon by Watley-Black Method and bulk density, porosity and moisture content (unsaturated sample only) by method API RP-40. The composite sample from the drill cuttings was analyzed for TPHg and BTEX. Copies of the laboratory analytical reports and chain-of-custody records are included in Appendix F.

4.0 RESULTS

4.1 Subsurface Conditions

Soil encountered in borings C-4 and C-5 consisted predominantly of clay and clayey gravel to the total depth explored of 21.5 feet bgs. A clayey gravel layer was encountered within clay layers at a depth of approximately 10.5 and 13 feet bgs and extended to approximate depths of 18 and 21 feet bgs in borings C-4 and C-5, respectively. Groundwater was encountered in this layer at a depth of approximately 13 feet bgs and stabilized at depths of 12.8 and 8.6 in the borings C-4 and C-5, respectively. Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix C. Based on groundwater monitoring data collected on May 27, 1999, shallow groundwater beneath the site appears to flow to the south at an approximate gradient of 0.03 (Figure 2).

4.2 Soil Analytical Results

TPHg (1.3 ppm), benzene (0.017 ppm) and MtBE (0.10 ppm) were detected in soil sample collected from boring C-5 at 11 feet bgs (capillary fringe zone). TPHg, benzene or MtBE were not detected in the sample collected from boring C-5 feet bgs or in the samples collected from boring C-4.

The laboratory analytical results for the unsaturated soil sample collected from boring C-4 at 6 feet bgs indicated dry density of 1.85 gram per cubic centimeter (gm/cc), natural density of 2.15 gm/cc, matrix density of 2.64 gm/cc, porosity of 29.8% and moisture content of 13%. The results for the saturated sample collected from boring C-4 at 16 feet bgs indicated dry density up to 1.66 gm/cc, natural density up to 2.01 gm/cc, matrix density up to 2.57 gm/cc, and porosity up to 35.6%. Fraction organic carbon for the samples collected from boring C-4 at 6 and 16 feet bgs was reported at 0.39% and 0.12%, respectively.

The composite stockpile sample did not contain petroleum hydrocarbons. Soil chemical analytical data are summarized in Table 3.

4.3 Groundwater Analytical Results

Groundwater samples collected from wells C-1A and C-5 contained TPHg (9,100 ppb and 2,800 ppb, respectively), benzene (40 ppb and 350 ppb, respectively) and MtBE (35 ppb and 2,500 ppb, respectively). Groundwater samples collected from wells C-2A and C-4 did not contain TPHg or benzene, however, MtBE was detected in these samples at the concentration of 44 ppb. Groundwater analytical data are summarized in Table 1.

5.0 CONCLUSIONS

Analytical results from soil samples collected and analyzed during this investigation indicate that soil within the capillary fringe in the vicinity of well C-5 has been slightly impacted by TPHg (1.3 ppm), benzene (0.017 ppm) and MtBE (0.10 ppm). Soil in the vicinity of well C-4 has not been impacted by petroleum hydrocarbons.

Shallow groundwater beneath the western portion of the subject site has been impacted by gasoline hydrocarbons. The highest TPHg concentration in groundwater (9,100 ppb) is present in the vicinity of the southwestern dispenser island (near well C-1A), but the highest concentrations of benzene (350 ppb) and MtBE (2,500 ppb) are present in the vicinity of the UST complex (near well C-5). Groundwater beneath the central portion of the site (vicinity of wells C-2A and C-4) has been slightly impacted by MtBE but has not been impacted by TPHg or benzene. The lateral extent of hydrocarbon impacted groundwater has not been delineated downgradient of the subject site.

6.0 REFERENCES

E. J. Helley and others, 1979, Flatland Deposits of the San Francisco Bay Region, California: U.S. Geological Survey Professional Paper 943.

Gettler-Ryan Inc., August 12, 1998, Groundwater Monitoring & Sampling Report, Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California, Report No. 6456.80.

Gettler-Ryan Inc., January 28, 1999, Work Plan for Monitoring Well Installation at Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California, Report No. 346456.02-1.

Monitoring Well Replacement and Installation Report - Chevron Service Station #9-0338
July 1, 1999

Gettler-Ryan Inc., March 22, 1999, Addendum to Work Plan for Monitoring Well Installation at Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California, Report No. 346456.02.

Gettler-Ryan Inc., May 6, 1999, Site Safety Plan for Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California, Job No. 346456.02.

Table 1. Summary of Well Destruction Activities - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California.

Well ID	Well Destruction Date	Well Diameter (inches)	Installed Well Depth (feet)	Well Depth on 05/12/99 (feet)	Depth to Water on 05/12/99 (feet)	Drilled-out Depth (feet)
C-1	05/12/99	2	30.0	29.2	8.22	31.0 ¹
C-2	05/12/99	2	28.5	29.5	9.42	31.0 ²

EXPLANATION:

- ¹ = Well was drilled out with 8-inch diameter hollow stem augers then the boring was backfilled with bentonite to 19.5 feet bgs and groundwater monitoring well C-1A was installed in the boring.
- ² = Well was drilled out with 8-inch diameter hollow stem augers then the boring was backfilled with bentonite to 20.5 feet bgs and groundwater monitoring well C-2A was installed in the boring.

Table 2. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California.

Well ID/ TOC (feet)	Date	DTW (feet)	GWE (msl)	Product Thickness (feet)	-----ppb-----					
					TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE
C-1A/ 123.27	05/27/99	7.34	115.93	0	9,100	40	25	560	1,900	35
C-2A/ 125.89	05/27/99	6.36	119.53	0	<50	<0.50	<0.50	<0.50	<0.50	44
C-4/ 125.40	05/27/99	10.06	115.34	0	<50	<0.50	<0.050	<0.50	<0.50	44
C-5/ 124.15	05/27/99	6.61	117.54	0	2,800	350	73	32	280	2,200/2,500 ¹
TB-LB	05/27/99	—	—	—	<50	<0.50	<0.50	<0.50	<0.50	<2.5

EXPLANATION:

DTW = Depth to water
 TOC = Top of casing elevation
 GWE = Groundwater elevation
 TPHg = Total Petroleum Hydrocarbons as gasoline
 MtBE = Methyl t-Butyl Ether
 TB-LB = Trip blank
 msl = Measurements referenced relative to mean sea level
 ppb = Parts per billion
 — = Not analyzed/Not applicable
¹ = MtBE result by EPA Method 8260

ANALYTICAL METHODS:

TPHg, benzene, toluene, ethylbenzene, xylenes = EPA Methods 5030/8015Mod/8020
 MtBE = EPA Methods 8020 and 8260

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1271)

NOTES:

Wells C-1A, C-2A, C-4 and C-5 were surveyed on June 9, 1999, by Virgil Chavez of Vallejo, California (PLS 6323).

Table 3. Soil Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California.

Sample ID	Depth	Date (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	Fraction	Bulk Density			Porosity %	Moisture Content %
									Organic Carbon %	Dry gm/cc	Natural gm/cc	Matrix gm/cc		
C4-6	6	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	0.39	1.85	2.15	2.64	29.8	13
C4-11	11	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	—	—	—	—
C4-16	16	05/12/99	---	---	---	---	---	---	0.12	1.66	2.01	2.57	35.6	—
C5-6	6	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	—	—	—	—
C5-11	11	05/12/99	1.3	0.017	<0.0050	<0.0050	0.012	0.10	—	—	—	—	—	—
SP (A-D)	—	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	—	—	—	—	---	—	—

EXPLANATION:

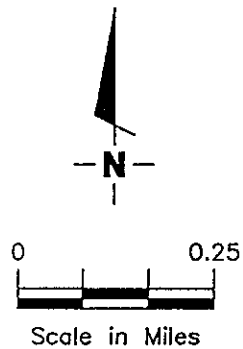
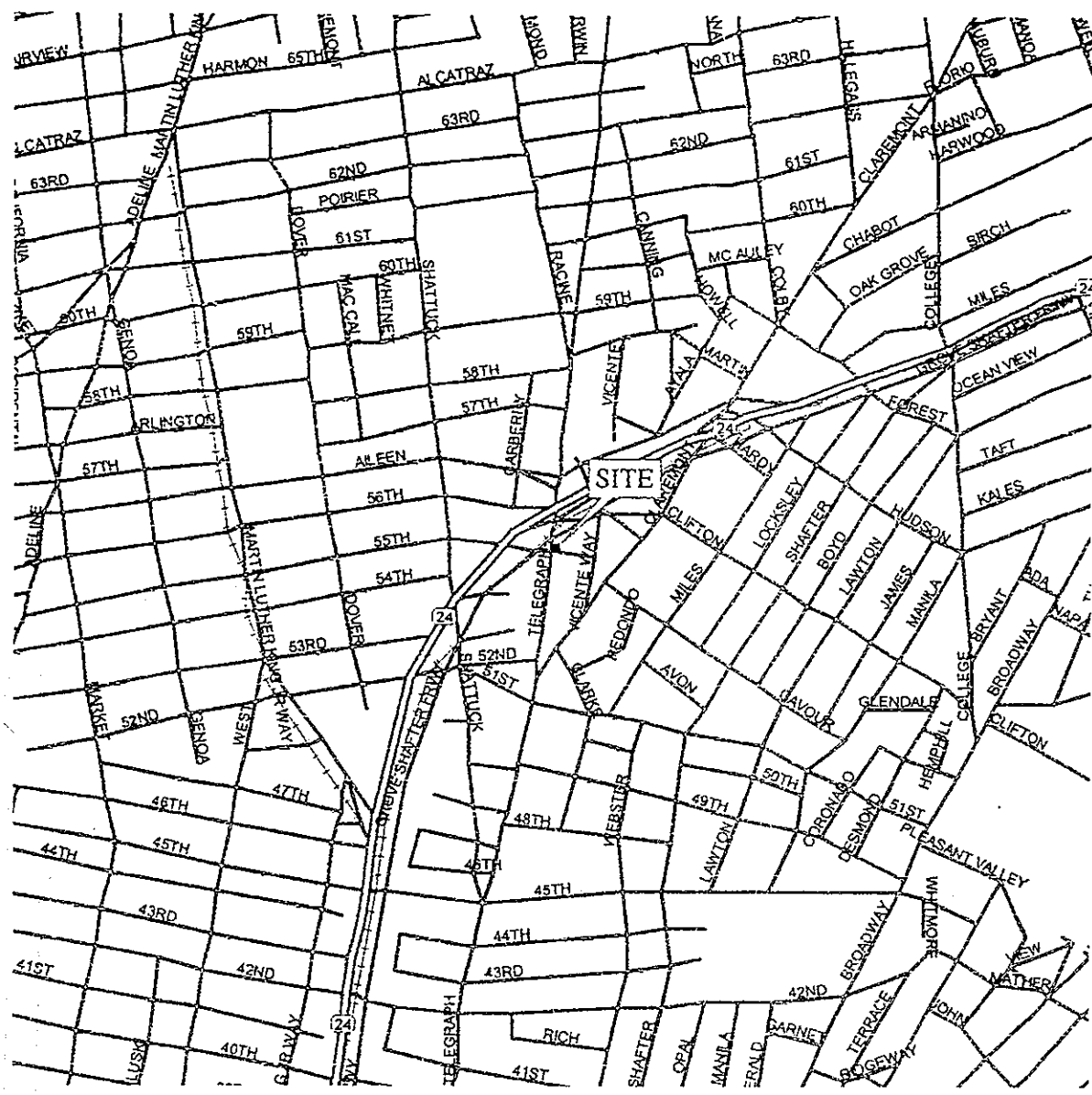
TPHg = Total Petroleum Hydrocarbons as gasoline
 MtBE = Methyl t-Butyl Ether
 ft = Feet
 ppm = Parts per million
 gm/cc = gram per cubic centimeter
 -- = Not analyzed/not applicable

ANALYTICAL METHODS:

TPHg, benzene, toluene, ethylbenzene, xylenes, MtBE = EPA Methods 5030/8015Mod/8020
 Porosity, densities = Method API RP-40

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1271)



Source: Street Atlas USA, Delorme (1995).



Gettler - Ryan Inc.

6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

VICINITY MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

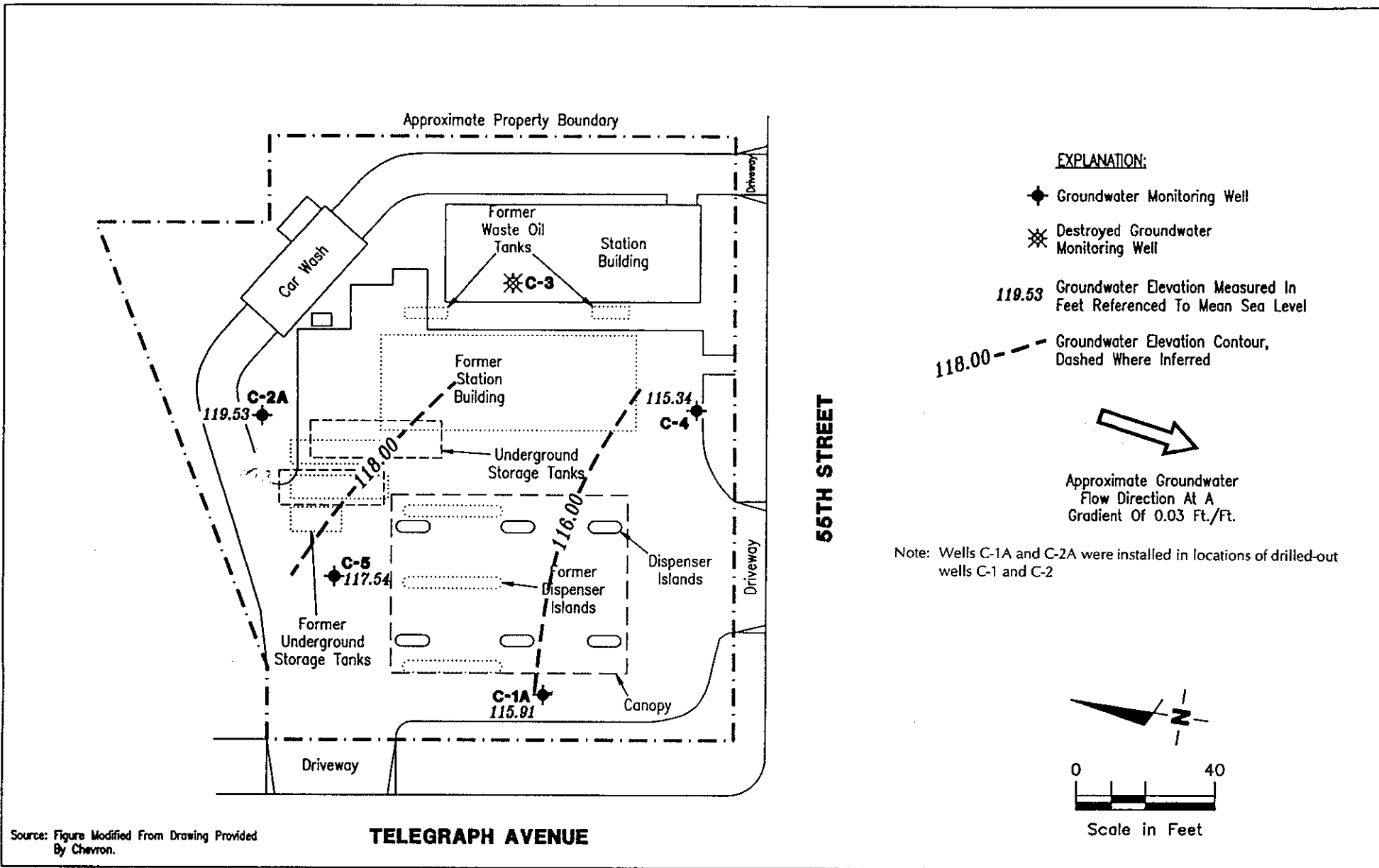
FIGURE
1

JOB NUMBER
346456

REVIEWED BY

DATE

REVISED DATE



Source: Figure Modified From Drawing Provided By Chevron.



Gertler - Ryan Inc.

6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

POTENTIOMETRIC MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE

2

JOB NUMBER
346456.02

REVIEWED BY

DATE
May 27, 1999

REVISED DATE

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

February 3, 1999

Mr. Phil Briggs
Chevron Products Company
P.O. Box 6004
San Ramon, CA 94583

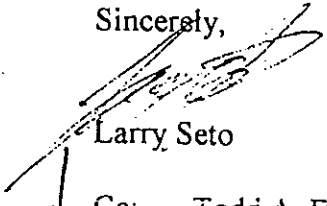
RE: Chevron, 5500 Telegraph Avenue, Oakland, CA

Dear Mr. Briggs:

I have reviewed your Work Plan For Monitoring Well Installation dated January 28, 1999 that was prepared by Gettler-Ryan Inc. This workplan to install two additional wells is acceptable with the understanding that existing monitoring wells C-1 and C-2 can be used to determine gradient direction. These two existing monitoring wells must be properly screened, and constructed in accordance to California Well Standard, California Department of Water Resources.

If you have any questions, please contact me at (510) 567-6774.

Sincerely,


Larry Seto

Cc: Todd A. Del Frate, Gettler-Ryan, 3164 Gold Camp Drive, Suite 240,
Rancho Cordova, CA 95670
Leroy Griffin, City of Oakland Fire Department
Files

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



P.R.B.

P.R.B.

APR 1 1999

9-0338

March 25, 1999

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-0700
FAX (510) 337-9335

Mr. Phil Briggs
Chevron Products Company
P.O. Box 6004
San Ramon, CA 94583

RE: Chevron, 5500 Telegraph Avenue, Oakland, CA

Dear Mr. Briggs:

I have reviewed the Addendum to Work Plan For Monitoring Well Installation dated March 22, 1999 and Well Construction Details for Monitoring Wells C-1A, C-2A, C-4 and C-5 dated March 25, 1999 prepared by Gettler-Ryan. The well locations and well design are acceptable.

If you have any further questions, please contact me at (510) 567-6774.

Sincerely,

Larry Seto
Sr. Hazardous Materials Specialist

Post-It® Fax Note	7871	Date	4-1-99	# of pages	1
To	GRAB LINES	From	PHIL BRIGGS		
Co./Dept.	GETTLER RYAN	Co.	CHEVRON		
Phone #		Phone #			
Fax #	916 621-1377	Fax #			

GETTLER - RYAN FIELD METHODS AND PROCEDURES

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

Exploratory soil 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. Soil samples are collected from the exploratory soil boring with a split-barrel sampler or other appropriate sampling device fitted with clean brass 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 soil is described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, 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. Samples are selected for chemical analysis based on:

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

Field Screening of Soil Samples

A PID is used to perform head-space 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. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log. Head-space 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.

Stockpile Sampling

Stockpile samples consist of four individual sample liners collected from each 100 cubic yards (yd³) of stockpiled soil material. Four arbitrary points on the stockpiled material are chosen, and discrete soil sample is collected at each of these points. Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless steel or brass tube into the stockpiled material with a wooden mallet or hand driven soil sampling device. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, placed in the 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. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory 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 cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on plastic sheeting or stored in drums depending on site conditions and regulatory requirements. Stockpile samples are collected and analyzed on the basis of one composite sample per 50 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, 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. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Wellhead Survey

The top of the newly-installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL).

Well Development

The purpose of well development is to improve hydraulic communication between the well and surrounding aquifer. Prior to development, each well is monitored for the presence of separate-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.

Groundwater Monitoring and Sampling

Decontamination Procedures

All physical parameter measuring and sampling equipment are decontaminated prior to sample collection using Alconox or equivalent detergent followed by steam cleaning with deionized water. During field sampling, equipment placed in a well are decontaminated before purging or sampling the next well by cleaning with Alconox or equivalent detergent followed by steam cleaning with deionized water.

Water-Level Measurements

Prior to sampling each well, the static water level is measured using an electric sounder and/or calibrated portable oil-water interface probe. Both static water-level and separate-phase product thickness are measured to the nearest ± 0.01 foot. The presence of separate-phase product is confirmed using a clean, acrylic or polyvinylchloride (PVC) bailer, measured to the nearest ± 0.01 foot with a decimal scale tape. The monofilament line used to lower the bailer is replaced between borings with new line to preclude the possibility of cross-contamination. Field observations (e.g. product color, turbidity, water color, odors, etc.) are noted. Water-levels are measured in wells with known or suspected lowest dissolved chemical concentrations to the highest dissolved concentrations.

Sample Collection and Labeling

A temporary PVC screen is installed in the boring to facilitate a grab groundwater sample collection. Samples of groundwater are collected from the surface of the water in each well or boring using the teflon bailer or a pump. The water samples are then gently poured into laboratory-cleaned containers and sealed with teflon-lined caps, and inspected for air bubbles to check for headspace. The samples are then labeled by an adhesive label, noted in permanent ink, and promptly placed in an ice storage. A Chain-of-Custody Record is initiated and updated throughout handling of the samples, and accompanies the samples to the laboratory certified by the State of California for analyses requested.



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

951 TURNER COURT, SUITE 100, RAYWARD, CA 94543-2657
PHONE (510) 870-5575 ANDREAS GODFREY FAX (510) 870-5263
(510) 870-8748 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT CHURCH STREET #9-0338
5330 TELEGRAPH AVENUE
EMERY, CA

PERMIT NUMBER 99WR173
WELL NUMBER _____
APN _____

California Coordinates Section _____ ft. Accuracy ± _____ ft.
CCN _____ ft. CCE _____ ft.
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT
Name CHURCH FINANCIAL COMPANY
Address P.O. Box 6001 Phone (415) 942-9126
City San Rafael Zip 94903

- 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 pertained work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
 3. Permit is void if project not begun within 90 days of approval date.

APPLICANT
Name GETTICE - RAIL
714 6th Ave. #200 Fax (415) 451-1307
Address 714 6th Ave. #200 Phone (415) 641-0700
City EMERY, CALIFORNIA Zip 94570

- B. WATER SUPPLY WELLS
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring Well Destruction

2 wells (G1 and G2)
6 MAY 99

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other _____

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 25 feet.

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S LICENSE NO. 52225

6 MAY 99

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum Depth 20 ft.
Casing Diameter 2 in. Number 4
Surface Seal Depth 3.0 ft. (C-1A, C-2A, C-4 and C-5)

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum Depth _____ ft.
Hole Diameter _____ in.

ESTIMATED STARTING DATE February 23, 1999 11 May 99
ESTIMATED COMPLETION DATE 11 May 99

- D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, cement grout shall be used in place of compacted casing.
- E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION
See attached.
- G. SPECIAL CONDITIONS

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.






APPLICANT'S SIGNATURE Jed G. DeFabo DATE 2-3-99

APPROVED [Signature] DATE 4-29-99

[Signature] 17 MAY 99
for
ROBERT HALE 5-12-99

MAJOR DIVISIONS			TYPICAL NAMES	
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 15% FINES	GM	SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC	CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 15% FINES	SM	SILTY SANDS WITH OR WITHOUT GRAVEL
			SC	CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS	
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS	
		OL	ORGANIC SILTS OR CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS	
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
		OH	ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY	
HIGHLY ORGANIC SOILS	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS		

- LL - Liquid Limit (%)
- PI - Plastic Index (%)
- PID - Volatile Vapors in ppm
- MA - Particle Size Analysis
- 2.5 YR 6/2 - Soil Color according to Munsell Soil Color Charts (1975 Edition)
- 5 GY 5/2 - GSA Rock Color Chart

-  - No Soil Sample Recovered
-  - "Undisturbed" Sample
-  - Bulk or Classification Sample
-  - First Encountered Ground Water Level
-  - Piezometric Ground Water Level
- Penetration - Sample drive hammer weight - 140 pounds falling 30 inches. Blows required to drive sampler 1 foot are indicated on the logs

Unified Soil Classification - ASTM D 2488-85
and Key to Test Data

Gettler-Ryan, Inc.

Log of Boring C-4

PROJECT: *Chevron SS #9-0338*

LOCATION: *5500 Telegraph Avenue, Oakland, CA.*

GR PROJECT NO.: *346456.02*

SURFACE ELEVATION: *125.40ft. MSL*

DATE STARTED: *05/12/99*

WL (ft. bgs): *13.0* DATE: *05/12/99* TIME: *10:20*

DATE FINISHED: *05/12/99*

WL (ft. bgs): *12.8* DATE: *05/12/99* TIME: *17:15*

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *21.5 Feet*

DRILLING COMPANY: *Bay Area Exploration Inc.*

GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PTD (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
							PAVEMENT - Concrete over baserock	<p>WELL DIAGRAM</p> <p>2" blank PVC (schedule 40)</p> <p>2" machine slotted PVC (0.02 inch)</p> <p>#3 sand</p> <p>bentonite</p> <p>heat cement</p> <p>Cap</p> <p>native</p>
5	0	6	C4-8			CL	SANDY CLAY (CL) - very dark brown (10YR 2/2), moist, medium stiff, low plasticity; 40% clay, 30% silt, 30% fine to coarse sand, trace fine gravel.	
10	0	19	C4-11			GC/CL	CLAYEY GRAVEL (GC/CL) - brownish yellow (10YR 6/6), moist, medium dense, 50% subrounded fine to coarse gravel, 40% clay, 10% fine to coarse sand.	
15	0	14	C4-16			GC/SC	CLAYEY GRAVEL WITH SAND (GC/SC) - yellowish brown (10YR 5/4), saturated, medium dense; 40% subrounded fine to coarse gravel, 30% clay, 30% fine to coarse sand.	
20	0	18	C4-21			CL-ML	SILTY CLAY (CL-ML) - pale olive (5Y 6/3) mottled brownish yellow (10YR 6/6), moist, very stiff, low plasticity; 50% clay, 40% silt, 10% fine sand.	
21.5							Bottom of boring at 21.5 feet.	
25							(* = converted to equivalent standard penetration blows/ft.)	

Gettler-Ryan, Inc.

Log of Boring C-5

PROJECT: *Chevron SS #9-0338*

LOCATION: *5500 Telegraph Avenue, Oakland, CA.*

GR PROJECT NO.: *346456.02*

SURFACE ELEVATION: *124.15ft. MSL*

DATE STARTED: *05/12/99*

WL (ft. bgs): *13.0* DATE: *05/12/99* TIME: *11:20*

DATE FINISHED: *05/12/99*

WL (ft. bgs): *8.6* DATE: *05/12/99* TIME: *17:15*

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *21.5 Feet*

DRILLING COMPANY: *Bay Area Exploration Inc.*

GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PTD (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
							PAVEMENT - Concrete over baserock	
5	0	7	C5-6			CL	CLAY (CL) - black (10YR 2/1), moist, medium stiff, low to medium plasticity; 90% clay, 10% fine sand.	
						CL	SANDY CLAY (CL) - brown (10YR 5/3), moist, medium stiff, low plasticity; 60% clay, 40% fine to coarse sand, trace fine gravel.	
10	11	11	C5-11			CL/GC	GRAVELLY CLAY (CL/GC) - yellowish brown (10YR 5/4) mottled greenish gray (5GY 5/1), damp, stiff, low plasticity; 45% clay, 40% subrounded fine to coarse gravel, 15% fine to coarse sand.	
15	0	18	C5-16			GC/SC	CLAYEY GRAVEL WITH SAND (GC/SC) - yellowish brown (10YR 5/6), saturated, medium dense; 30-50% subrounded fine to coarse gravel, 30-40% fine to coarse sand, 30% clay.	
20	0	21	C5-21			CL-ML	SILTY CLAY (CL-ML) - pale olive (5Y 6/3) mottled brownish yellow (10YR 6/6), moist, very stiff, low plasticity; 50% clay, 40% silt, 10% fine sand.	
25							Bottom of boring at 21.5 feet. (* = converted to equivalent standard penetration blows/ft.)	
30								
35								

Gettler-Ryan, Inc.

Log of Boring C-1A

PROJECT: *Chevron SS #9-0338*

LOCATION: *5500 Telegraph Avenue, Oakland, CA.*

GR PROJECT NO. : *346456.02*

SURFACE ELEVATION: *123.27ft. MSL*

DATE STARTED: *05/12/99*

WL (ft. bgs): DATE: TIME:

DATE FINISHED: *05/12/99*

WL (ft. bgs): *8.2* DATE: *05/12/99* TIME: *17:20*

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *19.5 Feet*

DRILLING COMPANY: *Bay Area Exploration Inc.*

GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
5							<p>Not sampled. Well C-1A replaced well C-1. Well C-1 was drilled out to 31 feet. The boring was backfilled with bentonite to 19.5 feet bgs, then well C-1A was installed in the hole.</p>	
10								
15								
20								
25								
30								
35							Bottom of boring at 31.0 feet.	

Gettler-Ryan, Inc.

Log of Boring C-2A

PROJECT: *Chevron SS #9-0338*

LOCATION: *5500 Telegraph Avenue, Oakland, CA.*

GR PROJECT NO.: *346456.02*

SURFACE ELEVATION: *125.89ft. MSL*

DATE STARTED: *05/12/99*

WL (ft. bgs): DATE: TIME:

DATE FINISHED: *05/12/99*

WL (ft. bgs): *9.4* DATE: *05/12/99* TIME: *17:20*

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *20.0 Feet*

DRILLING COMPANY: *Bay Area Exploration Inc.*

GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
5							<p>Not sampled. Well C-2A replaced well C-2. Well C-2 was drilled out to 31 feet. The boring was backfilled with bentonite to 20 feet bgs, then well C-2A was installed in the hole.</p>	<p>The well diagram shows a vertical cross-section of the well. At the top, there is a cap. Below the cap, a 2-inch blank PVC (schedule 40) casing extends down to a depth of 20 feet. From 20 feet to 31 feet, a 2-inch machine slotted PVC (0.02 inch) casing is installed. The well is surrounded by bentonite, and there is #3 sand at the bottom of the casing.</p>
10								
15								
20								
25								
30								
35							Bottom of boring at 31.0 feet.	

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

FIELD DATA SHEET

Client/Facility: CHEVRON # 9-0338 Job#: 346456.02
 Address: 5500 TELEGRAPH AVE. Date: 5/27/99
 City: OAKLAND Sampler: HAIG KEVORK

Well ID: C-1A Well Condition: OK
 Well Diameter: 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
 Total Depth: 19.45 ft. Volume Factor (VF):
 Depth to Water: 7.34 ft.

2" = 0.17	3" = 0.38	4" = 0.66
6" = 1.50	12" = 5.80	

12.11 x VF 0.17 = 2.06 x 3 (case volume) = Estimated Purge Volume: _____ (gal.)

Purge Equipment: Disposable Bailer Bailer Stack Suction Grundfos Other: _____
 Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: _____

Starting Time: 15:15 Weather Conditions: CLOUDY
 Sampling Time: 18:15 Water Color: SILTY Odor: _____
 Purging Flow Rate: 0.25-0.75 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
15:18	2	9.18	910	26.2			
15:23	4	8.73	697	24.8			
15:30	6	8.60	680	25.1			
15:47	7.5	8.69	712	23.9			
16:00	9	8.57	718	23.7			
17:34	10	8.53	709	24.4			
17:38	11	8.50	695	24.2			
17:48	12	8.51	691	24.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
C-1A	4 VOA	YES	HCL	SEQUOIA	G/BTEX/MTBE

COMMENTS: SLOW RECOVERY

FIELD DATA SHEET

Client/Facility: CHEVRON # 9-0338 Job#: 346456.02
 Address: 5500 TELEGRAPH AVE. Date: 5/27/1999
 City: OAKLAND Sampler: HAIG KEVORK

Well ID: C-2A Well Condition: OK
 Well Diameter: 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
 Total Depth: 20.50 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water: 6.36 ft. Factor (VF) 6" = 1.50 12" = 5.80

14.14 x VF 0.17 = 2.4 x 3 (case volume) = Estimated Purge Volume: _____ (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
 Suction
 Grundfos
 Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
 Other: _____

Starting Time: 12:25 Weather Conditions: CLOUDY
 Sampling Time: 18:28 Water Color: SILTY Odor: _____
 Purging Flow Rate: 0.25-0.45 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
12:29	2	8.85	2290	25.1			
12:36	4	8.62	2160	24.2			
12:41	5.5	8.66	2230	23.8			
12:48	7	8.60	2190	23.4			
12:54	8.5	8.58	2150	22.9			
13:06	9.5	8.63	2130	23.6			
13:24	10.5	8.59	2100	23.5			
13:39	11.5	8.54	2080	23.3			
14:25	12.5	8.52	2090	23.0			
14:36	13	8.50	2060	23.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
C-2A	4 VOA	YES	HCL	SEQUOIA	G/BTEX/MTBE

COMMENTS: SLOW RECOVERY

FIELD DATA SHEET

Client/
Facility CHEVRON # 9-0338
Address: 5500 TELEGRAPH AVE.
City: OAKLAND

Job#: 346456.02
Date: 5/27/1999
Sampler: HAIG KEVORK

Well ID C-4
Well Diameter 2 in.
Total Depth 19.50 ft.
Depth to Water 10.06 ft.

Well Condition: OK
Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
6" = 1.50 12" = 5.80

9.44 x VF 0.17 = 1.60 x 3 (case volume) = Estimated Purge Volume: _____ (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
 Suction
 Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
Other: _____

Starting Time: 11:50
Sampling Time: 18:40
Purging Flow Rate: 0.25-0.75 gpm.
Did well de-water? YES

Weather Conditions: CLOUDY
Water Color: SILTY Odor: _____
Sediment Description: _____
If yes; Time: 12:14 Volume: 6.5 (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:54	1.5	7.51	1480	19.8			
11:59	3.5	7.94	1260	19.4			
12:04	5	8.29	1160	22.2			
12:11	6	8.18	1130	21.9			
13:52	7	8.15	1090	21.6			
14:15	8	8.11	1100	22.0			
14:56	9	8.12	1180	21.8			
15:10	10	8.10	1150	21.5			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
C-4	4 VOA	YES	HCL	SEQUOIA	G/BTEX/MTBE

COMMENTS: VERY VERY SLOW RECOVERY

Virgil Chavez Land Surveying

312 Georgia Street, Suite 200
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

June 11, 1999
Project No. 1704-08

Barbara Sieminski
Gettler-Ryan, Inc.
6747 Sierra Ct., Suite J
Dublin, Ca. 94568

Subject: Monitoring Well Survey
Chevron Service Station # 9-0338
5500 Telegraph Ave.
Oakland, Ca.

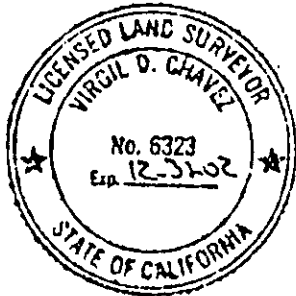
Dear Barbara:

This is to confirm that we have proceeded at your request to survey the monitoring wells at the above referenced location. The survey was performed on June 9, 1999. Measurements were taken at notches on the top of casing. The benchmark for the survey was a cut "x" in the sidewalk on 55th Street in front of the station, and is based on City datum. The second table is for top of casing locations, using the face of the new building as reference line, beginning at the southwest corner of the building.

Benchmark Elev. = 120.90 feet.

<u>Well No.</u>	<u>Rim Elevation</u>	<u>TOC Elevation</u>
C - 1A	123.46'	123.27'
C - 2A	126.12'	125.89'
C - 4	125.64'	125.40'
C - 5	124.39'	124.15'

<u>Well No.</u>	<u>Station</u>	<u>Offset</u>
C - 1A	0+45.27	-115.14(Lt.)
C - 2A	1+29.25	- 33.61(Lt.)
C - 4	0+01.35	- 31.36(Lt.)
C - 5	1+07.61	- 81.96(Lt.)
SWC Bldg.	0+00.00	0.00
Face of Bldg.	---	0.00



Sincerely,

Virgil D. Chavez

 Virgil D. Chavez, PLS 6323



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D
1551 Industrial Road

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954
San Carlos, CA 94070-4111

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865
(650) 232-9600

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Barbara Sieminski	Client Project ID: Chevron #9-0338, Oakland Sample Matrix: Soil Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 905-0897	Sampled: May 12, 1999 Received: May 13, 1999 Reported: Jun 9, 1999
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QC Batch Number: SP051799 SP051799 SP051799 SP051799 SP051799

8020EXA 8020EXA 8020EXA 8020EXA 8020EXA
TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 905-0897 C4-6	Sample I.D. 905-0898 C4-11	Sample I.D. 905-0899 C4-16	Sample I.D. 905-0900 C5-6	Sample I.D. 905-0901 C5-11
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	1.3
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	0.017
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.	N.D.	N.D.	0.012
MTBE	0.050	N.D.	N.D.	N.D.	N.D.	0.10
Chromatogram Pattern:		--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	5/17/99	5/17/99	5/17/99	5/17/99	5/17/99
Instrument Identification:	HP-5	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 40-140%)	97	103	102	126	134

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
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FAX (650) 232-9612

Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Sample Descript: Soil
Analysis for: Percent Moisture
First Sample #: 905-0897

Sampled: May 12, 1999
Received: May 13, 1999
Analyzed: May 26, 1999
Reported: Jun 9, 1999

JUN 18 1999

GETTLER-RYAN INC.

LABORATORY ANALYSIS FOR:

GENERAL CONTRACTORS
Percent Moisture

Sample Number	Sample Description	Detection Limit %	Sample Result %
905-0897	C4-6	0.00010	13

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

9050897.GET <2>





Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Sample Descript: Soil
Analysis for: Fraction Organic Carbon
First Sample #: 905-0897

Sampled: May 12, 1999
Received: May 13, 1999
Analyzed: May 17, 1999
Reported: Jun 9, 1999

LABORATORY ANALYSIS FOR: Fraction Organic Carbon

Sample Number	Sample Description	Detection Limit %	Sample Result %
905-0897	C4-6	0.020	0.39
905-0899	C4-16	0.020	0.12

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, Morgan Hill

Julianne Fegley
Project Manager





Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Matrix: Solid

QC Sample Group: 9050897-901

Reported: Jun 9, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD

Batch#:	9050854	9050854	9050854	9050854
Date Prepared:	5/17/99	5/17/99	5/17/99	5/17/99
Date Analyzed:	5/17/99	5/17/99	5/17/99	5/17/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	0.80 mg/kg	0.80 mg/kg	0.80 mg/kg	2.4 mg/kg
Matrix Spike % Recovery:	94	96	98	100
Matrix Spike Duplicate % Recovery:	98	100	101	104
Relative % Difference:	3.9	3.8	3.8	4.1

LCS Batch#:	5LCS051799	5LCS051799	5LCS051799	5LCS051799
Date Prepared:	5/17/99	5/17/99	5/17/99	5/17/99
Date Analyzed:	5/17/99	5/17/99	5/17/99	5/17/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	115	116	119	117

% Recovery Control Limits:	50-150	50-150	50-150	50-150
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

J. Fegley
Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Matrix: Solid

QC Sample Group: 9050897-901

Reported: Jun 9, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Percent Moisture	Fraction Organic Carbon
Analy. Method:	EPA 160.3	EPA 415.1
Prep. Method:	EPA 160.3	EPA 415.1

Analyst: M. Burns Morgan Hill

Duplicate Sample #: 9051464 M905255-01

Prepared Date: 5/26/99 5/17/99
Analyzed Date: 5/26/99 5/17/99
Instrument I.D.#: Manual -

Sample Concentration: 38% 0.39 %

Dup. Sample Concentration: 38% 0.39 %

RPD: 0.0 0.0
RPD Limit: 0-20 0-15

SEQUOIA ANALYTICAL, #1271
& Morgan Hill

Julianne Fegley
Project Manager

** RPD=Relative % Difference

9050897.GET <5>





Sequoia Analytical
(Walnut Creek)
Gettler-Ryan, Inc.
Chevron 9-0338

C.L. File No.: 57111-99103
Work Order : 9905268

Sample No.	SA Client ID	Sample Date	Sample Density			Total Porosity %	Description
			Dry Bulk g/cc	Natural Bulk g/cc	Matrix g/cc		
9050897	C4- 6	12-May-99	1.85	2.15	2.64	29.8	Gray clayey vf-vcgr sandy silt w/f.gravel
9050899	C4-16	12-May-99	1.66	2.01	2.57	35.6	Gray vf-vcgr sandy v silty clayey gravel

Grain and pore volumes were determined using Boyle's Law methods as per API RP-40.
Total porosity, bulk and grain densities were calculated as per API RP-40.

CORE LABS

Sub-Chain Of Custody

FROM : CORE LABORATORIES BAKERSFIELD PHONE NO. : 805 392 0824

MAY. 20 1999 03:09PM P3

Sequoia Analytical
104 N. Wiget Lane
Walnut Creek, California 94598
(510) 988-9600 FAX: (510) 988-9673

925

Subcontracted To: CORE LAB

Turnaround Time: STD DAY

Report To: Julianne

Due Date: STD

Date: 5/14/99

Work Order #: 9905268

Client: Gettler-Ryan, Inc.

Method of Shipment: UPS

Project: Chevron #9-0338

Sample No.	Client I.D.	Collect Date	Collect Time	Matrix	Number of Containers	Analysis
9050197	C4-6	5/12/99		soil	1 > 1	Bulk Density
9050197	C4-6	5/12/99		soil	1 > 1	Porosity
9050199	C4-16	5/12/99		soil	1 > 1	Bulk Density
9050199	C4-16	5/12/99		soil	1 > 1	Porosity

Notes:

CLF# 99103

Relinquished By: [Signature] Date: 5/17/99 Time: 15:00

Received By: [Signature]

Date: 5-18-99

Time: 11AM

Relinquished By: _____ Date: _____ Time: _____

Received By: _____

Date: _____

Time: _____

Relinquished By: _____ Date: _____ Time: _____

Received By: _____

Date: _____

Time: _____

Fax copy of Lab Report and COC to Chevron Contact: Yes No

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0338
 Facility Address 5500 Telegraph Ave, Oakland
 Consultant Project Number 346456.62
 Consultant Name Gettler-Ryan Inc
 Address 6747 Sierra Ct, Ste G, Dublin, CA 94568
 Project Contact (Name) Barbara Sieminski
 (Phone) (925)551-7535 (Fax Number) (925)551-7888

Chevron Contact (Name) Phil Briggs
 (Phone) (925)842-9136
 Laboratory Name Sesquia ^{417341268 #332}
 Laboratory Release Number 9144488
 Samples Collected by (Name) Barbara Sieminski
 Collection Date 05/12/99
 Signature Barbara Sieminski

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed													Remarks			
								BTEX + TPH GAS / MTBE (8020 + 8015)	TPH Diesel (8015)	Oil and Greases (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	Fraction Organic Carbon (Water-Gal)	Porosity API RP-40	Bulk Density API RP-40	Moisture					
C4-6		1	S	D	10:05		Yes	X																
C4-11		1			10:10			X																
C4-16		1			10:20																			
C4-21		1			10:30																			
C5-6		1			11:10			X																
C5-11		1			11:15			X																
C5-16		1			11:20																			
C5-21		1			11:30																			hold

Relinquished By (Signature) <u>Barbara Sieminski</u>	Organization <u>G-R</u>	Date/Time <u>05/13/99</u>	Received By (Signature) <u>Kud Veltchik</u>	Organization <u>AK Seg</u>	Date/Time <u>5/13/99 12:00</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>Kud Veltchik</u>	Organization	Date/Time <u>5/13/99 1400</u>	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>Ronald C. Jensen</u>		Date/Time <u>5/13/99 19:00</u>	



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 905-0793

Sampled: May 12, 1999
Received: May 13, 1999
Reported: May 17, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 905-0793 SP (A-D)
Purgeable Hydrocarbons	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Total Xylenes	0.0050	N.D.

Chromatogram Pattern: --

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	5/14/99
Instrument Identification:	HP-5
Surrogate Recovery, %: (QC Limits = 40-140%)	101

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager





Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Matrix: Solid

QC Sample Group: 905-0793

Reported: May 17, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD Batch#:	9050685	9050685	9050685	9050685
Date Prepared:	5/14/99	5/14/99	5/14/99	5/14/99
Date Analyzed:	5/14/99	5/14/99	5/14/99	5/14/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	0.80 mg/kg	0.80 mg/kg	0.80 mg/kg	2.4 mg/kg
Matrix Spike % Recovery:	109	111	113	117
Matrix Spike Duplicate % Recovery:	105	108	108	113
Relative % Difference:	3.5	3.4	4.5	3.6

LCS Batch#:	5LCS051499	5LCS051499	5LCS051499	5LCS051499
Date Prepared:	5/14/99	5/14/99	5/14/99	5/14/99
Date Analyzed:	5/14/99	5/14/99	5/14/99	5/14/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	99	100	96	100

% Recovery Control Limits:	50-150	50-150	50-150	50-150
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager



Fax copy of Lab Report and COC to Chevron Contact: Yes No

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0338
Facility Address 5500 Telegraph Ave, Oakland
Consultant Project Number 346456.02
Consultant Name Gettler-Ryan Inc
Address 6747 Sierra Ct, Ste G, Dublin, CA 94568
Project Contact (Name) Barbara Sieminski
(Phone) (925) 551-7555 (Fax Number) (925) 551-7888

Chevron Contact (Name) Phil Briggs
(Phone) (925) 842-9136
Laboratory Name Sequoia
Laboratory Release Number 9144488
Samples Collected by (Name) Barbara Sieminski
Collection Date 05/12/99
Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed											Remarks						
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)										
SP-A	Composite	1	S	G	17:00		Yes	X																	
SP-B		1			17:02			X																	
SP-C		1				17:04			X																
SP-D		1				17:06			X																

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>G-R</u>	Date/Time <u>05/13/99</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>W.C. Sep</u>	Date/Time <u>5/13/99 12:00</u>	Turn Around Time (Circle Choice) 24 Hrs. <u>48 Hrs.</u> 5 Days 10 Days As Contracted
Relinquished By (Signature) <u>[Signature]</u>	Organization	Date/Time <u>5/13/99 14:00</u>	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>5/13/99 14:00</u>	



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0261

Sampled: May 27, 1999
Received: May 28, 1999
Reported: Jun 17, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-0261 C-1A	Sample I.D. 906-0262 C-2A	Sample I.D. 906-0263 C-4	Sample I.D. 906-0264 C-5	Sample I.D. 906-0265 TB-LB
Purgeable Hydrocarbons	50	9,100	N.D.	N.D.	2,800	N.D.
Benzene	0.50	40	N.D.	N.D.	350	N.D.
Toluene	0.50	25	N.D.	N.D.	73	N.D.
Ethyl Benzene	0.50	560	N.D.	N.D.	32	N.D.
Total Xylenes	0.50	1,900	N.D.	N.D.	280	N.D.
MTBE	2.5	35	44	44	2,200	N.D.
Chromatogram Pattern:		Gasoline	--	--	Gasoline	--

Quality Control Data

Report Limit Multiplication Factor:	10	1.0	1.0	5.0	1.0
Date Analyzed:	6/2/99	6/2/99	6/2/99	6/2/99	6/2/99
Instrument Identification:	HP-5	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	91	102	88	85	90

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

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FAX (650) 232-9612

Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Sample Descript: Water, C-5 *
Analysis Method: EPA 8260
Lab Number: 906-0264

Sampled: May 27, 1999
Received: May 28, 1999
Analyzed: Jun 15, 1999
Reported: Jun 17, 1999

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	200	2,500

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		97

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager

Please Note:
* Analyzed past holding time 6/16/99.





Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron #9-0338, Oakland
Matrix: Liquid

QC Sample Group: 9060261-265

Reported: Jun 17, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	N. Nelson

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
Batch#:	9052170	9052170	9052170	9052170	9061156
Date Prepared:	6/2/99	6/2/99	6/2/99	6/2/99	6/14/99
Date Analyzed:	6/2/99	6/2/99	6/2/99	6/2/99	6/14/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L
Matrix Spike % Recovery:	95	95	95	97	66
Matrix Spike Duplicate % Recovery:	105	105	100	105	68
Relative % Difference:	10	10	5.1	8.3	3.0

LCS Batch#:	5LCS060299	5LCS060299	5LCS060299	5LCS060299	LCS061599
Date Prepared:	6/2/99	6/2/99	6/2/99	6/2/99	6/15/99
Date Analyzed:	6/2/99	6/2/99	6/2/99	6/2/99	6/15/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
LCS % Recovery:	100	95	95	100	94

% Recovery Control Limits:	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



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Chevron Facility Number 9-0338 - OAKLAND
Facility Address 5500 TELEGRAPH AVE.
Consultant Project Number 346456.02
Consultant Name GETTLER-RYAN INC. (GR)
Address 6747 Sierra Ct, Suite J
Project Contact (Name) BARBARA SIEMINSKI
(Phone) (925)551-7555 Fax Number 551-7888

Chevron Contact (Name) PHIL BRIGGS
(Phone) (925)551-7555
Laboratory Name SEQUOIA ANALYTICAL
Laboratory Release Number 9144488
Samples Collected by (Name) HAIG KEVORK
Collection Date 5/27/1999
Signature [Handwritten Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix		Time	Sample Preservation	Lead (Y or No)	Analytes To Be Performed										Remarks					
			S = Soil W = Water C = Charcoal	A = Air				Type	Grav G = Gravimetric C = Components D = Discrete	STEX + TPH GAS (8020 + 8015)	TPH Distill (8015)	Oil and Grease (8226)	Purgeable Hydrocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Mercury Cd, Cr, Pb, Zn, Ni (ICAP or AA)		MTBE 8020				
C-1A		4	W	G	18:15	HCL	YES	✓			9060261	A-D				✓						PLEASE CONFIRM THE HIGHEST MTBE RESULT BY EPA 8260.	
C-2A		4	W	G	18:28	HCL	YES	✓			9060262					✓							
C-4		4	W	G	18:40	HCL	YES	✓			9060263					✓							
C-5		4	W	G	18:52	HCL	YES	✓			9060264					✓							
TB-LB		1	W	G		HCL	YES	✓			9060265					✓							

Requested By (Signature) <u>[Handwritten Signature]</u>	Organization <u>GR</u>	Date/Time	Received By (Signature) <u>N. Main</u>	Organization <u>S. A</u>	Date/Time <u>5/28 15:00</u>
Requested By (Signature) <u>[Handwritten Signature]</u>	Organization <u>Sequoia</u>	Date/Time <u>5/28 18:00</u>	Received By (Signature)	Organization	Date/Time
Requested By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Handwritten Signature]</u>		Date/Time <u>5/28/99 19:00</u>

Turn Around Time (Circle Check)

24 hrs.

48 hrs.

6 Days

10 Days

As Contracted